

**Natural vegetation of the Carolinas:  
Classification and Description of  
Wetland Plant Communities of the Western Sandhills  
and its Surroundings, North Carolina**

A report prepared for the Ecosystem Enhancement Program, North Carolina Department of Environment and Natural Resources in partial fulfillments of contract D07042.

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## **INTRODUCTION**

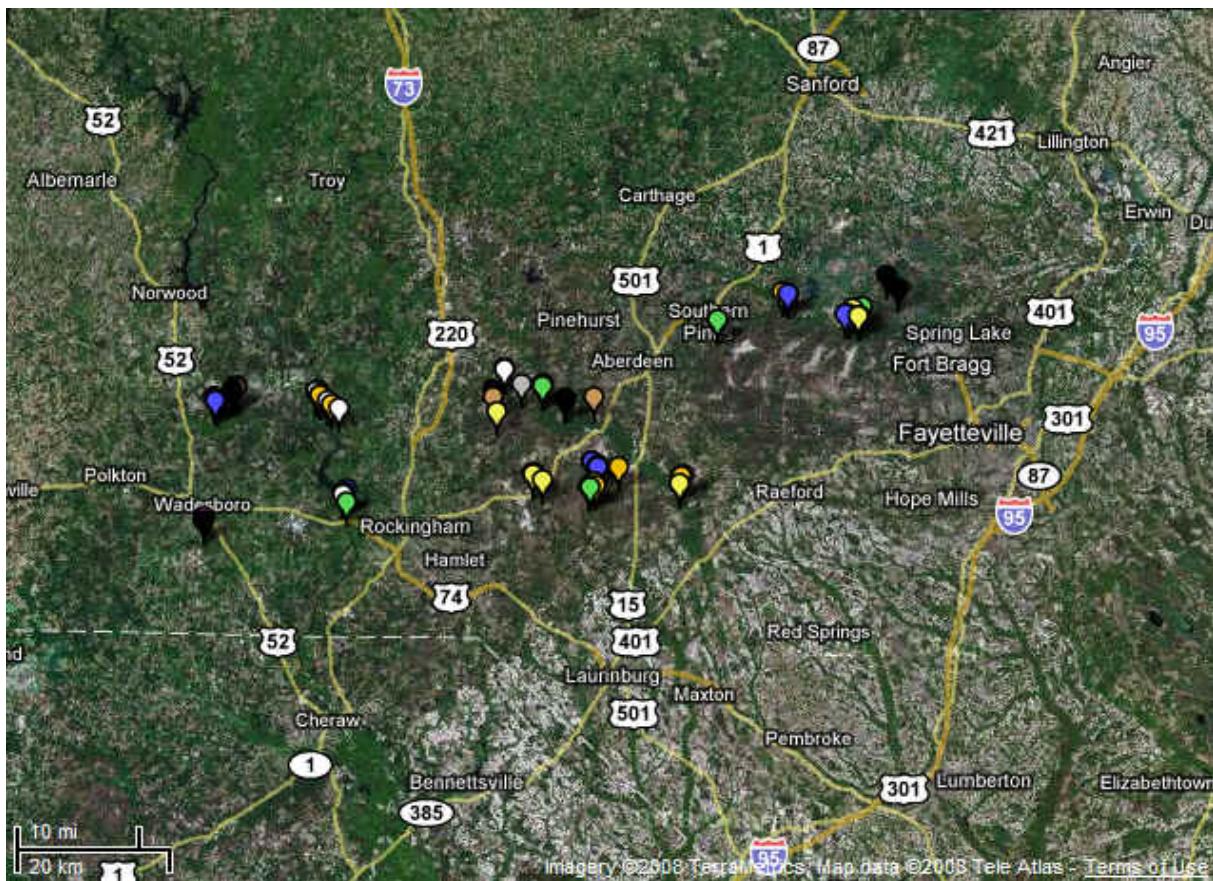
The 50 miles between the Pee Dee River Gabbro Slopes in western Richmond County and the Little River Bluffs within Fort Bragg Military Reservation include the Inner Piedmont, Outer Coastal Plain, and the Sandhills Region of North Carolina. The interface of these regions, coupled with the area's unique geology, result in an interesting matrix of vegetation communities. The Sandhills Region is the boundary between the Piedmont and Coastal Plain throughout portions of the Carolinas and Georgia. One hundred million years ago this area represented the edge of the southeastern North American continent, presently reflected in its characteristic deep sandy soils and its varied topography. Upper slopes are typically composed of well to excessively-well drained sandy soils, while lower slopes and stream sides are composed of finer loamy textured material. Large river systems emanating in the Piedmont cut through the boundary region before spilling into the flatter landscape of the Inner Coastal Plain. These large rivers support a variety of swamp forests. Nonalluvial wetland vegetation occurs in streamheads and seeps of the Sandhills, and their composition and structure is maintained by a complex association between fine-scale hydrology and landscape-scale fire disturbance patterns.

The Piedmont Region of this area of North Carolina includes the Triassic Basin and the Carolina Slate Belt. The Pee Dee River drainage occurs over the Carolina Slate Belt. The gabbro rock that underlies much of this drainage is unique to this area of the state. These old rocks weather to form relatively basic, nutrient-rich soils. Riverine forests that occur on these slopes are high in richness and diversity of plant species. In contrast, the Little River drainage of Hoke and Moore Counties cuts through Coastal Plain sediments. Bluff forests along the river are highly acidic and include a mixture of both Piedmont and Coastal Plain species.

In May 2007, the Carolina Vegetation Survey conducted an initial floristic inventory of natural communities within the Sandhills Region of Richmond and Scotland Counties, North Carolina. The Sandhills represent the highest proportion of longleaf pine woodlands remaining in the state, but these upland communities have been sampled extensively in the past. The focus of this study was to inventory the regions' wetlands, while also capturing the range of mesic-hydric community diversity within the surrounding areas of the Piedmont and Inner Coastal Plain. The goal of this report is to determine a classification structure based on the synthesis of vegetation data obtained from the May 2007 plots.

## **STUDY AREA AND FIELD METHODS**

During May 2007, a total of 72 vegetation plots were established in the western Sandhills portion of North Carolina (Figure 1). Focus locations within the study area included the Pee Dee River National Wildlife Refuge, Pee Dee River Gabbro Slopes, Sandhills Gamelands, Upper Lumber River drainages, and Fort Bragg Military Reserve (Fort Bragg). Target natural communities included Piedmont Levee Forest, Piedmont Bottomland Forest, Piedmont Swamp Forest, Piedmont Basic Mesic Forest, Piedmont Dry-Mesic Oak – Hickory Forest, Streamhead Pocosin, Sandhill Streamhead Swamp, Coastal Plain Small Stream Swamp, Vernal Pool, Small Depression Pond, Blackwater Bottomland Hardwoods, Cypress-Gum Swamp, and Coastal Plain Bluff Forest.



**FIGURE 1.** Pulse 2007a sample region and established plots: Pee Dee River Drainage, Sandhills Gamelands and Little River Drainage (Fort Bragg) (Map courtesy of VegBank: [http://vegbank.org/vegbank/views/map\\_userplots.jsp?latlongfile=http://www.bio.unc.edu/faculty/peet/lab/CVS/maps/82-points.csv](http://vegbank.org/vegbank/views/map_userplots.jsp?latlongfile=http://www.bio.unc.edu/faculty/peet/lab/CVS/maps/82-points.csv))

Vegetation was sampled following the North Carolina Vegetation Survey protocol described in Peet et al. (1998), and data collected conformed to established and proposed federal standards (see: Jennings et al. 2007, and Federal Geographic Data Committee 2007) (<http://www.fgdc.gov/standards/projects/FGDC-standards-projects/vegetation/index.html>). Plots were subjectively located to best capture the composition of the target plant community. Each plot contained from 1 to 10 100 m<sup>2</sup> modules, the number reflecting the area of visually homogeneous vegetation available to sample. Species presence was recorded across a logarithmic sequence of subplot sizes including 0.01, 0.1, 1, 10, 100, and where sufficient modules were sampled 400 and 1000 m<sup>2</sup>. Species cover was recorded individually for up to 4 intensively sampled modules (those containing the nested subplots), and overall cover for the plot was also recorded for species not found in intensively sampled modules. Soil samples were collected and sent to Brookside Laboratories for analysis. Soil nutrients were extracted by the Mehlich III technique. Mean soil nutrient and texture values are summarized by community in Appendix 1. Tree stems were recorded for each plot by diameter.

## VEGETATION CLASSIFICATION

Plots were classified to association following the US National Vegetation Classification (NVC) standard (Grossman et al. 1998, Jennings et al. 2006) and the Carolina Vegetation Survey's "Vegetation of the Carolinas" project (<http://cvs.bio.unc.edu/vegetation.htm>). The 'association' is defined as a group of plots having similar species composition, structure, and habitat. Plot assignment was accomplished through a qualitative assessment of vegetation composition, landscape position, hydrologic regime, and soil characteristics. The associations were grouped into higher categories following the classification hierarchy developed by the "Vegetation of the Carolinas" project and include the Formation (e.g., Coastal Plain lowland evergreen forests and shrublands) and Ecological Group (e.g., White cedar forests) levels. The lowest, finest level of the classification scheme used was the NVC association.

Where possible, plots were assigned to an NVC association, identified by association name and unique CEGL identifier. Also, a degree of fit was applied to the classification scheme based on the plot's correspondence with its assigned association. The 5-level scale of fit we employ conforms to that the standards employed by the VegBank archive and the proposed US Federal Standards (see Jennings et al. 2007): Excellent, Good, Fair, Poor (similar but wrong), and Bad (unambiguously wrong). In some cases it was necessary to assign a plot to more than one community because of its intermediate character. In 23 of the 37 cases (see Appendix 2), the fit was either fair or poor, suggesting a need for numerous revisions of the NVC to better represent the vegetation of this part of North Carolina.

For each community type to which we assigned plots, we provide a brief summary. We also provide hotlinks (with the CEGL codes) to the formal descriptions of these types in the National Vegetation Classification. Where the fit is weak or poor, we briefly explain the problem. Composition is shown in detail in Appendix 3 where the prevalent species (most frequent species with the number equal to the average number of species per 100 m<sup>2</sup> plot) are listed by constancy among plots, and mean percent cover where present. Average cover class was calculated using the geometric mean of the true cover range for each cover class. Vegetation that was novel or failed to fit well in established associations of the National Vegetation Classification are summarized in Appendix 2. Botanical nomenclature follows Weakley 2006.

Our classification yielded assignments to 37 high-order community associations, from 24 Ecological Groups and 12 Formations. A community characterization is presented for each association below. Names are based on the naming system used in the U.S. National Vegetation Classification (NatureServe 2007). Names reflect species with high constancy and high cover; a “-” separates species within the same vertical strata, while a “/” separates species of different strata.

## ASSOCIATIONS

### I. Piedmont mesic forests

#### A. Felsic Mesic Forests

- 1) [Quercus rubra - Quercus alba - Carya glabra / Geranium maculatum Forest \(CEGL007237\)](#)

NVC Fit = Fair

Plots = 082-09-1102

This vegetation type is dominated by a closed canopy of mesic –submesic species such as *Quercus rubra* var. *rubra*, *Carya cordiformis*, *Ulmus alata*, and *Quercus alba*. Understory trees include *Cercis canadensis*, *Cornus florida*, and *Fraxinus americana*, while a few individuals of *Callicarpa americana* are located within the shrub stratum. The species diversity is high within the herbaceous stratum--at least 115 species are found here alone. Diagnostic species include *Chasmanthium latifolium*, *Agrimonia pubescens*, *Ruellia caroliniensis*, *Arisaema triphyllum*, and *Symphytum cordifolium*. This plot occurs on north-facing aspects of the Pee Dee River Gabbro Slopes, in western Richmond County. Herbaceous associates describing this plot do not correlate well with those associates described by the NVC for this community type. More plot data will be necessary to better describe these acidic, mesic forests within the Piedmont of the Southeastern US.

#### B. Mafic Dry-Mesic Forests

- 1) [Fagus grandifolia - Quercus rubra / Ostrya virginiana - Acer \(barbatum, leucoderme\) / Actaea racemosa - Sanguinaria canadensis Forest \(CEGL008466\)](#)

NVC Fit = Good

Plots = 082-01-1107

This plot is also found along the Pee Dee River Gabbro Slopes of western Richmond County. The species composition of this community is indicative of a relatively basic underlying rock formation. The canopy is dominated by a mixture of dry-mesic species, such as *Carya ovata*, *Juglans nigra*, *Liriodendron tulipifera* var. *tulipifera*, *Quercus muehlenbergii* and *Liquidambar styraciflua*. The understory is dominated by *Asimina triloba*, but also includes *Ulmus rubra*, *Cornus florida*, and *Fraxinus americana*. Species found within the shrub stratum include *Lindera benzoin* var. *pubescens*, *Aesculus sylvatica*, and *Hamamelis virginiana* var. *virginiana*. The herbaceous composition within this community type is highly diverse. Diagnostic species include *Polystichum acrostichoides*, *Phegopteris hexagonoptera*, and *Anemone americana*.

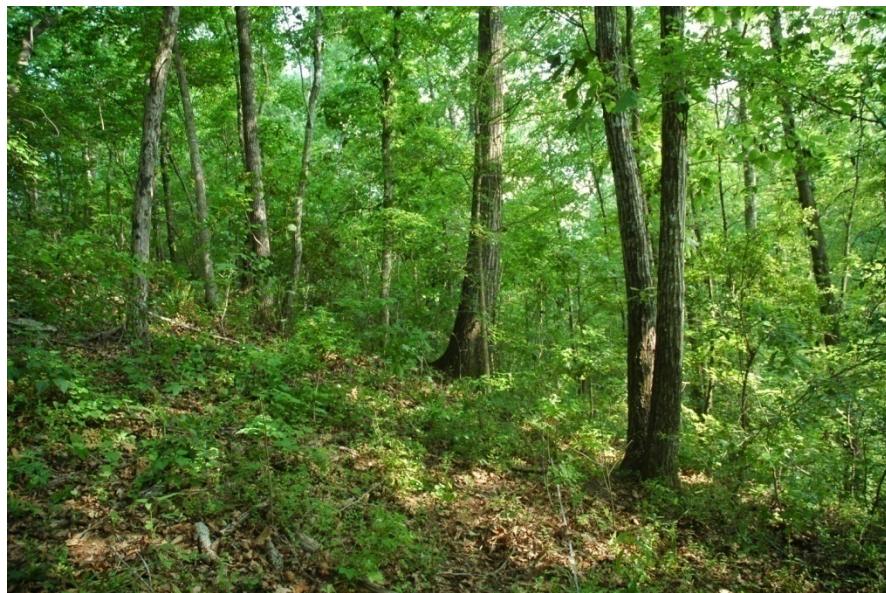
## II. Piedmont sub-xeric oak and hickory forests

### A. Basic Oak – Hickory Forests

- 1) *Quercus alba* - *Quercus stellata* - *Carya carolinae-septentrionalis* / *Acer leucoderme* - *Cercis canadensis* Forest (CEGL007773)

NVC Fit = Good

Plots = 082-01-1100, 082-04-1100



These plots were located along the eastern portion of the Great Pee Dee River in Richmond County, and represent drier sites occurring over mafic parent material. The canopy of this rich forest type is dominated by a mixture of woody species indicative of dry, but mafic conditions. Some of these include *Quercus rubra* var. *rubra*, *Quercus muehlenbergii*, *Quercus stellata*, and *Ulmus alata*. The understory and shrub strata are also composed of mafic indicators such as *Cercis canadensis* var. *canadensis*, *Callicarpa americana*, and *Morus rubra*. The herbaceous stratum is not as rich as mesic forests within the Pee Dee River Gabbro Slopes, but still higher than most sub-xeric forest types of the region. Species include *Euphorbia mercurialina*, *Dichanthelium boscii*, *Polystichum acrostichoides*, and *Asclepias variegata*.

### III. Piedmont woodlands and glades

#### A. Mafic glades and barrens

- 1) *Juniperus virginiana* var. *virginiana* - *Ulmus alata* / *Schizachyrium scoparium* Woodland (CEGL004443)

NVC Fit = Fair

Plots = 082-03-1111, 082-09-1107

These communities are found along rocky mafic outcrops of the Piedmont of North Carolina. The NVC has described this community type for the Uwharrie Mountains. The plots included here are located along a mafic glade—Hightower Flatrocks—in Anson County. These stunted woodlands are dominated by an open canopy of *Juniperus virginiana* var. *virginiana*, *Carya alba*, *Quercus stellata*, and *Acer rubrum* var. *rubrum*. *Vaccinium arboreum* is a dominant species within the sparse shrub stratum. The herb stratum is composed of *Asplenium platyneuron*, *Gelsemium sempervirens*, *Euphorbia pubentissima*, and *Carex nigromarginata*. These plots differ slightly from the NVC-described association by lacking the following nominal species--*Ulmus alata* in the canopy and *Schizachyrium scoparium* in the herbaceous stratum.



### IV. Piedmont alluvial forests and shrublands

#### A. Large River Floodplain and Levee Forests

- 1) *Betula nigra* - *Platanus occidentalis* / *Alnus serrulata* / *Boehmeria cylindrica* Forest (CEGL007312)

NVC Fit = Poor to Fair

Plots = 082-01-1112, 082-07-1103

These plots occur on levees of the Great Pee Dee River in both Anson and Richmond Counties. Both plots include *Acer rubrum* var. *rubrum* and *Fraxinus pennsylvanica* in the canopy and understory strata, but 082-01-1112 does not include either *Platanus occidentalis* var. *occidentalis* or *Betula nigra* in the upper strata. These two species are indicators of this NVC-defined association. The herbaceous stratum of these plots is composed of *Chasmanthium latifolium*, *Carex typhina*, and *Toxicodendron*

*radicans* var. *radicans*. The understory of plot 082-01-1112 contains community indicators of this association, including *Carpinus caroliniana* var. *caroliniana* and *Ulmus alata*. This plot differs from the NVC association by containing high density of *Asimina triloba* in the understory, suggesting a nutrient-richer zone of this levee community type.

2) [\*Quercus pagoda\* - \*Quercus phellos\* - \*Quercus lyrata\* - \*Quercus michauxii\* / \*Chasmanthium latifolium\* Forest \(CEGL007356\)](#)

NVC Fit = Fair to Good

Plots = 082-01-1113, 082-02-1108, 082-04-1111  
082-04-1112, 082-06-1106, 082-09-1106

This community type occurs on broad floodplains of the Triassic Basin in the North Carolina Piedmont, and can include inclusions of sloughs and oxbow formations. A high diversity of bottomland species can grow in the canopy of this community type, as evident in the diversity found in the plots sampled along Brown Creek and the Great Pee Dee River in the Pee Dee River National Wildlife Refuge. Some of these canopy dominants include *Quercus phellos*, *Quercus pagoda*, *Quercus michauxii*, *Ulmus americana* var. *americana*, *Liquidambar styraciflua*, and *Acer rubrum* var. *rubrum*. In backwater sloughs, *Quercus lyrata* is a canopy dominant. The understory of these plots is dominated by *Ilex decidua*, and to a lesser extent, *Crataegus viridis*. Woody vines are abundant in this type, and species include *Toxicodendron radicans* var. *radicans*, *Smilax rotundifolia*, *Bignonia capreolata*, and *Campsis radicans*. Herbaceous plants with high constancy include *Boehmeria cylindrica*, *Saururus cernuus*, and *Carex typhina*. The inclusion of *Fraxinus pennsylvanica* separates these plots from the NVC-defined association.



3) [\*Liriodendron tulipifera\* / \*Asimina triloba\* / \*Arundinaria gigantea\* ssp. \*gigantea\* Forest \(CEGL004419\)](#)

NVC Fit = Fair to Good

Plots = 082-01-1114, 082-02-1100,  
082-03-1100, 082-06-1105

This alluvial forest of the North Carolina Piedmont occurs on broad, sandy levees of large river systems. Along the Great Pee Dee River on the border of Anson and Richmond Counties, this community type is dominated by a canopy of *Carya cordiformis* and *Liquidambar styraciflua*. Less



frequent canopy species include *Ulmus americana* var. *americana*, *Quercus michauxii*, *Liriodendron tulipifera* var. *tulipifera*, and *Quercus pagoda*. The understory is composed of *Asimina triloba* and *Ilex decidua*, while woody vines include *Toxicodendron radicans* var. *radicans*, *Parthenocissus quinquefolia*, and *Bignonia capreolata*. The shrub stratum is dominated by the invasive, exotic *Ligustrum sinense*. A tall herbaceous stratum is defined by *Arundinaria gigantea*, while other diagnostic herbs may include *Chasmanthium latifolium*, *Carex grayi*, and *Euonymus americanus*. The absence of *Liriodendron tulipifera* var. *tulipifera* in some of these plots explains the divergence from the current NVC association.

4) [Platanus occidentalis - Celtis laevigata - Fraxinus pennsylvanica / Lindera benzoin - Ilex decidua / Carex retroflexa Forest \(CEGL007730\)](#)

NVC Fit = Poor to Fair

Plots = 082-03-1103, 082-07-1101, 082-07-1102

This forest type occurs on gradual riverine terraces of the inner Piedmont and inner Coastal Plain of the southeastern US. The three plots described are located on the Pee Dee River Gabbro Slopes and Grassy Island sites of the Great Pee Dee River between Anson and Richmond Counties. The canopy and sub-canopy of this vegetation type is composed of *Liquidambar styraciflua*, *Ulmus alata*, *Celtis laevigata*, *Platanus occidentalis* var. *occidentalis*, and *Ilex opaca* var. *opaca*. In one plot, *Juglans nigra* is also a canopy dominant. The shrub stratum includes *Ilex decidua* var. *decidua*, *Ligustrum sinense*, and *Cornus florida*. Woody vines are abundant in this community type, and include *Toxicodendron radicans* var. *radicans*, *Parthenocissus quinquefolia*, and *Bignonia capreolata*. The herbaceous stratum does not include any 100% constant species. Some herbs include *Arisaema dracontium*, *Geum canadense*, *Laportea canadense*, and *Pilea pumila*. Overall, there is a poor understanding of the distribution of this NVC Association and its relationship within localized alluvial systems.

## V. Coastal Plain upland oak – pine forests

### A. Acid Oak Forests

- 1) [\*Fagus grandifolia - Quercus alba - \(Quercus prinus\) / Kalmia latifolia - \(Rhododendron catawbiense\)\* Forest \(CEGL004539\)](#)

NVC Fit = Fair

Plots = 082-01-1108, 082-01-1109,  
082-04-1110, 082-06-1103

These four plots occur on steep upland bluffs along the Little River within Fort Bragg (Hoke and Moore Counties). Northerly aspects and low exposure values help maintain cooler temperatures on these bluffs than the surrounding landscape. Soils are very well-drained, shallow, and may contain a high proportion of exposed or shallow rock. These plots are dominated by a dense shrub stratum of *Kalmia latifolia* with a canopy of acidic-tolerant trees, such as *Quercus alba*, *Oxydendrum arboreum*, *Nyssa sylvatica*, and *Quercus velutina*. The understory is dominated by small trees—*Symplocos tinctoria* and *Hamamelis virginiana* var. *virginiana*. Constant herbaceous species include acidic-tolerant *Galax urceolata*, *Hexastylis minor*, *Polygonatum biflorum*, and *Mitchella repens*. Herbaceous diversity between these plots is higher than expected, and may represent diversions from the NVC-described association.



## VI. Coastal Plain fire-maintained woodlands

### A. Dry-Mesic Pine – Oak Woodlands

- 1) [\*Pinus palustris - Pinus \(echinata, taeda\) - Quercus \(incana, margarettae, falcata, laevis\)\* Woodland \(CEGL007511\)](#)

NVC Fit = Fair

Plots = 082-04-1106

This fire-suppressed longleaf pine woodland is located in the Sandhill Region of the southeastern US. Along with *Pinus palustris*, canopy codominants include *Pinus echinata*, and xeric oaks such as *Quercus margarettae*, *Quercus marilandica* var. *marilandica*, and *Quercus incana*. *Vaccinium tenellum* is the dominant low shrub in this plot, located on the Sandhills Gamelands of Richmond

County. The herbaceous stratum includes *Aristida stricta*, *Toxicodendron pubescens*, *Lespedeza hirta* var. *curtissii*, *Asclepias tomentosa*, and *Tephrosia spicata*. The NVC recognizes the need to refine our understanding of this community type, based on the relationship between species distributions and disturbance history.

## VII. Coastal Plain brownwater river forests

### A. Levee and Floodplain Forests

- 1) [\*Pinus taeda - Liquidambar styraciflua - Nyssa biflora\* Temporarily Flooded Forest \(CEGL004606\)](#)

NVC Fit = Good

Plots = 082-02-1109

This is an example of a successional forest type along floodplain ridges of the southeastern Atlantic Coastal Plain. The canopy of this forest is dominated by a mixture of bottomland species such as *Nyssa biflora*, *Liquidambar styraciflua*, *Ilex opaca* var. *opaca*, *Quercus nigra*, and *Pinus taeda*. This plot occurs along Drowning Creek--the upper drainage of the Lumber River—within the Sandhills Gamelands.

- 2) [\*Fraxinus pennsylvanica - Quercus laurifolia - Quercus lyrata - Carya aquatica\* Forest \(CEGL004695\)](#)

NVC Fit = Poor

Plots = 082-07-1104, 082-07-1105

These Coastal Plain alluvial forests occur along low levees where a mixture of flood tolerant species intergrades with natural levee species. Canopy species include *Nyssa aquatica*, *Quercus lyrata*, *Fraxinus pennsylvanica*, *Liquidambar styraciflua* and *Acer rubrum* var. *rubrum*. The absence of diagnostic levee species such as *Celtis laevigata*, *Platanus occidentalis*, and *Betula nigra* distinguishes these plots from the NVC-described association. Furthermore, this community type is defined only for brownwater rivers of the Coastal Plain; these plots occur along the Pee Dee River Gabbro Slopes site in the inner Piedmont of North Carolina.



3) [\*Celtis laevigata\* - \*Fraxinus pennsylvanica\* - \*Acer negundo\* - \(\*Juglans nigra\*\) / \*Asimina triloba\* / \*Carex grayi\* Forest \(CEGL004740\)](#)

NVC Fit = Fair

Plots = 082-09-1100

This community is a classic levee forest of brownwater rivers along the Atlantic Coastal Plain of the Carolinas. Dominant tree species include *Acer negundo* var. *negundo*, *Celtis laevigata*, *Carya cordiformis*, *Liriodendron tulipifera* var. *tulipifera*, and *Quercus muehlenbergii*. The subcanopy and shrub strata are composed of *Asimina triloba*, *Lindera benzoin* var. *pubescens*, *Ligustrum sinense*, and *Ilex decidua* var. *decidua*. The herb stratum is species rich and dominants include *Impatiens pallida*, *Urtica dioica*, *Asarum canadense* var. *canadense*, *Arundinaria gigantea* and *Stellaria media*. This plot, which is located along the Pee Dee River Gabbro Slopes site, differs slightly from the NVC-described association because of its unique herbaceous composition.

**B. Brown-water Swamp Forests**

1) [\*Nyssa aquatica\* Forest \(CEGL002419\)](#)

NVC Fit = Fair

Plots = 082-07-1106



This community occurs on semipermanently flooded low, wet flats of brownwater river systems of the Atlantic Coastal Plain. However, this plot is found in the Piedmont within the Pee Dee River Gabbro Slopes site. The vegetation is dominated by a nearly pure canopy of *Nyssa aquatica*, occurring with lesser amounts of *Carya aquatica*, *Quercus lyrata*, *Ulmus americana* var. *americana*, and *Acer rubrum* var. *trilobum*. *Carpinus caroliniana* var. *caroliniana* dominates the understory stratum in this example, which explains the “fair” fit ranking to the NVC association. Ground cover and floating vegetation varies in these forests and is dependent on the duration and seasonality of flood waters. Some typical species include *Carex grisea*, *Poa cuspidata*, *Toxicodendron radicans* var. *radicans*, and *Carex grayi*.

## VIII. Coastal Plain blackwater river forests

### A. Black-water Swamp Forests

- 1) [\*Nyssa biflora - Acer rubrum var. rubrum / Lyonia lucida\* Forest \(CEGL007864\)](#)

NVC Fit = Fair

Plots = 082-02-1103, 082-02-1104

This forest type occurs along floodplains of the southeastern Coastal Plain and adjacent Sandhills. These two plots are found along the Drowning Creek drainage, within the Sandhills Gamelands. The canopy of these plots is dominated by *Nyssa biflora*. Other canopy subdominants and understory species include *Ilex opaca var. opaca*, *Acer rubrum var. rubrum* and *var. trilobum*, and *Liquidambar styraciflua*. The shrub stratum is dominated by *Cyrilla racemiflora*, which distinguishes these plots from the typical *Lyonia lucida*-dominated shrub component of the NVC association. Herb distribution is patchy in these frequently flooded forests. Some species that are present include *Arundinaria tecta*, *Carex debilis*, *Mitchella repens*, *Osmunda regalis* var. *spectabilis*, and *Woodwardia areolata*.



- 2) [\*Taxodium distichum - Nyssa aquatica - Nyssa biflora / Fraxinus caroliniana / Itea virginica\* Forest \(CEGL007432\)](#)

NVC Fit = Fair

Plots = 082-03-1101

The canopy of this blackwater swamp forest is codominated by *Nyssa biflora* and *Taxodium ascendens*, with lesser amounts of *Quercus laurifolia*. The subcanopy is composed of *Acer rubrum var. trilobum*, *Cyrilla racemiflora*, and *Ilex amelanchier*. The hydrology of this community type is influenced by river overflow from adjacent blackwater, or small rivers, of the Atlantic Coastal Plain. The ground is typically permanently to semipermanently saturated, causing poor vegetative regeneration in the understory. Consequently, herbaceous diversity is very low in this community type. Species that are present include *Pilea pumila*, *Murdannia keisak*, and *Lycopus virginicus*. This plot, which occurs along the Drowning Creek bottomlands of Scotland County, does not contain *Nyssa aquatica* as a canopy codominant. This explains the “fair” fit assessment to the NVC-defined association.

3) [\*Taxodium distichum\* - \*Nyssa biflora\* / \*Fraxinus caroliniana\* / \*Lyonia lucida\* Forest \(CEGL004733\)](#)

NVC Fit = Poor

Plots = 082-06-1104

This swamp forest community is influenced by river overbank flow for significant durations throughout the year. Standing water can collect in these flat, backswamps causing longer periods of soil saturation. This plot occurs along Horse Creek, a tributary of Drowning Creek – Lumber River, in Moore County. Representative canopy species include *Taxodium ascendens* and *Nyssa biflora*. The subcanopy and shrub strata are composed of *Cyrilla racemiflora*, *Clethra alnifolia*, *Acer drummondii*, and *Persea palustris*. Typical herbs found within this plot include *Woodwardia virginica*, *Lobelia cardinalis*, *Viola primulifolia*, and *Carex venusta*. The rich shrub and understory component of this plot distinguishes it from the NVC-described association. We certainly need to refine our understanding of these coarse-sandy wet forests of the inner Coastal Plain and Sandhills Regions of the Carolinas.

**B. Coastal Plain Small Stream Forests**

1) [\*Nyssa biflora\* - \*Liriodendron tulipifera\* - \*Pinus \(serotina, taeda\)\* / \*Lyonia lucida\* - \*Ilex glabra\* Forest \(CEGL004734\)](#)

NVC Fit = Good

Plots = 082-04-1102, 082-04-1107



This community type is found along sandy streamheads and small streams of the inner Coastal Plain and Sandhills Region of the Carolinas and possibly Georgia. The soils throughout these sites have high sand content, and are typically flooded by both the stream drain and underground seepages. Canopy dominants include *Nyssa biflora*, *Acer rubrum* (var. *rubrum* and var. *trilobum*), and *Pinus serotina*. The shrub stratum is dominated by pocosin-like species, such as *Lyonia lucida*, *Ilex coriacea*, *Magnolia virginiana* var. *virginiana* and *Smilax laurifolia*. Other species that are found in the shrub stratum include *Persea palustris*, *Vaccinium formosum*, and *Cyrilla racemiflora*. The herb layer is

dominated by *Osmunda cinnamomea* var. *cinnamomea*, *Woodwardia areolata*, and *Sphagnum* sp. These plots are found along small streams within the Sandhills Gamelands of both Scotland and Richmond Counties.

2) [\*Nyssa biflora\* - \*Quercus nigra\* - \*Quercus laurifolia\* - \*Pinus taeda\* / \*Ilex opaca\* - \*Carpinus caroliniana\* Forest \(CEGL007350\)](#)

NVC Fit = Fair

Plots = 082-06-1101, 082-06-1102

These plots are located along small creek drainages of the Drowning Creek bottomlands within Moore County, and include a mixture of species with varying degrees of flood tolerance. The canopy is dominated by *Nyssa biflora*, with smaller amounts of *Acer rubrum* var. *trilobum*, *Ilex opaca* var. *opaca*, *Liquidambar styraciflua*, and *Quercus phellos*. A tall herb stratum is composed of *Arundinaria tecta*, and smaller herbs include *Lycopus virginicus*, *Mitchella repens*, *Woodwardia areolata*, and *Carex lonchocarpa*. The lack of *Pinus taeda* in both of these plots, and bottomland *Quercus* sp. in 082-06-1101 distinguishes these plots from the NVC-defined association.



3) [\*Liquidambar styraciflua\* - \*Liriodendron tulipifera\* / \*Onoclea sensibilis\* Forest \(CEGL007329\)](#)

NVC Fit = Fair

Plots = 082-09-1103

This plot is also located along the Drowning Creek bottomland within Moore County. The community type is found along bottomlands of small streams throughout the Piedmont and adjacent inner Coastal Plain of the southeastern US. The canopy in this plot is dominated by *Nyssa biflora*, with lesser amounts of *Quercus laurifolia*, *Acer rubrum* var. *trilobum*, and *Liquidambar styraciflua*. The well-developed subcanopy contains canopy species as well as *Ilex opaca* var. *opaca*. A shrub stratum is basically nonexistent in this community type, although vines may reach heavy abundance in all vertical depths. Vine species include *Bignonia capreolata*, *Smilax rotundifolia*, and *Smilax bona-nox*. Herbs include *Arundinaria tecta*, *Woodwardia virginica*, and *Chasmanthium laxum*. Currently, the NVC does not describe how this floodplain forest differs from other similar topographically situated forests, except for the mixture of *Liriodendron* and *Liquidambar* with *Nyssa biflora*. More data are needed to further understand the composition of this association and how it relates to other small stream forests in the inner Coastal Plain and Sandhills of North Carolina. Currently, this plot does not fit well with the NVC-described association because of the need for definition refinement and the absence of *Liriodendron* as a canopy dominant.

## IX. Coastal Plain shrub and herb communities

### A. Riverine Fringing Marshes

- 1) [Zizaniopsis miliacea Coastal Plain Slough Herbaceous Vegetation \(CEGL004139\)](#)

NVC Fit = Good

Plots = 082-03-1104

This monospecific stand of *Zizaniopsis miliacea* occurs along riverine edges and sloughs within the Coastal Plain of the southeastern US. A few examples, as the case here implies, have been recorded for the inner Piedmont as well. This plot occurs along the fringe of the Great Pee Dee River within Richmond County.

## X. Coastal Plain seepage and streamhead wetlands

### A. Streamhead Hardwood Swamps

- 1) [\*Nyssa biflora\* - \*Acer rubrum\* var. \*trilobum\* - \*Liriodendron tulipifera\* / \*Ilex coriacea\* - \*Lyonia lucida\* Forest \(CEGL004645\)](#)

NVC Fit = Fair

Plots = 082-03-1102, 082-04-1109



This community is found along sandhill slopes and headwater seepages with the inner Coastal Plain and Fall-line Sandhills of the southeastern US. The canopy is codominated by *Nyssa biflora* and *Acer rubrum* var. *trilobum*, while the subcanopy consists of *Persea palustris*, *Symplocos tinctoria*, and *Cyrilla racemiflora*. The NVC describes the shrub stratum of this association as dense and evergreen, which these plots lack. The herbaceous stratum is composed of *Carex striata*, *Osmunda cinnamomea*

*var. cinnamomea*, and *Arundinaria tecta*. Species diversity is typically low in this headwater wetland community type.

## B. Streamhead Cypress Swamps

- 1) [\*Chamaecyparis thyoides\* - \(\*Liriodendron tulipifera\*\) / \*Lyonia lucida\* Forest \(CEGL007563\)](#)

NVC Fit = Fair

Plots = 082-04-1101, 082-07-1100

These wetland forests coincide with streamhead seepages occurring over a clay hardpan in the Fall-line Sandhills of the Carolinas and Georgia. The plot examples here are found along Naked and Drowning Creeks, within the Sandhills Gamelands of Scotland and Richmond Counties. The canopy of this forest type is dominated by *Chamaecyparis thyoides*, with lesser amounts of *Acer rubrum* var. *rubrum*, *Nyssa biflora*, *Liriodendron tulipifera* var. *tulipifera*, *Pinus serotina*, and *Pinus taeda*. The subcanopy is composed of *Persea palustris* and *Magnolia virginiana* var. *virginiana*, while the tall shrub stratum includes *Ilex coriacea*, *Lyonia lucida*, and *Smilax laurifolia*. The herbaceous stratum is not well established in these plots, which explains the minor divergence from the NVC definition of this association.

## C. Sandhill Seepage Savanna and Shrublands

- 1) [\*Clethra alnifolia\* - \*Toxicodendron vernix\* / \*Aristida stricta\* - \*Osmunda cinnamomea\* - \*Sarracenia\* spp. Shrub Herbaceous Vegetation \(CEGL004467\)](#)

NVC Fit = Good

Plots = 082-09-1104

This community is found along seepage wetlands within the Sandhills Region of the Carolinas. Like other Sandhills seepage communities, this vegetation type can occur on either mid-slopes or low slopes where surface soil clay content is high. Herbaceous and low shrub strata persist in these areas because they remain permanently saturated. A variety of both upland and wetland species may be present in these communities due to the fire history of an area. Infrequent burning increases density of pocosin-like shrub species, and may result in difficulty separating these communities from streamhead pocosins. This plot, from Fort Bragg, is dominated by a variety of species including *Aristida virgata*, *Dichanthelium ensifolium*, *Dichanthelium scabriuscum*, *Sarracenia flava*, *Schizachyrium scoparium*, *Rhynchospora plumose*, and *Rhynchospora chalarocephala*. Herbaceous species diversity is high on this plot, suggesting frequent burn intervals.

- 2) [\*Gaylussacia frondosa\* - \*Clethra alnifolia\* - \*Arundinaria gigantea\* ssp. \*tecta\* / \*Aristida stricta\* - \*Pteridium aquilinum\* var. \*pseudocaudatum\* Herbaceous Vegetation \(CEGL004468\)](#)

NVC Fit = Good

Plots = 082-09-1105

This community is found along seepage wetlands within the Sandhills region of the Carolinas. Like other Sandhills seepage communities, this vegetation type can occur on either mid-slopes or low slopes where surface soil clay content is high. Herbaceous and low shrub strata persist in these areas

because they remain permanently saturated. A variety of both upland and wetland species may be present in these communities due to the fire history of an area. Infrequent burning increases density of pocosin-like shrub species, and may result in difficulty separating these communities from streamhead pocosins. This plot, from Fort Bragg, is dominated by a variety of shrub and herbaceous species, indicating a more infrequent recent burn regime than plot 082-09-1104. Species include *Arundinaria tecta*, *Gaylussacia frondosa*, *Osmunda cinnamomea* var. *cinnamomea*, and *Toxicodendron vernix*. An open, stunted canopy of *Pinus serotina* also occurs.

#### D. Streamhead Pond Pine Woodlands

- 1) [\*Pinus serotina\* - \(\*Liriodendron tulipifera\*\) / \*Lyonia lucida\* - \*Clethra alnifolia\* - \*Ilex glabra\* Woodland \(CEGL004435\)](#)

NVC Fit = Good to Excellent      Plots = 082-01-1101, 082-02-1101, 082-02-1102,  
    082-03-1105, 082-03-1106, 082-06-1100



This community type occurs along streams within the Sandhills of both North and South Carolina. These plots from the Sandhills Gamelands fit well with the NVC described community association, 4435. They consistently exhibit an open canopy of *Pinus serotina* and a moderately dense shrub stratum of *Clethra alnifolia* and *Lyonia lucida*. Other species include *Ilex coriacea*, *Smilax laurifolia*, *Gaylussacia frondosa*, *Liriodendron tulipifera*, and *Arundinaria tecta*. Shrub stratum heights vary between these six plots due to differences in burn history of a site. Shrub and herbaceous strata diversity is high between these six plots, owing to the differing fire disturbance regimes throughout the Sandhills landscape.

## XI. Coastal Plain ponds and marshes

### A. Depression Pond Shrublands

- 1) [\*Pinus serotina / Cyrilla racemiflora - Lyonia lucida - Vaccinium fuscum Woodland \(CEGL004434\)\*](#)

NVC Fit = Fair

Plots = 082-03-1109, 082-04-1104

This shrub-dominated community is located within small upland depressions in sandy areas of the southeastern US. Floristically they are unique from pocosins. However, the mechanisms for this separation are poorly understood. These plots occur on the Sandhills Gamelands of Richmond County, and are dominated by dense shrub and low canopy species. These include *Cyrilla racemiflora*, *Vaccinium formosum*, *Persea palustris*, and *Smilax laurifolia*. The NVC defines this association as including an open canopy of *Pinus serotina*, but plot 082-03-1109 lacks this composition and structure.

- 2) [\*Panicum hemitomon - Eleocharis equisetoides - Rhynchospora inundata Herbaceous Vegetation \(CEGL004127\)\*](#)

NVC Fit = Poor

Plots = 082-01-1106

This community is found within limesink ponds of the Coastal Plain and adjacent Sandhills region of the southeastern US. Species composition of these sites suggests they occur at deeper zones of limesink ponds. This plot occurs within the Bog Hole Site of the Sandhills Gamelands. Dominant species include *Coelorachis rugosa*, *Eriocaulon compressa*, *Eleocharis sp.*, and *Sclerolepis uniflora*. The absence of community nominal species sets this plot apart from the NVC description of this vegetation type. There is a clear need for study of the broad range of linksink and other temporarily-ponded depressions of the Carolina Coastal Plain and Sandhills.



3) [\*Hypericum fasciculatum / Rhynchospora \(chapmanii, harperi\)\* Shrubland \(CEGL003869\)](#)

NVC Fit = Good

Plots = 082-02-1107



The dominant species occurring in these depressional wetlands is *Hypericum fasciculatum*. Other species include *Rhynchospora chalarocephala*, *Eriocaulon compressum*, *Dichanthelium scabriusculum*, and *Carex striata*. This plot occurs at the Johnson Millpond Site on Fort Bragg.

4) Undescribed

NVC Fit = N/A

Plots = 082-04-1105

There is no clear fit between this plot and any described depressional wetland community in the Carolinas. The open canopy is composed of *Liquidambar styraciflua*, while the herbaceous stratum is composed of *Saccharum sp.*, *Eleocharis tricostata*, and *Leersia sp.* This plot occurs on the Sandhills Gamelands of Richmond County.

**B. Depression Pond Hardwood Forests**

1) [\*Nyssa biflora / Itea virginica - Cephalanthus occidentalis\* Depression Forest \(CEGL007434\)](#)

NVC Fit = Poor

Plots = 082-04-1103

This hardwood forest occurs on wetland depressions in the southeastern US Coastal Plain. Soils are typically dominated by muck, or peat, and are semipermanently saturated. The canopy of this

community type is dominated by *Nyssa biflora*. This plot also has a substantial amount of *Liquidambar styraciflua* in the canopy, which separates it from the NVC-defined association. The shrub stratum is absent from this plot, further separating it from the association. A floating mat of *Sphagnum sp.* dominates the ground cover. Herbaceous species found on raised hummocks include *Andropogon perangustatus* and *Dichanthelium sp.* The species composition defined by the NVC association poorly matches the composition found on this plot.

### C. Pond Cypress Savannas

- 1) [Taxodium ascendens / Cyrilla racemiflora - Zenobia pulverulenta Woodland \(CEGL003734\)](#)

NVC Fit = Poor

Plots = 082-04-1108



This seasonally flooded community type occurs over clay-based Carolina bays in the Coastal Plain of North Carolina. The canopy dominant species in this plot is *Taxodium ascendens*, but other canopy species include *Nyssa biflora*, *Acer rubrum var. trilobum*, and *Liquidambar styraciflua*. The presence of this last species differentiates this plot from the NVC-described association. The subcanopy is dominated by *Cyrilla racemiflora*—consistent with the association—but the herbaceous stratum composition further separates the two. Herbaceous species include *Carex joorii*, *Saccharum baldwinii*, *Carex striata*, and *Andropogon virginicus var. virginicus*. This plot occurs within Fort Bragg.

### D. Freshwater Marshes

- 1) [Rhynchospora \(careyanana, inundata\) Seasonally Flooded Herbaceous Vegetation \(CEGL004132\)](#)

NVC Fit = Fair

Plots = 082-02-1106

This is a seasonally flooded depression community found in the Coastal Plain of the southeastern US. The NVC recognizes that this association is broadly defined throughout its range, and

local sampling efforts will heighten the understanding of its classification. Typically, CEGL004132 is dominated by either of the nominal *Rhynchospora* species. Plot 082-02-1106 is composed of a high diversity of other species, including *Fuirena squarrosa*, *Hypericum canadense*, *Eleocharis baldwinii*, *Sagittaria engelmanniana*, *Rhynchospora macrostachya* var. *macrostachya*, and *Rhexia virginica*. This plot is found within the Johnson Millpond site of Fort Bragg.

#### E. Vernal Pools

- 1) *Panicum virgatum - Andropogon (capillipes, glaucopsis) - Aristida palustris* Herbaceous Vegetation (CEGL004100)

NVC Fit = Good to Excellent      Plots = 082-01-1102, 082-01-1103, 082-01-1104  
    082-01-1105, 082-03-1110

This depression pond type of the southern Atlantic Coastal Plain is typically drier than other similar geomorphologically placed communities. These plots of the Sandhills Gamelands are seasonally flooded, and history and duration of this disturbance regime may explain the variability between upland and wetland plant composition. Encroachment of *Pinus palustris* and *Aristida stricta* from nearby upland longleaf forests is common in these vernal pools. Other typical species related to this association are found in these plots. These include *Panicum virgatum* var. *virgatum*, *Andropogon elliottii*, and *Rhexia* sp. Diversity between vernal pools is extremely high (homoteneity = 52) and is maintained by the composition of surrounding upland communities and differing fire and flood disturbance regimes.



## XII. Coastal Plain lowland evergreen forests and shrublands

### A. White Cedar Forests

- 1) [\*Chamaecyparis thyoides / Persea palustris / Lyonia lucida - Ilex coriacea\* Forest \(CEGL006146\)](#)

NVC Fit = Good

Plots = 082-02-1105, 082-09-1101

This community is found on flat, permanently saturated peatlands of nonriverine bottomlands of the Atlantic Coastal Plain and adjacent Sandhills. The canopy is dominated by *Chamaecyparis thyoides*, with lesser amounts of *Nyssa biflora* and *Acer rubrum* var. *rubrum*. Subcanopy species include *Persea palustris*, *Magnolia virginiana* var. *virginiana* and *Ilex opaca* var. *opaca*. A moderately dense shrub stratum is composed of *Ilex coriacea*, *Lyonia lucida*, and *Leucothoe axillaris*. A sparse herbaceous stratum includes *Woodwardia areolata*, *Woodwardia virginica*, and *Osmunda cinnamomea* var. *cinnamomea*.

### B. Pocosins

- 1) [\*Pinus serotina / Arundinaria gigantea\* ssp. \*tecta\* Wooded Shrubland \(CEGL003851\)](#)

NVC Fit = Good

Plots = 082-03-1107, 082-03-1108

This community type is found on the edges of peat-filled depressions of the Atlantic Coastal Plain of the Carolinas and Virginia. Typically it is found over shallow organic soils, but these depths can be altered due to varying fire frequencies. Soils are usually saturated from winter through spring, and dry during the summer months. This community is floristically defined by having a dense layer of *Arundinaria tecta* in the shrub canopy (up to 5 meters). These plots are found on Fort Bragg, within the Little River drainage. The canopy of these plots is composed of *Pinus serotina*, *Oxydendrum arboreum*, and *Acer rubrum*. The shrub stratum is composed of *Clethra alnifolia*, *Persea palustris*, and *Lyonia lucida*. Ground cover in these plots is relatively high for a pocosin-type community. Herbaceous species include *Woodwardia areolata*, *Mitchella repens*, *Carex lonchocarpa*, *Carex debilis*, *Hexastylis minor*, *Lilium pyrophilum*, and *Dichanthelium lucidum*.



### C. Canebrakes

- 1) [Arundinaria gigantea ssp. tecta Shrubland \(CEGL003843\)](#)

NVC Fit = Good

Plots = 082-01-1110, 082-01-1111

This community type occurs along streams and wetland slopes within the Fall-line Sandhills and Coastal Plain of the southeastern US. They are characterized by a dense shrub stratum of *Arundinaria tecta*, with or without an open canopy of tree species. In these plots, occurring on Fort Bragg, canopy species include *Liriodendron tulipifera* var. *tulipifera*, *Acer rubrum* var. *rubrum*, *Pinus taeda*, and *Nyssa biflora*. Other species that occur in the shrub and herbaceous strata include *Leucothoe axillaris*, *Osmunda cinnamomea* var. *cinnamomea*, *Smilax laurifolia*, and *Rubus trivialis*.

## CONCLUSIONS AND FUTURE DIRECTIONS

Collected plots were assigned to 37 vegetation types. In some cases the plots mapped well onto established types, but for the most part our plots deviated from the previous descriptions suggesting a need for substantial refinement of the NVC. Of the 72 total plots sampled, 34 marginally fit within the classification, and 9 seemed to not fit at all. Appendix 2 provides a summary table for identified groups that do not fit well into the current NVC schema. As illustrated in the above descriptions, much work is needed to refine Sandhills hydric to mesic vegetation communities within North Carolina. Particularly of interest is determining how disturbance history influences the composition of these wetlands. Additional plots established in this region of North Carolina will be needed to increase our understanding of these undersampled communities. For now, however, these current plots will provide a framework for future classification projects undertaken in the study area.

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**Appendix 1: Soil Nutrient and Texture Values Summarized by Association.** Specific soil variables include pH, Organic Matter (%), exchangeable cations (Ca, Mg, K, Na, Mn; ppm), texture class (clay, silt, sand;

%).

		pH	Organic Matter	Calcium	Magnesium	Potassium	Sodium	Manganese	Clay%	Silt%	Sand%
I. PIEDMONT MESIC FORESTS	A. Felsic Mesic Forests										
	1) CEGL007237	5.4	6	2027	483	94	24	88	16	21	63
B. Mafic Dry-Mesic Forests											
	1) CEGL008466	6.5	6	2510	446	158	17	50	16	33	50
II. PIEDMONT SUB-XERIC OAK AND HICKORY FORESTS	A. Basic Oak - Hickory Forests										
	1) CEGL007773	4.9	5	731	233	116	24	143	20	36	44
III. PIEDMONT WOODLANDS AND GLADES	A. Mafic Glades and Barrens										
	1) CEGL004443	5.3	11	988	152	92	20	65	8	25	67
IV. PIEDMONT ALLUVIAL FORESTS AND SHRUBLANDS	A. Large River Floodplain and Levee Forests										
	1) CEGL007312	4.9	7	1252	354	81	36	202	33	48	19
	2) CEGL007356	4.8	7	961	332	97	37	121	45	36	18
	3) CEGL004419	5.1	6	1121	296	71	22	192	33	40	28
	4) CEGL007730	5.2	8	1156	307	83	20	187	33	53	15
V. COASTAL PLAIN MIXED MESIC FORESTS	A. Bluff Forests										
	1) CEGL004539	4.1	5	169	45	37	20	5	7	16	77
VI. COASTAL PLAIN FIRE-MAINTAINED WOODLANDS	A. Dry-Mesic Pine - Oak Woodlands										
	1) CEGL007511	4.6	4	235	75	41	17	30	1	15	84
VII. COASTAL PLAIN BROWNWATER RIVER FORESTS	A. Levee and Floodplain Forests										
	1) CEGL004606	4.0	9	387	75	58	20	4	21	25	54
	2) CEGL004695	4.7	6	553	149	57	31	120	42	45	13
	3) CEGL004740	5.8	10	2507	428	92	26	212	30	59	11
	B. Brown-water Swamp Forests										
	1) CEGL002419	4.9	5	729	240	80	54	133	44	36	19
VIII. COASTAL PLAIN BLACKWATER RIVER FORESTS	A. Black-water Swamp Forests										
	1) CEGL007864	4.6	6	191	63	41	32	5	14	23	63
	2) CEGL007432	4.3	12	330	91	67	24	4	11	29	60
	3) CEGL004733	4.3	20	298	58	44	32	2	15	37	48
	B. Coastal Plain Small Stream Forests										
	1) CEGL004734	4.0	19	163	57	53	28	2	6	19	75
	2) CEGL007350	5.0	5	308	59	40	25	7	2	44	54
	3) CEGL007329	4.4	14	235	102	81	24	8	13	44	43
IX. COASTAL PLAIN SHRUB AND HERB COMMUNITIES	A. Riverine Fringing Marshes										
	1) CEGL004139	5.0	1	278	123	17	37	29	30	60	9
X. COASTAL PLAIN SEEPAGE AND STREAMHEAD WETLANDS	A. Streamhead Hardwood Swamps										
	1) CEGL004645	4.1	26	231	89	62	34	3	8	38	53
	B. Streamhead Cypress Swamps										
	1) CEGL007563	4.0	62	314	165	64	32	4	1	13	86
	C. Sandhill Seepage Savanna and Shrublands										
	1) CEGL004467	4.6	17	292	85	42	26	4	7	58	36
	2) CEGL004468	3.9	28	346	116	83	31	2	1	19	80
	D. Streamhead Pond Pine Woodland										
	1) CEGL004435	4.1	43	380	105	70	29	7	6	32	62

		pH	Organic Matter	Calcium	Magnesium	Potassium	Sodium	Maganese	Clay%	Silt%	Sand%
XI. COASTAL PLAIN PONDS AND MARSHES											
A. Depression Pond Shrublands											
1) CEGL004434	4.5	24	149	59	72	34		5	13	46	42
2) CEGL004127	4.7	7	450	51	43	31		4	15	48	38
3) CEGL003869	4.3	44	93	44	15	31		1	2	9	88
4) Undescribed	4.2	6	97	29	36	15		2	50	36	14
B. Depression Pond Hardwood Forests											
1) CEGL007434	4.1	14	163	80	60	40		5	18	47	35
C. Pond Cypress Savannas											
1) CEGL003734	3.9	17	152	42	45	19		2	11	35	55
D. Freshwater Marshes											
1) CEGL004132	4.5	44	252	75	18	25		16	13	46	41
E. Vernal Pools											
1) CEGL004100	4.5	8	106	34	27	23		3	3	17	80
XII. COASTAL PLAIN LOWLAND EVERGREEN FORESTS AND SHRUBLANDS											
A. White Cedar Forests											
1) CEGL006146	4.2	16	176	55	41	31		2	5	33	62
B. Pocosins											
1) CEGL003851	4.1	32	344	77	90	36		6	17	42	41
C. Canebrakes											
1) CEGL003843	4.6	17	148	50	53	23		5	10	44	46

**Appendix 2: Association Groups with Poor or Fair Fit**

CEGL	# of Plots	NVC Fit	Reason
<i>Quercus rubra</i> – <i>Quercus alba</i> – <i>Carya glabra</i> / <i>Geranium maculatum</i> Forest (CEGL007237)	1	Fair	Plots' floristic composition bare little resemblance to described community
<i>Juniperus virginiana</i> var. <i>virginiana</i> – <i>Ulmus alata</i> / <i>Schizachyrium scoparium</i> Woodland (CEGL004443)	2	Fair	Lack of <i>Ulmus alata</i> as a canopy co-dominant; lack of <i>Schizachyrium scoparium</i> in the herbaceous stratum
<i>Betula nigra</i> - <i>Platanus occidentalis</i> / <i>Alnus serrulata</i> / <i>Boehmeria cylindrica</i> Forest (CEGL007312)	2	Poor to Fair	Lack of <i>Betula nigra</i> and <i>Platanus occidentalis</i> in the canopy; presence of <i>Asimina triloba</i> in the understory
<i>Quercus pagoda</i> - <i>Quercus phellos</i> - <i>Quercus lyrata</i> - <i>Quercus michauxii</i> / <i>Chasmanthium latifolium</i> Forest (CEGL007356)	6	Fair to Good	Presence of <i>Fraxinus pennsylvanica</i> in the canopy and understory
<i>Liriodendron tulipifera</i> / <i>Asimina triloba</i> / <i>Arundinaria gigantea</i> ssp. <i>gigantea</i> Forest (CEGL004419)	4	Fair to Good	Lack of <i>Liriodendron tulipifera</i> in the canopy
<i>Platanus occidentalis</i> - <i>Celtis laevigata</i> - <i>Fraxinus pennsylvanica</i> / <i>Lindera benzoin</i> - <i>Ilex decidua</i> / <i>Carex retroflexa</i> Forest (CEGL007730)	3	Poor to Fair	Poor understanding of this broadly defined Coastal Plain floodplain forest
<i>Fagus grandifolia</i> - <i>Quercus alba</i> - ( <i>Quercus prinus</i> ) / <i>Kalmia latifolia</i> - ( <i>Rhododendron catawbiense</i> ) Forest (CEGL004539)	4	Fair	Plots' floristic composition bare little resemblance to described community
<i>Pinus palustris</i> - <i>Pinus (echinata, taeda)</i> - <i>Quercus (incana, margarettiae, falcata, laevis)</i> Woodland (CEGL007511)	1	Fair	Poor understanding of this broadly defined Coastal Plain pine – oak woodland
<i>Fraxinus pennsylvanica</i> - <i>Quercus laurifolia</i> - <i>Quercus lyrata</i> - <i>Carya aquatica</i> Forest (CEGL004695)	1	Poor	Lack of typical levee species; plot occurs outside the described range of this community type
<i>Celtis laevigata</i> - <i>Fraxinus pennsylvanica</i> - <i>Acer negundo</i> - ( <i>Juglans nigra</i> ) / <i>Asimina triloba</i> / <i>Carex grayi</i> Forest (CEGL004740)	1	Fair	Plots' floristic composition bare little resemblance to described community
<i>Nyssa aquatica</i> Forest (CEGL002419)	1	Fair	Presence of <i>Carpinus caroliniana</i> in the understory
<i>Nyssa biflora</i> - <i>Acer rubrum</i> var. <i>rubrum</i> / <i>Lyonia lucida</i> Forest (CEGL007864)	2	Fair	Presence of <i>Cyrilla racemiflora</i> as the dominant shrub
<i>Taxodium distichum</i> - <i>Nyssa aquatica</i> - <i>Nyssa biflora</i> / <i>Fraxinus caroliniana</i> / <i>Itea virginica</i> Forest (CEGL007432)	1	Fair	Lack of <i>Nyssa aquatica</i> as a canopy codominant

CEGL	# of Plots	NVC Fit	Reason
<i>Taxodium distichum</i> - <i>Nyssa biflora</i> / <i>Fraxinus caroliniana</i> / <i>Lyonia lucida</i> Forest (CEGL004733)	1	Poor	Plots' floristic composition bare little resemblance to described community
<i>Nyssa biflora</i> - <i>Quercus nigra</i> - <i>Quercus laurifolia</i> - <i>Pinus taeda</i> / <i>Ilex opaca</i> - <i>Carpinus caroliniana</i> Forest (CEGL007350)	2	Fair	Lack of <i>Pinus taeda</i> and bottomland <i>Quercus sp.</i> in the canopy
<i>Liquidambar styraciflua</i> - <i>Liriodendron tulipifera</i> / <i>Onoclea sensibilis</i> Forest (CEGL007329)	1	Fair	Lack of <i>Liriodendron tulipifera</i> as a canopy co-dominant
<i>Nyssa biflora</i> - <i>Acer rubrum</i> var. <i>trilobum</i> - <i>Liriodendron tulipifera</i> / <i>Ilex coriacea</i> - <i>Lyonia lucida</i> Forest (CEGL004645)	2	Fair	Lack of a dense, evergreen shrub stratum
<i>Chamaecyparis thyoides</i> - ( <i>Liriodendron tulipifera</i> ) / <i>Lyonia lucida</i> Forest (CEGL007563)	2	Fair	Lack of a well-developed herbaceous stratum
<i>Pinus serotina</i> / <i>Cyrilla racemiflora</i> - <i>Lyonia lucida</i> - <i>Vaccinium fuscum</i> Woodland (CEGL004434)	2	Fair	Lack of <i>Pinus serotina</i> in the canopy
<i>Panicum hemitomon</i> - <i>Eleocharis equisetoides</i> - <i>Rhynchospora inundata</i> Herbaceous Vegetation (CEGL004127)	1	Poor	Plots' floristic composition bare little resemblance to described community
<i>Nyssa biflora</i> / <i>Itea virginica</i> - <i>Cephalanthus occidentalis</i> Depression Forest (CEGL007434)	1	Poor	Presence of a substantial amount of <i>Liquidambar styraciflua</i> in the canopy; lack of a well-developed shrub stratum; plots' floristic composition bare little resemblance to described community
<i>Taxodium ascendens</i> / <i>Cyrilla racemiflora</i> - <i>Zenobia pulverulenta</i> Woodland (CEGL003734)	1	Poor	Presence of a substantial amount of <i>Liquidambar styraciflua</i> in the canopy; plots' floristic composition bare little resemblance to described community
<i>Rhynchospora (careyana, inundata)</i> Seasonally Flooded Herbaceous Vegetation (CEGL004132)	1	Fair	Poor understanding of this broadly defined Coastal Plain freshwater marsh

### Appendix 3: Floristic tables for Association Groups

Floristic table for Group I.A.1: *Quercus rubra* - *Quercus alba* - *Carya glabra* / *Geranium maculatum* Forest (CEGL007237)

NUMBER OF PLOTS	1		
RICHNESS	118		
SPECIES	COVER CLASS	SPECIES	COVER CLASS
<i>Ulmus alata</i>	7	<i>Viola</i>	2
<i>Quercus rubra</i> var. <i>rubra</i>	7	<i>Toxicodendron radicans</i> var. <i>radicans</i>	2
<i>Cercis canadensis</i>	6	<i>Sanicula smallii</i>	2
<i>Quercus velutina</i>	6	<i>Hexastylis arifolia</i> var. <i>arifolia</i>	2
<i>Chasmanthium latifolium</i>	6	<i>Prunus umbellata</i>	2
<i>Carya cordiformis</i>	6	<i>Rosa carolina</i>	2
<i>Cornus florida</i>	6	<i>Fraxinus pennsylvanica</i>	2
<i>Liquidambar styraciflua</i>	5	<i>Crataegus marshallii</i>	2
<i>Fraxinus americana</i>	5	<i>Bignonia capreolata</i>	2
<i>Quercus alba</i>	5	<i>Houstonia purpurea</i> var. <i>purpurea</i>	2
<i>Polystichum acrostichoides</i>	4	<i>Galium circaeans</i> var. <i>circaeans</i>	2
<i>Juniperus virginiana</i> var. <i>virginiana</i>	4	<i>Trachelospermum difforme</i>	2
<i>Quercus muehlenbergii</i>	4	<i>Sisyrinchium mucronatum</i>	2
<i>Nyssa sylvatica</i>	4	<i>Dichanthelium boscii</i>	2
<i>Carya ovalis</i>	4	<i>Carpinus caroliniana</i> var. <i>caroliniana</i>	2
<i>Lonicera japonica</i>	4	<i>Asimina parviflora</i>	2
<i>Celtis laevigata</i>	3	<i>Vitis aestivalis</i> var. <i>aestivalis</i>	2
<i>Parthenocissus quinquefolia</i>	3	<i>Trichostema dichotomum</i>	2
<i>Prunus serotina</i> var. <i>serotina</i>	3	<i>Desmodium</i>	2
<i>Viburnum rufidulum</i>	3	<i>Poa</i>	2
<i>Vaccinium arboreum</i>	3	<i>Chasmanthium sessiliflorum</i>	2
<i>Aesculus sylvatica</i>	3	<i>Desmodium paniculatum</i> var. <i>paniculatum</i>	2
<i>Carya alba</i>	3	<i>Carex pensylvanica</i>	2
<i>Agrimonia pubescens</i>	2	<i>Carex hirsutella</i>	2
<i>Ruellia caroliniensis</i>	2	<i>Euonymus americanus</i>	2
<i>Acer rubrum</i>	2	<i>Chrysogonum virginianum</i>	2
<i>Arisaema triphyllum</i>	2	<i>Morus rubra</i>	2
<i>Phryma leptostachya</i> var. <i>leptostachya</i>	2	<i>Scleria triglomerata</i>	2
<i>Carex cumberlandensis</i>	2	<i>Euphorbia mercurialina</i>	2
<i>Maianthemum canadense</i> ssp. <i>racemosum</i>	2	<i>Quercus nigra</i>	2
<i>Symphytum cordifolium</i>	2	<i>Ageratina altissima</i>	2
<i>Viola sororia</i>	2	<i>Asplenium platyneuron</i>	2
<i>Dichanthelium dichotomum</i> var. <i>dichotomum</i>	2	<i>Ilex opaca</i> var. <i>opaca</i>	2
<i>Carex</i>	2	<i>Amelanchier [canadensis + obovalis + stolonifera]</i>	2

Floristic table for Group I.B.1: *Fagus grandifolia* - *Quercus rubra* / *Ostrya virginiana* - *Acer (barbatum, leucoderme)* / *Actaea racemosa* - *Sanguinaria canadensis* Forest (CEGL008466)

NUMBER OF PLOTS		1	
RICHNESS		102	
SPECIES	COVER CLASS	SPECIES	COVER CLASS
<i>Carya ovata</i>	7	<i>Amphicarpaea bracteata</i>	2
<i>Asimina triloba</i>	7	<i>Endodeca serpentaria</i>	2
<i>Juglans nigra</i>	7	<i>Carex atlantica</i>	2
<i>Liriodendron tulipifera</i> var. <i>tulipifera</i>	6	<i>Carex</i>	2
<i>Quercus muehlenbergii</i>	6	<i>Parthenocissus quinquefolia</i>	2
<i>Ulmus rubra</i>	6	<i>Ageratina altissima</i> var. <i>altissima</i>	2
<i>Lindera benzoin</i> var. <i>pubescens</i>	6	<i>Poa</i>	2
<i>Lonicera japonica</i>	6	<i>Hexastylis arifolia</i> var. <i>arifolia</i>	2
<i>Cornus florida</i>	6	<i>Asplenium platyneuron</i>	2
<i>Liquidambar styraciflua</i>	5	<i>Smilax pulverulenta</i>	2
<i>Vitis cinerea</i> var. <i>floridana</i>	5	<i>Carex</i>	2
<i>Fraxinus americana</i>	5	<i>Toxicodendron radicans</i> var. <i>radicans</i>	2
<i>Aesculus sylvatica</i>	5	<i>Hexastylis minor</i>	2
<i>Acer negundo</i> var. <i>negundo</i>	4	<i>Phegopteris hexagonoptera</i>	2
<i>Hamamelis virginiana</i> var. <i>virginiana</i>	4	<i>Callicarpa americana</i>	2
<i>Carya glabra</i> var. <i>glabra</i>	4	<i>Polystichum acrostichoides</i>	2
<i>Quercus shumardii</i> var. <i>shumardii</i>	4	<i>Euonymus americanus</i>	2
<i>Phryma leptostachya</i> var. <i>leptostachya</i>	3	<i>Agrimonia rostellata</i>	2
<i>Platanus occidentalis</i> var. <i>occidentalis</i>	3	<i>Galium triflorum</i>	2
<i>Tilia americana</i> var. <i>caroliniana</i>	3	<i>Geum canadense</i>	2
<i>Carpinus caroliniana</i> var. <i>caroliniana</i>	3	<i>Bignonia capreolata</i>	2
<i>Cercis canadensis</i> var. <i>canadensis</i>	3	<i>Tradescantia subaspera</i>	2
<i>Morus rubra</i>	3	<i>Sanguinaria canadensis</i>	2
<i>Matelea</i>	2	<i>Arisaema triphyllum</i>	2
<i>Circaeа canadensis</i> ssp. <i>canadensis</i>	2	<i>Prenanthes</i>	2
<i>Carex</i>	2	<i>Ligustrum sinense</i>	2
<i>Sambucus canadensis</i>	2	<i>Brachyelytrum erectum</i>	2
<i>Prunus serotina</i> var. <i>serotina</i>	2	<i>Celtis laevigata</i>	2
<i>Anemone americana</i>	2	<i>Smilax rotundifolia</i>	2
<i>Passiflora lutea</i> var. <i>lutea</i>	2	<i>Ulmus alata</i>	2

Floristic table for Group II.A.1: *Quercus alba* - *Quercus stellata* - *Carya caroliniana-septentrionalis* / *Acer leucoderme* - *Cercis canadensis* Forest  
(CEGL007773)

NUMBER OF PLOTS			SPECIES		
AVERAGE RICHNESS	2	91	SPECIES	CONSTANCY	AVERAGE COVER CLASS
HOMOTENEITY	79		SPECIES	CONSTANCY	AVERAGE COVER CLASS
SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Quercus rubra</i> var. <i>rubra</i>	100	7	<i>Morus rubra</i>	100	2
<i>Quercus muehlenbergii</i>	100	6	<i>Sceptridium binternatum</i>	100	1
<i>Quercus stellata</i>	100	6	<i>Asimina triloba</i>	100	1
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100	5	<i>Asclepias variegata</i>	100	1
<i>Liquidambar styraciflua</i>	100	5	<i>Dichanthelium dichotomum</i> var. <i>dichotomum</i>	100	1
<i>Ulmus alata</i>	100	5	<i>Solidago</i>	100	1
<i>Parthenocissus quinquefolia</i>	100	4	<i>Passiflora lutea</i> var. <i>lutea</i>	100	1
<i>Cercis canadensis</i> var. <i>canadensis</i>	100	4	<i>Campsis radicans</i>	100	1
<i>Quercus nigra</i>	100	4	<i>Ulmus rubra</i>	50	4
<i>Cornus florida</i>	100	4	<i>Carya ovata</i>	50	4
<i>Ilex decidua</i> var. <i>decidua</i>	100	4	<i>Nyssa sylvatica</i>	50	4
<i>Lonicera japonica</i>	100	4	<i>Prunus umbellata</i>	50	3
<i>Vaccinium arboreum</i>	100	4	<i>Quercus velutina</i>	50	3
<i>Carya pallida</i>	100	4	<i>Styrax grandifolius</i>	50	3
<i>Lonicera sempervirens</i> var. <i>sempervirens</i>	100	3	<i>Carya glabra</i> var. <i>glabra</i>	50	3
<i>Acer rubrum</i> var. <i>rubrum</i>	100	3	<i>Fraxinus americana</i>	50	3
<i>Ilex opaca</i> var. <i>opaca</i>	100	3	<i>Agrimonia rostellata</i>	50	2
<i>Carpinus caroliniana</i> var. <i>caroliniana</i>	100	3	<i>Dichanthelium commutatum</i> var. <i>ashei</i>	50	2
<i>Aesculus sylvatica</i>	100	3	<i>Lespedeza procumbens</i>	50	2
<i>Juniperus virginiana</i> var. <i>virginiana</i>	100	3	<i>Quercus falcata</i>	50	2
<i>Prunus serotina</i> var. <i>serotina</i>	100	3	<i>Amelanchier</i> [canadensis + obovalis + stolonifera]	50	2

Floristic table for Group II.A.1: *Quercus alba* - *Quercus stellata* - *Carya carolinae-septentrionalis* / *Acer leucoderme* - *Cercis canadensis* Forest (CEGL007773)...continued

SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS
Potentilla canadensis var. canadensis	100	2	Brachyelytrum erectum	50	2
Celtis tenuifolia	100	2	Carex cumberlandensis	50	2
Desmodium rotundifolium	100	2	Celtis occidentalis	50	2
Pinus taeda	100	2	Crataegus crus-galli	50	2
Dichanthelium laxiflorum	100	2	Oxalis	50	2
Gelsemium sempervirens	100	2	Scutellaria ovata	50	2
Vaccinium stamineum	100	2	Toxicodendron radicans var. radicans	50	2
Carya alba	100	2	Zephyranthes atamasca	50	2
Smilax rotundifolia	100	2	Smilax glauca	50	2
Danthonia spicata	100	2	Carex blanda	50	2
Smilax bona-nox	100	2	Crataegus intricata	50	2
Callicarpa americana	100	2	Festuca subverticillata	50	2
Carex	100	2	Scleria oligantha	50	2
Diospyros virginiana	100	2	Viburnum rufidulum	50	2
Bignonia capreolata	100	2	Sassafras albidum	50	2
Euphorbia mercurialina	100	2	Oxydendrum arboreum	50	2
Dichanthelium boscii	100	2	Andropogon	50	1
Liriodendron tulipifera var. tulipifera	100	2	Dichanthelium depauperatum	50	1
Euonymus americanus	100	2	Gamochaeta	50	1
Galium circaeans var. circaeans	100	2	Lactuca	50	1
Polystichum acrostichoides	100	2	Ligustrum sinense	50	1
Quercus alba	100	2	Physalis	50	1
Asplenium platyneuron	100	2	Poaceae	50	1
Carya cordiformis	100	2	Triodanis perfoliata	50	1
Morus rubra	100	2			

Floristic table for Group III.A.1: *Juniperus virginiana* var. *virginiana* - *Ulmus alata* / *Schizachyrium scoparium* Woodland (CEGL004443)

NUMBER OF PLOTS			2			
AVERAGE RICHNESS			60			
HOMOTENEITY			67			
SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS	
<i>Carya alba</i>	100	7	<i>Dichanthelium linearifolium</i>	50	2	
<i>Juniperus virginiana</i> var. <i>virginiana</i>	100	7	<i>Dicotyledon</i>	50	2	
<i>Quercus stellata</i>	100	6	<i>Galium circaeans</i> var. <i>circaeans</i>	50	2	
<i>Vaccinium arboreum</i>	100	6	<i>Hexastylis arifolia</i> var. <i>arifolia</i>	50	2	
<i>Acer rubrum</i> var. <i>rubrum</i>	100	5	<i>Lespedeza repens</i>	50	2	
<i>Quercus nigra</i>	100	4	<i>Liatris</i>	50	2	
<i>Quercus alba</i>	100	3	<i>Liatris virgata</i>	50	2	
<i>Liquidambar styraciflua</i>	100	2	<i>Ligustrum sinense</i>	50	2	
<i>Asplenium platyneuron</i>	100	2	<i>Lonicera sempervirens</i> var. <i>sempervirens</i>	50	2	
<i>Gelsemium sempervirens</i>	100	2	<i>Manfreda virginica</i>	50	2	
<i>Lonicera japonica</i>	100	2	<i>Opuntia humifusa</i> var. <i>humifusa</i>	50	2	
<i>Smilax bona-nox</i>	100	2	<i>Oxalis dillenii</i>	50	2	
<i>Dichanthelium dichotomum</i> var. <i>dichotomum</i>	100	2	<i>Pinus serotina</i>	50	2	
<i>Parthenocissus quinquefolia</i>	100	2	<i>Polygonatum biflorum</i> var. <i>biflorum</i>	50	2	
<i>Prunus serotina</i> var. <i>serotina</i>	100	2	<i>Quercus velutina</i>	50	2	
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100	2	<i>Rosa carolina</i>	50	2	
<i>Euphorbia pubentissima</i>	100	2	<i>Sassafras albidum</i>	50	2	
<i>Carex nigromarginata</i>	100	2	<i>Scleria oligantha</i>	50	2	
<i>Smilax glauca</i>	100	1	<i>Stylosanthes biflora</i>	50	2	
Unknown	100	1	<i>Styrax americanus</i> var. <i>americanus</i>	50	2	
<i>Carya cordiformis</i>	50	5	<i>Tradescantia hirsuticaulis</i>	50	2	
<i>Vaccinium pallidum</i>	50	3	<i>Ulmus alata</i>	50	2	
<i>Carya glabra</i> var. <i>glabra</i>	50	3	<i>Callicarpa americana</i>	50	2	
[ <i>Andropogon</i> + <i>Schizachyrium</i> ]	50	2	<i>Cladonia</i>	50	2	
<i>Bignonia capreolata</i>	50	2	<i>Matelea carolinensis</i>	50	2	

Floristic table for Group III.A.1: *Juniperus virginiana* var. *virginiana* - *Ulmus alata* / *Schizachyrium scoparium* Woodland  
 (CEGL004443)...continued

SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Chimaphila maculata</i>	50	2	<i>Carex</i>	50	2
<i>Clematis ochroleuca</i>	50	2	<i>Dichanthelium sphaerocarpon</i>	50	2
<i>Dichanthelium</i>	50	2	Moss	50	2
<i>Dichanthelium boscii</i>	50	2	<i>Antennaria</i>	50	2
<i>Dichanthelium commutatum</i> var. <i>ashei</i>	50	2	<i>Danthonia sericea</i>	50	2

Floristic table for Group IV.A.1: *Betula nigra* - *Platanus occidentalis* / *Alnus serrulata* / *Boehmeria cylindrica* Forest (CEGL007312)

NUMBER OF PLOTS AVERAGE RICHNESS HOMOTENEITY			SPECIES CONSTANCY AVERAGE COVER CLASS		
SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Acer rubrum</i> var. <i>rubrum</i>	100	6	<i>Bignonia capreolata</i>	50	3
<i>Fraxinus pennsylvanica</i>	100	5	<i>Ulmus americana</i> var. <i>americana</i>	50	3
<i>Chasmanthium latifolium</i>	100	4	<i>Saururus cernuus</i>	50	3
<i>Carex typhina</i>	100	4	<i>Quercus michauxii</i>	50	3
<i>Solidago</i>	100	4	<i>Dichanthelium commutatum</i> var. <i>commutatum</i>	50	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	100	3	<i>Euonymus americanus</i>	50	2
<i>Impatiens capensis</i>	100	2	<i>Ligustrum sinense</i>	50	2
<i>Parthenocissus quinquefolia</i>	100	2	<i>Smilax glauca</i>	50	2
<i>Smilax bona-nox</i>	100	2	<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	50	2
<i>Acer negundo</i> var. <i>negundo</i>	100	2	<i>Lonicera japonica</i>	50	2
<i>Ulmus alata</i>	100	2	<i>Matelea</i>	50	2
<i>Smilax rotundifolia</i>	100	2	<i>Stellaria media</i>	50	2
<i>Boehmeria cylindrica</i>	100	2	<i>Viburnum prunifolium</i>	50	2
<i>Persicaria</i>	100	2	<i>Viola sororia</i>	50	2
<i>Lycopus rubellus</i>	100	1	<i>Vitis</i>	50	2
<i>Carya cordiformis</i>	50	6	<i>Carex complanata</i>	50	2
<i>Carpinus caroliniana</i> var. <i>caroliniana</i>	50	6	<i>Juncus effusus</i> ssp. <i>solutus</i>	50	2
<i>Asimina triloba</i>	50	6	<i>Commelina virginica</i>	50	2
<i>Quercus nigra</i>	50	6	<i>Poa</i>	50	2
<i>Betula nigra</i>	50	6	<i>Carex tribuloides</i> var. <i>tribuloides</i>	50	2
<i>Carex lupulina</i>	50	5	<i>Carya ovata</i>	50	2
<i>Platanus occidentalis</i> var. <i>occidentalis</i>	50	5	<i>Celtis laevigata</i>	50	2
<i>Arundinaria gigantea</i>	50	5	<i>Murdannia keisak</i>	50	2
<i>Carex stipata</i> var. <i>maxima</i>	50	4	<i>Cornus foemina</i>	50	2
<i>Carex grisea</i>	50	3	<i>Carex</i>	50	2

Floristic table for Group IV.A.2: *Quercus pagoda* - *Quercus phellos* - *Quercus lyrata* - *Quercus michauxii* / *Chasmanthium latifolium* Forest  
 (CEGL007356)

NUMBER OF PLOTS			6	AVERAGE COVER CLASS		
AVERAGE RICHNESS			50	AVERAGE COVER CLASS		
HOMOTENEITY			61			
SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS	
<i>Fraxinus pennsylvanica</i>	100	6	<i>Carya ovata</i>	50	4	
<i>Carex</i>	100	4	<i>Ulmus alata</i>	50	3	
<i>Ilex decidua</i> var. <i>decidua</i>	100	3	<i>Lycopus virginicus</i>	50	2	
<i>Toxicodendron radicans</i> var. <i>radicans</i>	100	3	<i>Asteraceae</i>	50	2	
<i>Boehmeria cylindrica</i>	100	2	<i>Dichanthelium commutatum</i> var. <i>commutatum</i>	50	2	
<i>Smilax rotundifolia</i>	100	2	<i>Viola sororia</i>	50	2	
<i>Acer rubrum</i> var. <i>rubrum</i>	83	6	<i>Campsis radicans</i>	50	2	
<i>Carpinus caroliniana</i> var. <i>caroliniana</i>	83	6	<i>Cornus foemina</i>	50	2	
<i>Liquidambar styraciflua</i>	83	5	<i>Carex louisianica</i>	50	2	
<i>Ulmus americana</i> var. <i>americana</i>	83	5	<i>Carex debilis</i>	50	2	
<i>Parthenocissus quinquefolia</i>	83	2	<i>Bidens frondosa</i>	50	1	
<i>Quercus lyrata</i>	67	7	<i>Diospyros virginiana</i>	50	1	
<i>Crataegus viridis</i>	67	4	<i>Smilax glauca</i>	50	1	
<i>Bignonia capreolata</i>	67	4	<i>Celtis laevigata</i>	50	1	
<i>Poa</i>	67	3	<i>Euonymus americanus</i>	50	1	
<i>Poaceae</i>	67	3	<i>Persicaria</i>	50	1	
<i>Saururus cernuus</i>	67	3	Unknown	50	1	
<i>Solidago</i>	67	2	<i>Smilax bona-nox</i>	50	1	
<i>Carex typhina</i>	67	2	<i>Ulmus rubra</i>	33	4	
<i>Erechtites hieracifolia</i> var. <i>hieracifolia</i>	67	1	<i>Quercus pagoda</i>	33	3	
<i>Impatiens</i>	67	1	<i>Arundinaria gigantea</i>	33	3	
<i>Ligustrum sinense</i>	67	1	<i>Ludwigia palustris</i>	33	2	
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	67	1	<i>Carex intumescens</i> var. <i>intumescens</i>	33	2	
<i>Quercus phellos</i>	50	5	<i>Gratiola virginiana</i>	33	2	
<i>Chasmanthium latifolium</i>	50	4	<i>Itea virginica</i>	33	2	

Floristic table for Group IV.A.3: *Liriodendron tulipifera* / *Asimina triloba* / *Arundinaria gigantea* ssp. *gigantea* Forest (CEGL004419)

NUMBER OF PLOTS	4				
AVERAGE RICHNESS	68				
HOMOTENEITY	67				
SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Carya cordiformis</i>	100	6	<i>Euonymus americanus</i>	75	2
<i>Carpinus caroliniana</i> var. <i>caroliniana</i>	100	6	<i>Dichanthelium commutatum</i> var. <i>commutatum</i>	75	2
<i>Liquidambar styraciflua</i>	100	5	<i>Betula nigra</i>	75	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	100	5	<i>Chasmanthium latifolium</i>	75	2
<i>Parthenocissus quinquefolia</i>	100	4	<i>Carex grayi</i>	75	2
<i>Asimina triloba</i>	100	4	<i>Passiflora lutea</i> var. <i>lutea</i>	75	1
<i>Bignonia capreolata</i>	100	4	<i>Erechtites hieracifolia</i> var. <i>hieracifolia</i>	75	1
<i>Ligustrum sinense</i>	100	4	<i>Quercus michauxii</i>	50	6
<i>Ilex decidua</i> var. <i>decidua</i>	100	3	<i>Liriodendron tulipifera</i> var. <i>tulipifera</i>	50	5
<i>Carex</i>	100	3	<i>Lindera benzoin</i> var. <i>pubescens</i>	50	4
<i>Smilax bona-nox</i>	100	2	<i>Ilex opaca</i> var. <i>opaca</i>	50	4
<i>Smilax rotundifolia</i>	100	2	<i>Viola</i>	50	4
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100	2	<i>Lonicera japonica</i>	50	4
<i>Quercus nigra</i>	100	2	<i>Cornus florida</i>	50	3
<i>Smilax glauca</i>	100	1	<i>Pinus taeda</i>	50	3
<i>Arundinaria gigantea</i>	75	6	<i>Carex debilis</i>	50	2
<i>Ulmus alata</i>	75	4	<i>Mitchella repens</i>	50	2
<i>Acer rubrum</i> var. <i>rubrum</i>	75	4	<i>Galium aparine</i>	50	2
<i>Campsis radicans</i>	75	3	<i>Laportea canadensis</i>	50	2
<i>Ulmus americana</i> var. <i>americana</i>	75	3	<i>Crataegus pruinosa</i>	50	2
<i>Celtis laevigata</i>	75	3	<i>Uvularia sessilifolia</i>	50	2
<i>Rubus</i>	75	2	<i>Ranunculus abortivus</i>	50	2
<i>Acer negundo</i> var. <i>negundo</i>	75	2	<i>Poa</i>	50	2
<i>Boehmeria cylindrica</i>	75	2	<i>Bidens frondosa</i>	50	2
<i>Fraxinus pennsylvanica</i>	75	2	<i>Myosotis macrosperma</i>	50	2

Floristic table for Group IV.A.3: *Liriodendron tulipifera* / *Asimina triloba* / *Arundinaria gigantea* ssp. *gigantea* Forest (CEGL004419)...continued

SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Solidago</i>	50	2	<i>Morus rubra</i>	50	2
<i>Allium canadense</i> var. <i>canadense</i>	50	2	<i>Matelea</i>	50	1
<i>Sanicula canadensis</i> var. <i>canadensis</i>	50	2	<i>Sanicula canadensis</i>	50	1
<i>Carya ovata</i>	50	2	<i>Arisaema dracontium</i>	50	1
Poaceae	50	2	<i>Microstegium vimineum</i>	50	1
<i>Viburnum prunifolium</i>	50	2	<i>Viola sororia</i>	50	1
<i>Vitis aestivalis</i> var. <i>aestivalis</i>	50	2	<i>Sambucus canadensis</i>	50	1
<i>Carex cumberlandensis</i>	50	2	<i>Elephantopus carolinianus</i>	50	1
<i>Geum canadense</i>	50	2	<i>Persicaria virginiana</i>	50	1

Floristic table for Group IV.A.4: *Platanus occidentalis* - *Celtis laevigata* - *Fraxinus pennsylvanica* / *Lindera benzoin* - *Ilex decidua* / *Carex retroflexa*  
Forest (CEGL007730)

NUMBER OF PLOTS AVERAGE RICHNESS HOMOTENEITY					
SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Ilex opaca</i> var. <i>opaca</i>	100	6	<i>Vitis cinerea</i> var. <i>baileyan</i> a	67	2
<i>Liquidambar styraciflua</i>	100	6	<i>Arisaema dracontium</i>	67	2
<i>Ulmus alata</i>	100	5	<i>Viburnum prunifolium</i>	67	2
<i>Celtis laevigata</i>	100	4	<i>Sambucus canadensis</i>	67	2
<i>Ilex decidua</i> var. <i>decidua</i>	100	4	<i>Dichanthelium commutatum</i> var. <i>commutatum</i>	67	2
<i>Carpinus caroliniana</i> var. <i>caroliniana</i>	100	4	<i>Geum canadense</i>	67	2
<i>Lonicera japonica</i>	100	4	<i>Carex</i>	67	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	100	3	<i>Euonymus americanus</i>	67	2
<i>Ligustrum sinense</i>	100	3	<i>Pilea pumila</i>	67	2
<i>Parthenocissus quinquefolia</i>	100	3	<i>Laportea canadensis</i>	67	2
<i>Microstegium vimineum</i>	100	2	<i>Campsis radicans</i>	67	2
<i>Smilax rotundifolia</i>	100	2	<i>Morus rubra</i>	67	2
<i>Bignonia capreolata</i>	100	2	<i>Impatiens capensis</i>	67	2
<i>Smilax bona-nox</i>	100	1	<i>Viola</i>	67	2
<i>Carya ovata</i>	67	6	<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	67	2
<i>Platanus occidentalis</i> var. <i>occidentalis</i>	67	6	<i>Fraxinus americana</i>	67	2
<i>Carya cordiformis</i>	67	5	<i>Pinus taeda</i>	67	1
<i>Cornus florida</i>	67	4	<i>Clematis viorna</i>	67	1
<i>Ulmus americana</i> var. <i>americana</i>	67	4	<i>Smilax glauca</i>	67	1
<i>Quercus nigra</i>	67	4	[ <i>Gonolobus</i> + <i>Matelea</i> ]	67	1
<i>Acer negundo</i> var. <i>negundo</i>	67	4	<i>Arisaema triphyllum</i>	67	1
<i>Carex grayi</i>	67	3	<i>Juglans nigra</i>	33	5
<i>Acer rubrum</i> var. <i>rubrum</i>	67	3	<i>Quercus shumardii</i> var. <i>shumardii</i>	33	5

Quercus rubra var. rubra	67	3	Quercus michauxii	33	5
Prunus serotina var. serotina	67	2	Fraxinus pennsylvanica	33	5

Floristic table for Group IV.A.4: *Platanus occidentalis* - *Celtis laevigata* - *Fraxinus pennsylvanica* / *Lindera benzoin* - *Ilex decidua* / *Carex retroflexa*

Forest (CEGL007730)...continued

SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Nyssa sylvatica</i>	33	4	<i>Ophioglossaceae</i>	33	3
<i>Acer rubrum</i>	33	4	<i>Quercus muehlenbergii</i>	33	3
<i>Quercus pagoda</i>	33	4	<i>Allium cuthbertii</i>	33	2
<i>Carex grisea</i>	33	4	<i>Boehmeria cylindrica</i>	33	2
<i>Arundinaria tecta</i>	33	3	<i>Callicarpa americana</i>	33	2
<i>Carex radiata</i>	33	3	<i>Carex gracilescens</i>	33	2
<i>Asimina triloba</i>	33	3	<i>Cocculus carolinus</i>	33	2
<i>Oxydendrum arboreum</i>	33	3	<i>Crataegus intricata</i>	33	2
<i>Populus deltoides</i> var. <i>deltoides</i>	33	3	<i>Dichanthelium boscii</i>	33	2
<i>Carya glabra</i> var. <i>glabra</i>	33	3	<i>Juniperus virginiana</i> var. <i>virginiana</i>	33	2

Floristic table for Group V.A.1: *Fagus grandifolia* - *Quercus alba* - (*Quercus prinus*) / *Kalmia latifolia* - (*Rhododendron catawbiense*) Forest  
(CEGL004539)

NUMBER OF PLOTS	4	AVERAGE RICHNESS	50	HOMOTENEITY	75			
SPECIES	CONSTANCY	AVERAGE COVER CLASS		SPECIES	CONSTANCY		AVERAGE COVER CLASS	
<i>Quercus alba</i>	100	7	Polygonatum biflorum		75		2	
<i>Oxydendrum arboreum</i>	100	6	<i>Hexastylis minor</i>		75		2	
<i>Kalmia latifolia</i>	100	6	<i>Pteridium aquilinum</i> var. <i>pseudocaudatum</i>		75		2	
<i>Symplocos tinctoria</i>	100	5	<i>Cyrilla racemiflora</i>		75		2	
<i>Pinus taeda</i>	100	5	<i>Vaccinium formosum</i>		75		2	
<i>Clethra alnifolia</i>	100	5	<i>Acer rubrum</i> var. <i>trilobum</i>		75		2	
<i>Nyssa sylvatica</i>	100	5	<i>Persea palustris</i>		75		2	
<i>Quercus velutina</i>	100	4	<i>Ilex opaca</i> var. <i>opaca</i>		50		4	
<i>Hamamelis virginiana</i> var. <i>virginiana</i>	100	4	<i>Ilex coriacea</i>		50		4	
<i>Galax urceolata</i>	100	4	<i>Amelanchier</i> [ <i>canadensis</i> + <i>obovalis</i> + <i>stolonifera</i> ]		50		2	
<i>Liquidambar styraciflua</i>	100	4	<i>Lonicera sempervirens</i> var. <i>sempervirens</i>		50		2	
<i>Lyonia lucida</i>	100	4	<i>Rhododendron periclymenoides</i>		50		2	
<i>Quercus nigra</i>	100	4	<i>Mitchella repens</i>		50		2	
<i>Vaccinium fuscatum</i>	100	3	<i>Morella caroliniensis</i>		50		2	
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100	2	<i>Quercus marilandica</i> var. <i>marilandica</i>		50		2	
<i>Gelsemium sempervirens</i>	100	2	<i>Chionanthus virginicus</i>		50		2	
<i>Smilax glauca</i>	100	2	<i>Eubotrys racemosa</i>		50		2	
<i>Chamaecyparis thyoides</i>	75	6	<i>Smilax rotundifolia</i>		50		2	
<i>Gaylussacia frondosa</i>	75	5	<i>Vaccinium elliottii</i>		50		2	
<i>Arundinaria tecta</i>	75	5	<i>Quercus rubra</i> var. <i>rubra</i>		50		2	
<i>Smilax laurifolia</i>	75	4	<i>Toxicodendron vernix</i>		50		2	
<i>Magnolia virginiana</i> var. <i>virginiana</i>	75	4	<i>Uvularia puberula</i> var. <i>nitida</i>		50		1	
<i>Cornus florida</i>	75	4	<i>Aureolaria virginica</i>		50		1	

Osmunda cinnamomea var. cinnamomea	75	3	Lilium michauxii	50	1
Bignonia capreolata	75	2	Parthenocissus quinquefolia	50	1

Floristic table for Group VI.A.1: *Pinus palustris* - *Pinus (echinata, taeda)* - *Quercus (incana, margarettiae, falcata, laevis)* Woodland (CEGL007511)

NUMBER OF PLOTS		1	
RICHNESS		85	
SPECIES	COVER CLASS	SPECIES	COVER CLASS
<i>Aristida stricta</i>	7	<i>Diospyros virginiana</i>	2
<i>Pinus echinata</i>	7	<i>Potentilla canadensis</i> var. <i>canadensis</i>	2
<i>Quercus margaretae</i>	6	<i>Danthonia sericea</i>	2
<i>Quercus marilandica</i> var. <i>marilandica</i>	6	<i>Carya pallida</i>	2
<i>Vaccinium tenellum</i>	6	<i>Dichanthelium ovale</i> var. <i>addisonii</i>	2
<i>Pinus palustris</i>	5	<i>Vernonia angustifolia</i>	2
<i>Quercus incana</i>	5	<i>Hypericum hypericoides</i>	2
<i>Toxicodendron pubescens</i>	3	<i>Phaseolus sinuatus</i>	2
<i>Quercus laevis</i>	3	<i>Erigeron vernus</i>	2
<i>Oenothera biennis</i>	2	<i>Solidago odora</i> var. <i>odora</i>	2
<i>Ionactis linariifolia</i>	2	<i>Rhus copallina</i> var. <i>copallina</i>	2
<i>Solidago</i>	2	<i>Quercus alba</i>	2
<i>Cornus florida</i>	2	<i>Vaccinium fuscatum</i>	2
<i>Eupatorium album</i> var. <i>album</i>	2	<i>Andropogon elliotii</i>	2
<i>Pityopsis</i>	2	<i>Sassafras albidum</i>	2
<i>Elephantopus tomentosus</i>	2	<i>Euphorbia curtisii</i>	2
<i>Lespedeza hirta</i> var. <i>curtissii</i>	2	<i>Carya alba</i>	2
<i>Silphium</i>	2	<i>Gaylussacia dumosa</i>	2
<i>Asclepias tomentosa</i>	2		

Floristic table for Group VII.A.1: *Pinus taeda* - *Liquidambar styraciflua* - *Nyssa biflora* Temporarily Flooded Forest (CEGL004606)

NUMBER OF PLOTS	1
RICHNESS	37
SPECIES	COVER CLASS
<i>Quercus nigra</i>	7
<i>Ilex opaca</i> var. <i>opaca</i>	7
<i>Pinus taeda</i>	7
<i>Acer rubrum</i> var. <i>rubrum</i>	7
<i>Nyssa biflora</i>	6
<i>Liquidambar styraciflua</i>	6
<i>Smilax rotundifolia</i>	4
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	3
<i>Liriodendron tulipifera</i> var. <i>tulipifera</i>	3
<i>Quercus phellos</i>	3
<i>Magnolia virginiana</i> var. <i>virginiana</i>	3
<i>Smilax glauca</i>	2
<i>Carex</i>	2
<i>Carex</i>	2
<i>Rubus</i>	2
<i>Carex debilis</i>	2
<i>Gelsemium sempervirens</i>	2
<i>Bignonia capreolata</i>	2



Floristic table for Group VII.A.2: *Fraxinus pennsylvanica* - *Quercus laurifolia* - *Quercus lyrata* - *Carya aquatica* Forest (CEGL004695)

NUMBER OF PLOTS AVERAGE RICHNESS HOMOTENEITY					
SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Acer rubrum</i> var. <i>rubrum</i>	100	6	<i>Ilex opaca</i> var. <i>opaca</i>	50	4
<i>Liquidambar styraciflua</i>	100	6	<i>Populus deltoides</i> var. <i>deltoides</i>	50	4
<i>Fraxinus pennsylvanica</i>	100	4	<i>Bignonia capreolata</i>	50	3
<i>Toxicodendron radicans</i> var. <i>radicans</i>	100	4	<i>Quercus phellos</i>	50	3
<i>Ilex decidua</i> var. <i>decidua</i>	100	4	<i>Arisaema dracontium</i>	50	2
<i>Ulmus americana</i> var. <i>americana</i>	100	4	<i>Nyssa sylvatica</i>	50	2
<i>Campsis radicans</i>	100	3	<i>Smilax bona-nox</i>	50	2
<i>Ligustrum sinense</i>	100	2	<i>Acer rubrum</i> var. <i>trilobum</i>	50	2
<i>Lonicera japonica</i>	100	2	<i>Allium canadense</i> var. <i>canadense</i>	50	2
<i>Parthenocissus quinquefolia</i>	100	2	<i>Endodeca serpentaria</i>	50	2
<i>Smilax rotundifolia</i>	100	2	<i>Trachelospermum difforme</i>	50	2
<i>Arundinaria gigantea</i>	100	2	<i>Vitis labrusca</i>	50	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100	2	<i>Poa cuspidata</i>	50	2
<i>Bidens frondosa</i>	100	1	<i>Carex blanda</i>	50	2
<i>Impatiens capensis</i>	100	1	<i>Smilax glauca</i>	50	2
<i>Carex tribuloides</i> var. <i>tribuloides</i>	100	1	<i>Carex typhina</i>	50	2
<i>Celtis laevigata</i>	100	1	<i>Carya aquatica</i>	50	2
<i>Quercus lyrata</i>	50	6	<i>Carya cordiformis</i>	50	2
<i>Nyssa aquatica</i>	50	6	<i>Viburnum prunifolium</i>	50	2
<i>Quercus pagoda</i>	50	6	<i>Acer negundo</i> var. <i>negundo</i>	50	2
<i>Carpinus caroliniana</i> var. <i>caroliniana</i>	50	5	<i>Carex grayi</i>	50	2
<i>Quercus nigra</i>	50	5	<i>Ulmus alata</i>	50	2
<i>Asimina triloba</i>	50	4	<i>Boehmeria cylindrica</i>	50	1
<i>Morus rubra</i>	50	4	<i>Crataegus viridis</i>	50	1
<i>Lindera benzoin</i> var. <i>pubescens</i>	50	4	<i>Erechtites hieracifolia</i> var. <i>hieracifolia</i>	50	1

Floristic table for Group VII.A.3: *Celtis laevigata* - *Fraxinus pennsylvanica* - *Acer negundo* - (*Juglans nigra*) / *Asimina triloba* / *Carex grayi* Forest (CEGL004740)

NUMBER OF PLOTS RICHNESS	1 71	SPECIES	COVER CLASS
SPECIES	COVER CLASS	SPECIES	COVER CLASS
<i>Acer negundo</i> var. <i>negundo</i>	7	<i>Galium pilosum</i>	2
<i>Impatiens pallida</i>	6	<i>Festuca</i>	2
<i>Vitis vulpina</i>	6	<i>Osmorrhiza longistylis</i>	2
<i>Celtis laevigata</i>	6	<i>Microstegium vimineum</i>	2
<i>Quercus muehlenbergii</i>	6	<i>Myosotis macrosperma</i>	2
<i>Urtica dioica</i>	6	<i>Ilex decidua</i> var. <i>decidua</i>	2
<i>Carya cordiformis</i>	6	<i>Lolium perenne</i>	2
<i>Lonicera japonica</i>	6	Unknown	2
<i>Asimina triloba</i>	6	<i>Corydalis flavula</i>	2
<i>Liriodendron tulipifera</i> var. <i>tulipifera</i>	6	<i>Arisaema dracontium</i>	2
<i>Asarum canadense</i> var. <i>canadense</i>	6	<i>Viola sororia</i>	2
<i>Arundinaria gigantea</i>	5	<i>Liquidambar styraciflua</i>	2
<i>Ligustrum sinense</i>	4	<i>Smilax smallii</i>	2
<i>Stellaria media</i>	4	<i>Staphylea trifolia</i>	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	4	<i>Parthenocissus quinquefolia</i>	2
<i>Bignonia capreolata</i>	3	<i>Arisaema triphyllum</i>	2
<i>Robinia pseudoacacia</i>	3	<i>Carex</i>	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	3	<i>Carex grayi</i>	2
<i>Lindera benzoin</i> var. <i>pubescens</i>	3	<i>Sambucus canadensis</i>	2
Rosaceae	2	<i>Ilex opaca</i> var. <i>opaca</i>	2
<i>Pilea pumila</i>	2	<i>Carex cumberlandensis</i>	2
<i>Glyceria</i>	2	<i>Carpinus caroliniana</i> var. <i>caroliniana</i>	2

Floristic table for Group VII.B.1: *Nyssa aquatica* Forest (CEGL002419)

NUMBER OF PLOTS	1
RICHNESS	50
SPECIES	COVER CLASS
<i>Carpinus caroliniana</i> var. <i>caroliniana</i>	8
<i>Nyssa aquatica</i>	7
<i>Quercus lyrata</i>	6
<i>Carya aquatica</i>	6
<i>Ulmus americana</i> var. <i>americana</i>	5
<i>Acer rubrum</i> var. <i>trilobum</i>	5
<i>Carex grisea</i>	4
<i>Betula nigra</i>	4
<i>Poa cuspidata</i>	3
<i>Toxicodendron radicans</i> var. <i>radicans</i>	3
<i>Smilax walteri</i>	3
<i>Ilex decidua</i> var. <i>decidua</i>	3
<i>Crataegus viridis</i>	3
<i>Dichanthelium commutatum</i> var. <i>commutatum</i>	2
<i>Sceptridium dissectum</i>	2
<i>Bignonia capreolata</i>	2
<i>Parthenocissus quinquefolia</i>	2
<i>Carex grayi</i>	2
<i>Sanicula canadensis</i>	2
<i>Lobelia</i>	2
Poaceae	2
<i>Smilax rotundifolia</i>	2
<i>Sisyrinchium angustifolium</i>	2
<i>Solidago</i>	2
<i>Viola</i>	2
<i>Ranunculus abortivus</i>	2
<i>Bidens frondosa</i>	2
<i>Cephalanthus occidentalis</i>	2
<i>Liquidambar styraciflua</i>	2
<i>Platanus occidentalis</i> var. <i>occidentalis</i>	2
<i>Saururus cernuus</i>	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	2
<i>Ludwigia palustris</i>	2
<i>Persicaria</i>	2
<i>Dichanthelium yadkinense</i>	2

Floristic table for Group VIII.A.1: *Nyssa biflora* - *Acer rubrum* var. *rubrum* / *Lyonia lucida* Forest (CEGL007864)

NUMBER OF PLOTS AVERAGE RICHNESS HOMOTENEITY			SPECIES CONSTANCY AVERAGE COVER CLASS		
SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Nyssa biflora</i>	100	8	<i>Quercus phellos</i>	50	4
<i>Ilex opaca</i> var. <i>opaca</i>	100	7	Liverwort	50	3
<i>Cyrilla racemiflora</i>	100	6	<i>Poaceae</i>	50	3
<i>Arundinaria tecta</i>	100	4	<i>Osmunda regalis</i> var. <i>spectabilis</i>	50	3
<i>Smilax rotundifolia</i>	100	4	<i>Carex gigantea</i>	50	3
<i>Liquidambar styraciflua</i>	100	4	<i>Carex folliculata</i>	50	2
<i>Carex debilis</i>	100	3	<i>Woodwardia areolata</i>	50	2
<i>Sphagnum</i> sp.	100	2	<i>Ilex laevigata</i>	50	2
<i>Smilax glauca</i>	100	2	<i>Toxicodendron radicans</i> var. <i>radicans</i>	50	2
<i>Mitchella repens</i>	100	2	<i>Dichanthelium dichotomum</i> var. <i>dichotomum</i>	50	2
<i>Bignonia capreolata</i>	100	2	<i>Smilax walteri</i>	50	2
<i>Smilax laurifolia</i>	100	2	<i>Carex lonchocarpa</i>	50	2
Moss	100	2	<i>Carex louisianica</i>	50	1
<i>Lobelia</i>	100	1	<i>Carex lupulina</i>	50	1
<i>Smilax herbacea</i>	100	1	<i>Iris</i>	50	1
<i>Rubus</i>	100	1	<i>Ligustrum sinense</i>	50	1
<i>Ilex amelanchier</i>	50	5	<i>Lycopus</i>	50	1
<i>Acer rubrum</i> var. <i>trilobum</i>	50	5	<i>Magnolia virginiana</i> var. <i>virginiana</i>	50	1
<i>Acer rubrum</i> var. <i>rubrum</i>	50	5			

Floristic table for Group VIII.A.2: *Taxodium distichum* - *Nyssa aquatica* - *Nyssa biflora* / *Fraxinus caroliniana* / *Itea virginica* Forest (CEGL007432)

NUMBER OF PLOTS	1
RICHNESS	46
SPECIES	COVER CLASS
<i>Nyssa biflora</i>	7
<i>Pilea pumila</i>	6
<i>Murdannia keisak</i>	6
<i>Acer rubrum</i> var. <i>trilobum</i>	6
<i>Quercus laurifolia</i>	6
<i>Taxodium ascendens</i>	5
<i>Toxicodendron radicans</i> var. <i>radicans</i>	4
<i>Pinus taeda</i>	4
<i>Callitricha heterophylla</i> var. <i>heterophylla</i>	3
<i>Smilax laurifolia</i>	3
<i>Lycopus virginicus</i>	2
<i>Carex tribuloides</i> var. <i>tribuloides</i>	2
<i>Smilax walteri</i>	2
<i>Bignonia capreolata</i>	2
<i>Impatiens capensis</i>	2
<i>Viola lanceolata</i> var. <i>lanceolata</i>	2
<i>Isoetes</i>	2
<i>Ilex amelanchier</i>	2
<i>Eutrochium purpureum</i> var. <i>purpureum</i>	2
<i>Leersia oryzoides</i>	2
<i>Lobelia siphilitica</i> var. <i>siphilitica</i>	2
<i>Magnolia virginiana</i> var. <i>virginiana</i>	2
<i>Cyrilla racemiflora</i>	2
<i>Boehmeria cylindrica</i>	2

Floristic table for Group VIII.A.3: *Taxodium distichum* - *Nyssa biflora* / *Fraxinus caroliniana* / *Lyonia lucida* Forest (CEGL004733)

NUMBER OF PLOTS	1
RICHNESS	47
SPECIES	COVER CLASS
<i>Nyssa biflora</i>	7
<i>Cyrilla racemiflora</i>	6
<i>Clethra alnifolia</i>	6
<i>Acer drummondii</i>	6
<i>Taxodium ascendens</i>	5
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	4
<i>Smilax laurifolia</i>	4
<i>Panicum hemitomon</i>	4
<i>Sphagnum</i> sp.	3
<i>Persea palustris</i>	3
<i>Viburnum nudum</i>	3
<i>Woodwardia areolata</i>	3
<i>Liriodendron tulipifera</i> var. <i>tulipifera</i>	3
<i>Lyonia lucida</i>	3
<i>Pinus taeda</i>	3
<i>Lobelia cardinalis</i>	2
<i>Woodwardia virginica</i>	2
<i>Smilax glauca</i>	2
<i>Ilex opaca</i> var. <i>opaca</i>	2
<i>Styrax americanus</i> var. <i>americanus</i>	2
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	2
<i>Phoradendron serotinum</i> ssp. <i>serotinum</i>	2
<i>Viola primulifolia</i>	2
<i>Dichanthelium dichotomum</i> var. <i>ramulosum</i>	2
<i>Magnolia virginiana</i> var. <i>virginiana</i>	2
<i>Acer rubrum</i> var. <i>trilobum</i>	2
<i>Styrax americanus</i> var. <i>americanus</i>	2
<i>Vaccinium fuscatum</i>	2
<i>Carex venusta</i>	2
<i>Carex intumescens</i> var. <i>intumescens</i>	2
<i>Liquidambar styraciflua</i>	2
<i>Bignonia capreolata</i>	2
<i>Dichanthelium lucidum</i>	2
<i>Carex lupulina</i>	2

Floristic table for Group VIII.B.1: *Nyssa biflora* - *Liriodendron tulipifera* - *Pinus (serotina, taeda)* / *Lyonia lucida* - *Ilex glabra* Forest (CEGL004734)

NUMBER OF PLOTS AVERAGE RICHNESS HOMOTENEITY			SPECIES CONSTANCY AVERAGE COVER CLASS		
SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Nyssa biflora</i>	100	7	<i>Symplocos tinctoria</i>	100	1
<i>Ilex coriacea</i>	100	7	<i>Viburnum nudum</i>	100	1
<i>Lyonia lucida</i>	100	6	<i>Vaccinium fuscum</i>	100	1
<i>Pinus serotina</i>	100	6	<i>Acer rubrum</i> var. <i>trilobum</i>	50	6
<i>Persea palustris</i>	100	4	<i>Acer rubrum</i> var. <i>rubrum</i>	50	6
<i>Smilax laurifolia</i>	100	4	<i>Rhododendron viscosum</i>	50	3
<i>Vaccinium formosum</i>	100	4	<i>Alnus serrulata</i>	50	2
<i>Cyrilla racemiflora</i>	100	4	<i>Phoradendron serotinum</i> ssp. <i>serotinum</i>	50	2
<i>Magnolia virginiana</i> var. <i>virginiana</i>	100	4	<i>Fothergilla gardenii</i>	50	2
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	100	3	<i>Morella caroliniensis</i>	50	2
<i>Ilex opaca</i> var. <i>opaca</i>	100	3	<i>Vaccinium</i>	50	2
<i>Sphagnum</i> sp.	100	3	<i>Osmunda regalis</i> var. <i>spectabilis</i>	50	2
<i>Clethra alnifolia</i>	100	3	<i>Chamaecyparis thyoides</i>	50	2
<i>Woodwardia areolata</i>	100	2	<i>Xanthorhiza simplicissima</i>	50	2
<i>Aronia arbutifolia</i>	100	2	<i>Liriodendron tulipifera</i> var. <i>tulipifera</i>	50	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100	2	<i>Leucothoe axillaris</i>	50	2
<i>Ilex laevigata</i>	100	2	<i>Amelanchier</i> [canadensis + obovalis + stolonifera]	50	1
<i>Gaylussacia frondosa</i>	100	2	<i>Lycopus cokeri</i>	50	1
<i>Arundinaria tecta</i>	100	1			

Floristic table for Group VIII.B.2: *Nyssa biflora* - *Quercus nigra* - *Quercus laurifolia* - *Pinus taeda* / *Ilex opaca* - *Carpinus caroliniana* Forest  
 (CEGL007350)

NUMBER OF PLOTS			2	AVERAGE COVER CLASS		
AVERAGE RICHNESS			37	CONSTANCY		
HOMOTENEITY			73			
SPECIES	CONSTANCY	AVERAGE COVER CLASS	SPECIES	CONSTANCY	AVERAGE COVER CLASS	
<i>Nyssa biflora</i>	100	7	<i>Smilax walteri</i>	50	2	
<i>Ilex opaca</i> var. <i>opaca</i>	100	7	<i>Carex gigantea</i>	50	2	
<i>Arundinaria tecta</i>	100	6	<i>Smilax glauca</i>	50	2	
<i>Acer rubrum</i> var. <i>trilobum</i>	100	6	<i>Magnolia virginiana</i> var. <i>virginiana</i>	50	2	
<i>Liquidambar styraciflua</i>	100	5	<i>Triadenum walteri</i>	50	2	
<i>Cyrilla racemiflora</i>	100	3	<i>Ilex</i>	50	2	
<i>Smilax rotundifolia</i>	100	3	<i>Dichanthelium dichotomum</i>	50	2	
<i>Lycopus virginicus</i>	100	2	<i>Pinus taeda</i>	50	2	
<i>Mitchella repens</i>	100	2	<i>Isoetes</i>	50	2	
<i>Carex debilis</i>	100	2	<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	50	2	
<i>Eutrochium purpureum</i> var. <i>purpureum</i>	100	2	<i>Chasmanthium laxum</i>	50	2	
<i>Viola lanceolata</i> var. <i>lanceolata</i>	100	2	<i>Dicotyledon</i>	50	2	
<i>Bignonia capreolata</i>	100	2	<i>Dioscorea villosa</i>	50	2	
<i>Woodwardia areolata</i>	100	2	<i>Toxicodendron radicans</i> var. <i>radicans</i>	50	2	
<i>Carex lonchocarpa</i>	100	2	<i>Acer rubrum</i> var. <i>rubrum</i>	50	2	
<i>Microstegium vimineum</i>	100	1	<i>Sphagnum</i> sp.	50	2	
<i>Osmunda regalis</i> var. <i>spectabilis</i>	100	1	<i>Cephalanthus occidentalis</i>	50	1	
<i>Quercus phellos</i>	50	5	<i>Lobelia cardinalis</i>	50	1	
<i>Quercus laurifolia</i>	50	3				

Floristic table for Group VIII.B.3: *Liquidambar styraciflua* - *Liriodendron tulipifera* / *Onoclea sensibilis* Forest (CEGL007329)

NUMBER OF PLOTS	1
RICHNESS	27
SPECIES	COVER CLASS
<i>Nyssa biflora</i>	8
<i>Acer rubrum</i> var. <i>trilobum</i>	6
<i>Ilex opaca</i> var. <i>opaca</i>	5
<i>Quercus laurifolia</i>	5
<i>Liquidambar styraciflua</i>	5
<i>Sphagnum</i> sp.	3
<i>Bignonia capreolata</i>	3
<i>Carex intumescens</i> var. <i>intumescens</i>	3
<i>Carex folliculata</i>	3
<i>Smilax rotundifolia</i>	3
<i>Vaccinium fuscum</i>	2
<i>Arundinaria tecta</i>	2
<i>Woodwardia virginica</i>	2
<i>Cornus foemina</i>	2
<i>Smilax bona-nox</i>	2
<i>Magnolia virginiana</i> var. <i>virginiana</i>	2
<i>Chasmanthium laxum</i>	2
<i>Woodwardia areolata</i>	2
<i>Smilax glauca</i>	2
<i>Smilax walteri</i>	2
<i>Eubotrys racemosa</i>	2
<i>Carex debilis</i>	2
<i>Carex</i>	2

Floristic table for Group IX.A.1: *Zizaniopsis miliacea* Coastal Plain Slough Herbaceous Vegetation (CEGL004139)

NUMBER OF PLOTS	1
RICHNESS	1
SPECIES	COVER CLASS
<i>Zizaniopsis miliacea</i>	7

Floristic table for Group X.A.1: *Nyssa biflora* - *Acer rubrum* var. *trilobum* - *Liriodendron tulipifera* / *Ilex coriacea* - *Lyonia lucida* Forest (CEGL004645)

NUMBER OF PLOTS	2	
AVERAGE RICHNESS	22	
HOMOTENEITY	68	
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Nyssa biflora</i>	100	7
<i>Acer rubrum</i> var. <i>trilobum</i>	100	6
<i>Symplocos tinctoria</i>	100	3
<i>Persea palustris</i>	100	3
<i>Quercus nigra</i>	100	1
<i>Ilex opaca</i> var. <i>opaca</i>	100	1
<i>Clethra alnifolia</i>	100	1
<i>Smilax glauca</i>	100	1
<i>Carex striata</i>	50	7
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	50	5
<i>Cyrilla racemiflora</i>	50	5
<i>Liquidambar styraciflua</i>	50	5
<i>Arundinaria tecta</i>	50	4
<i>Ilex coriacea</i>	50	3
<i>Saccharum baldwinii</i>	50	3
<i>Chamaecyparis thyoides</i>	50	1
<i>Eubotrys racemosa</i>	50	1
<i>Hexastylis</i> sp. 1	50	1
<i>Prunus serotina</i> var. <i>serotina</i>	50	1
Unknown	50	1
<i>Viburnum nudum</i>	50	1
<i>Amelanchier</i> [canadensis + obovalis + stolonifera]	50	1

Floristic table for Group X.B.1: *Chamaecyparis thyoides* - (*Liriodendron tulipifera*) / *Lyonia lucida* Forest  
(CEGL007563)

NUMBER OF PLOTS	2	
AVERAGE RICHNESS	26	
HOMOTENEITY	83	
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Ilex coriacea</i>	100	8
<i>Lyonia lucida</i>	100	7
<i>Chamaecyparis thyoides</i>	100	7
<i>Acer rubrum</i> var. <i>rubrum</i>	100	7
<i>Nyssa biflora</i>	100	6
<i>Liriodendron tulipifera</i> var. <i>tulipifera</i>	100	4
<i>Persea palustris</i>	100	4
<i>Magnolia virginiana</i> var. <i>virginiana</i>	100	3
<i>Smilax laurifolia</i>	100	3
<i>Gaylussacia frondosa</i>	100	2
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	100	2
<i>Rhododendron viscosum</i>	100	2
<i>Ilex opaca</i> var. <i>opaca</i>	100	2
<i>Aronia arbutifolia</i>	100	2
<i>Clethra alnifolia</i>	100	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100	2
<i>Morella caroliniensis</i>	100	1
<i>Pinus serotina</i>	50	6
<i>Pinus taeda</i>	50	5
<i>Vaccinium virgatum</i>	50	2
<i>Ilex glabra</i>	50	2
<i>Cyrilla racemiflora</i>	50	2
<i>Vaccinium formosum</i>	50	2
<i>Ilex laevigata</i>	50	2
<i>Quercus laurifolia</i>	50	1
<i>Woodwardia areolata</i>	50	1

Floristic table for Group X.C.1: *Clethra alnifolia* - *Toxicodendron vernix* / *Aristida stricta* - *Osmunda cinnamomea* - *Sarracenia* spp. Shrub Herbaceous Vegetation (CEGL004467)

NUMBER OF PLOTS RICHNESS	1 55	SPECIES	COVER CLASS
Sphagnum sp.	9	Aletris farinosa	2
Aristida virgata	7	Eupatorium pilosum	2
Dichanthelium ensifolium	7	Solidago patula var. strictula	2
Dichanthelium scabriusculum	6	Eriocaulon decangulare	2
Acer rubrum var. rubrum	6	Smilax laurifolia	2
Ilex glabra	6	Drosera capillaris	2
Sarracenia flava	6	Aronia arbutifolia	2
Schizachyrium scoparium	5	Asteraceae	2
Juncus	5	Eupatorium leucolepis	2
Rhynchospora plumosa	5	Chasmanthium sessiliflorum	2
Rhynchospora chalerocephala	5	Rhexia petiolata	2
Arundinaria tecta	4	Sympyotrichum	2
Cladium mariscoides	4	Utricularia subulata	2
Morella caroliniensis	4	Coreopsis falcata	2
Rhynchospora gracilenta	4	Dichanthelium dichotomum var. dichotomum	2
Lyonia lucida	3	Rhynchospora microcephala	2
Persea palustris	3	Asclepias lanceolata	2
Magnolia virginiana var. virginiana	3	Andropogon virginicus	2
Carex exilis	3	Eupatorium resinosum	2
Toxicodendron vernix	3	Fimbristylis	2
Andropogon glomeratus	3	Saccharum giganteum	2
Calamagrostis	3	Clethra alnifolia	2
Nyssa biflora	3	Vaccinium fuscum	2
Dichanthelium acuminatum var. acuminatum	3	Liriodendron tulipifera var. tulipifera	2
Drosera intermedia	3	Vaccinium formosum	2
Cleistes divaricata	2		

Floristic table for Group X.C.2: *Gaylussacia frondosa* - *Clethra alnifolia* - *Arundinaria gigantea* ssp. *tecta* / *Aristida stricta* - *Pteridium aquilinum* var. *pseudocaudatum* Herbaceous Vegetation (CEGL004468)

NUMBER OF PLOTS	1
RICHNESS	46
SPECIES	COVER CLASS
<i>Arundinaria tecta</i>	7
<i>Gaylussacia frondosa</i>	6
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	6
<i>Pinus serotina</i>	6
<i>Acer rubrum</i> var. <i>trilobum</i>	5
<i>Magnolia virginiana</i> var. <i>virginiana</i>	4
<i>Toxicodendron vernix</i>	4
<i>Ilex glabra</i>	4
<i>Vaccinium formosum</i>	3
<i>Cyrilla racemiflora</i>	3
<i>Clethra alnifolia</i>	3
<i>Pteridium aquilinum</i> var. <i>pseudocaudatum</i>	2
<i>Dichanthelium mattamuskeetense</i>	2
<i>Dichanthelium</i>	2
<i>Liriodendron tulipifera</i> var. <i>tulipifera</i>	2
<i>Hexastylis virginica</i>	2
<i>Andropogon</i>	2
<i>Amelanchier</i> [canadensis + obovalis + stolonifera]	2
<i>Aronia arbutifolia</i>	2
<i>Nyssa biflora</i>	2
<i>Persea palustris</i>	2
<i>Smilax laurifolia</i>	2
<i>Eupatorium pilosum</i>	2
<i>Rhododendron viscosum</i>	2
<i>Eubotrys racemosa</i>	2
<i>Lyonia lucida</i>	2
<i>Smilax glauca</i>	2
<i>Vaccinium fuscatum</i>	2
<i>Lyonia ligustrina</i> var. <i>ligustrina</i>	2
<i>Morella caroliniensis</i>	2
<i>Ilex coriacea</i>	2

Floristic table for Group X.D.1: *Pinus serotina* - (*Liriodendron tulipifera*) / *Lyonia lucida* - *Clethra alnifolia* - *Ilex glabra* Woodland (CEGL004435)

NUMBER OF PLOTS	6	
AVERAGE RICHNESS	29	
HOMOTENEITY	69	
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	100	6
<i>Lyonia lucida</i>	100	6
<i>Pinus serotina</i>	100	6
<i>Clethra alnifolia</i>	100	5
<i>Persea palustris</i>	100	4
<i>Magnolia virginiana</i> var. <i>virginiana</i>	100	4
<i>Morella caroliniensis</i>	100	2
<i>Ilex coriacea</i>	83	6
<i>Smilax laurifolia</i>	83	3
<i>Gaylussacia frondosa</i>	83	3
<i>Smilax glauca</i>	83	2
<i>Aronia arbutifolia</i>	83	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	83	2
<i>Vaccinium fuscum</i>	83	2
<i>Liriodendron tulipifera</i> var. <i>tulipifera</i>	67	5
<i>Arundinaria tecta</i>	67	5
<i>Toxicodendron vernix</i>	67	2
<i>Sphagnum</i> sp.	67	2
<i>Acer rubrum</i> var. <i>trilobum</i>	50	6
<i>Nyssa biflora</i>	50	5
<i>Vaccinium formosum</i>	50	2
<i>Rhus copallina</i> var. <i>copallina</i>	50	1
<i>Viburnum nudum</i>	50	1
<i>Chamaecyparis thyoides</i>	33	5
<i>Nyssa sylvatica</i>	33	5
<i>Ilex laevigata</i>	33	3
<i>Symplocos tinctoria</i>	33	3
<i>Woodwardia areolata</i>	33	3
<i>Acer rubrum</i> var. <i>rubrum</i>	33	2

Floristic table for Group XI.A.1: *Pinus serotina* / *Cyrilla racemiflora* - *Lyonia lucida* - *Vaccinium fuscum*  
Woodland (CEGL004434)

NUMBER OF PLOTS	2	
AVERAGE RICHNESS	24	
HOMOTENEITY	69	
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Cyrilla racemiflora</i>	100	7
<i>Vaccinium formosum</i>	100	5
<i>Persea palustris</i>	100	5
<i>Sphagnum</i> sp.	100	5
<i>Smilax laurifolia</i>	100	3
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100	2
<i>Carex</i>	100	2
<i>Smilax glauca</i>	100	2
<i>Vaccinium fuscum</i>	100	2
<i>Acer rubrum</i> var. <i>rubrum</i>	50	7
<i>Nyssa biflora</i>	50	6
<i>Pinus serotina</i>	50	6
<i>Arundinaria tecta</i>	50	5
<i>Woodwardia virginica</i>	50	5
<i>Acer rubrum</i> var. <i>trilobum</i>	50	4
<i>Liquidambar styraciflua</i>	50	4
<i>Smilax rotundifolia</i>	50	4
<i>Nyssa sylvatica</i>	50	4
<i>Eubotrys racemosa</i>	50	3
<i>Pinus taeda</i>	50	3
<i>Aronia arbutifolia</i>	50	2
<i>Carex crinita</i> var. <i>crinita</i>	50	2
<i>Carex lonchocarpa</i>	50	2
<i>Carex venusta</i>	50	2

Floristic table for Group XI.A.2: *Panicum hemitomon* - *Eleocharis equisetoides* - *Rhynchospora inundata*  
 Herbaceous Vegetation (CEGL004127)

NUMBER OF PLOTS	1
RICHNESS	14
SPECIES	COVER CLASS
<i>Coelorachis rugosa</i>	8
<i>Eriocaulon compressum</i>	8
<i>Eleocharis</i>	4
<i>Sclerolepis uniflora</i>	4
<i>Centella erecta</i>	2
<i>Andropogon</i>	2
<i>Acer rubrum</i>	2
<i>Hydrocotyle</i>	2
<i>Sagittaria isoetiformis</i>	2
<i>Nymphoides cordata</i>	2
<i>Eupatorium leucolepis</i>	2
<i>Euthamia caroliniana</i>	2
<i>Rhexia</i>	2

Floristic table for Group XI.A.3: *Hypericum fasciculatum* / *Rhynchospora (chapmanii, harperi)* Shrubland (CEGL003869)

NUMBER OF PLOTS	1
RICHNESS	42
SPECIES	COVER CLASS
<i>Hypericum fasciculatum</i>	7
<i>Eriocaulon compressum</i>	7
<i>Dichanthelium scabriusculum</i>	7
<i>Sphagnum</i> sp.	6
<i>Rhynchospora chalarocephala</i>	5
<i>Carex striata</i>	5
<i>Hypericum virginatum</i>	4
<i>Rhexia virginica</i>	4
<i>Cyrilla racemiflora</i>	4
<i>Lachnanthes caroliniana</i>	4
<i>Lyonia lucida</i>	4
<i>Itea virginica</i>	4
<i>Drosera intermedia</i>	4
<i>Nyssa biflora</i>	4
<i>Xyris fimbriata</i>	3
<i>Peltandra virginica</i>	3
<i>Acer rubrum</i> var. <i>rubrum</i>	3
<i>Orontium aquaticum</i>	3
<i>Clethra alnifolia</i>	3
<i>Saccharum giganteum</i>	3
<i>Utricularia striata</i>	2
<i>Nymphaea odorata</i> ssp. <i>odorata</i>	2
<i>Lycopus cokeri</i>	2
<i>Hypericum canadense</i>	2
<i>Panicum verrucosum</i>	2
<i>Xyris</i>	2

Floristic table for Group XI.A.4: Undescribed

NUMBER OF PLOTS	1
RICHNESS	11
SPECIES	COVER CLASS
Saccharum	7
Liquidambar styraciflua	6
Eleocharis tricostata	4
Leersia	4
Utricularia gibba	4
Sphagnum sp.	4
Rhexia	2
Eupatorium capillifolium	2

Floristic table for Group XI.B.1: *Nyssa biflora / Itea virginica - Cephalanthus occidentalis* Depression Forest (CEGL007434)

NUMBER OF PLOTS	1
RICHNESS	12
SPECIES	COVER CLASS
Sphagnum sp.	8
Nyssa biflora	7
Liquidambar styraciflua	6
Utricularia gibba	3
Acer rubrum var. trilobum	2
Andropogon perangustatus	2
Eleocharis	2
Phoradendron serotinum ssp. serotinum	2
Pinus serotina	2

Floristic table for Group XI.C.1: *Taxodium ascendens* / *Cyrilla racemiflora* - *Zenobia pulverulenta*  
Woodland (CEGL003734)

NUMBER OF PLOTS	1
RICHNESS	28
SPECIES	COVER CLASS
<i>Nyssa biflora</i>	6
<i>Liquidambar styraciflua</i>	6
<i>Taxodium ascendens</i>	6
<i>Acer rubrum</i> var. <i>trilobum</i>	6
<i>Cyrilla racemiflora</i>	5
<i>Carex joorii</i>	4
<i>Pinus taeda</i>	4
<i>Saccharum baldwinii</i>	3
<i>Carex striata</i>	2
<i>Andropogon virginicus</i> var. <i>virginicus</i>	2
<i>Quercus nigra</i>	2
<i>Smilax glauca</i>	2
<i>Smilax rotundifolia</i>	2
<i>Bignonia capreolata</i>	2
<i>Smilax laurifolia</i>	2
<i>Persea palustris</i>	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	2
<i>Carex intumescens</i> var. <i>intumescens</i>	2
<i>Iris virginica</i> var. <i>virginica</i>	2
<i>Styrax americanus</i> var. <i>americanus</i>	2

Floristic table for Group XI.D.1: *Rhynchospora (careyana, inundata)* Seasonally Flooded Herbaceous Vegetation (CEGL004132)

NUMBER OF PLOTS	1
RICHNESS	34
SPECIES	COVER CLASS
<i>Fuirena squarrosa</i>	4
<i>Hypericum canadense</i>	4
<i>Drosera intermedia</i>	4
<i>Eupatorium compositifolium</i>	4
<i>Eleocharis baldwinii</i>	4
<i>Nymphaea odorata</i> ssp. <i>odorata</i>	4
<i>Xyris</i>	4
<i>Sagittaria engelmanniana</i>	3
<i>Decodon verticillatus</i>	3
<i>Sagittaria macrocarpa</i>	3
<i>Dichanthelium scabriusculum</i>	3
<i>Juncus canadensis</i>	3
<i>Hypericum virginatum</i>	2
<i>Bidens</i>	2
<i>Rhexia virginica</i>	2
<i>Lachnanthes caroliniana</i>	2
<i>Dulichium arundinaceum</i> var. <i>arundinaceum</i>	2
<i>Rhynchospora macrostachya</i> var. <i>macrostachya</i>	2
<i>Ludwigia leptocarpa</i>	2
<i>Pinus serotina</i>	2
<i>Eupatorium resinosum</i>	2
<i>Eriocaulon compressum</i>	2
<i>Acer rubrum</i> var. <i>rubrum</i>	2
<i>Xyris smalliana</i>	2
<i>Utricularia striata</i>	2
<i>Sphagnum</i> sp.	2
<i>Eleocharis tortilis</i>	2
<i>Xyris fimbriata</i>	2

Floristic table for Group XI.E.1: *Panicum virgatum* - *Andropogon (capillipes, glaucopsis)* - *Aristida palustris* Herbaceous Vegetation (CEGL004100)

NUMBER OF PLOTS	5	
AVERAGE RICHNESS	23	
HOMOTENEITY	52	
SPECIES	CONSTANCY	AVERAGE COVER CLASS
Rhexia	100	4
Pinus palustris	80	6
Andropogon elliottii	80	6
Eleocharis	80	2
Poaceae	60	4
Eupatorium leucolepis	60	2
Astrichum	60	2
Euthamia caroliniana	60	2
Vaccinium fuscatum	60	2
<i>Panicum virgatum</i> var. <i>virgatum</i>	40	6
Aristida stricta	40	5
Lyonia mariana	40	4
<i>Panicum virgatum</i>	40	3
Diospyros virginiana	40	3
Nyssa biflora	40	3
Dichanthelium acuminatum var. <i>fasciculatum</i>	40	2
Dichanthelium tenue	40	2
Eupatorium mohrii	40	2
Eupatorium rotundifolium	40	2
Smilax glauca	40	2
Centella erecta	40	2
Dichanthelium portoricense	40	2
<i>Panicum</i>	40	2

Floristic table for Group XII.A.1: *Chamaecyparis thyoides* / *Persea palustris* / *Lyonia lucida* - *Ilex coriacea* Forest (CEGL006146)

NUMBER OF PLOTS	2	
AVERAGE RICHNESS	36	
HOMOTENEITY	69	
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Ilex coriacea</i>	100	7
<i>Chamaecyparis thyoides</i>	100	7
<i>Lyonia lucida</i>	100	6
<i>Nyssa biflora</i>	100	6
<i>Magnolia virginiana</i> var. <i>virginiana</i>	100	4
<i>Smilax laurifolia</i>	100	4
<i>Vaccinium formosum</i>	100	3
<i>Sphagnum</i> sp.	100	3
<i>Eubotrys racemosa</i>	100	2
<i>Ilex opaca</i> var. <i>opaca</i>	100	2
<i>Persea palustris</i>	100	2
<i>Clethra alnifolia</i>	100	2
<i>Woodwardia areolata</i>	100	1
<i>Viburnum nudum</i>	100	1
<i>Acer</i> [rubrum + drummondii]	50	6
<i>Acer rubrum</i> var. <i>rubrum</i>	50	6
<i>Leucothoe axillaris</i>	50	5
<i>Liriodendron tulipifera</i> var. <i>tulipifera</i>	50	4
<i>Nyssa sylvatica</i>	50	4
<i>Gaylussacia frondosa</i>	50	3
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	50	3
<i>Oxydendrum arboreum</i>	50	3
<i>Pinus taeda</i>	50	3
<i>Carex collinsii</i>	50	2
<i>Woodwardia virginica</i>	50	2
<i>Arundinaria tecta</i>	50	2
<i>Carex</i>	50	2
<i>Lichen</i>	50	2
<i>Moss</i>	50	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	50	2
<i>Alnus serrulata</i>	50	2
<i>Arundinaria</i>	50	2
<i>Ilex ambigua</i>	50	2
<i>Ilex verticillata</i>	50	2
<i>Ilex glabra</i>	50	2
<i>Liriodendron tulipifera</i>	50	2

Floristic table for Group XII.B.1: *Pinus serotina* / *Arundinaria gigantea* ssp. *tecta* Wooded Shrubland (CEGL003851)

NUMBER OF PLOTS	2	
AVERAGE RICHNESS	41	
HOMOTENEITY	87	
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Arundinaria tecta</i>	100	7
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	100	7
<i>Nyssa biflora</i>	100	7
<i>Persea palustris</i>	100	6
<i>Pinus serotina</i>	100	6
<i>Clethra alnifolia</i>	100	5
<i>Oxydendrum arboreum</i>	100	5
<i>Toxicodendron vernix</i>	100	4
<i>Sphagnum</i> sp.	100	4
<i>Ilex opaca</i> var. <i>opaca</i>	100	4
<i>Lyonia lucida</i>	100	4
<i>Woodwardia areolata</i>	100	4
<i>Morella caroliniensis</i>	100	3
<i>Mitchella repens</i>	100	3
<i>Magnolia virginiana</i> var. <i>virginiana</i>	100	2
<i>Itea virginica</i>	100	2
<i>Dichanthelium lucidum</i>	100	2
<i>Aronia arbutifolia</i>	100	2
<i>Carex lonchocarpa</i>	100	2
<i>Symplocos tinctoria</i>	100	2
<i>Quercus velutina</i>	100	2
<i>Vaccinium formosum</i>	100	2
<i>Carex debilis</i>	100	2
<i>Brachyelytrum erectum</i>	100	2
<i>Smilax laurifolia</i>	100	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100	2
<i>Vaccinium fuscatum</i>	100	2
<i>Hexastylis minor</i>	100	1
<i>Lilium pyrophilum</i>	100	1
<i>Smilax glauca</i>	100	1
<i>Acer rubrum</i> var. <i>trilobum</i>	50	6
<i>Acer rubrum</i> var. <i>rubrum</i>	50	5
<i>Liquidambar styraciflua</i>	50	5
<i>Liriodendron tulipifera</i> var. <i>tulipifera</i>	50	4
<i>Quercus nigra</i>	50	3
<i>Viburnum nudum</i>	50	2
<i>Rubus flagellaris</i>	50	2
<i>Osmunda regalis</i> var. <i>spectabilis</i>	50	2
<i>Dichanthelium ensifolium</i>	50	2

Floristic table for Group XII.C.1: *Arundinaria gigantea* ssp. *tecta* Shrubland (CEGL003843)

	NUMBER OF PLOTS	2
	AVERAGE RICHNESS	29
	HOMOTENEITY	84
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Arundinaria tecta</i>	100	9
<i>Liriodendron tulipifera</i> var. <i>tulipifera</i>	100	7
<i>Leucothoe axillaris</i>	100	4
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	100	4
<i>Smilax laurifolia</i>	100	3
<i>Acer rubrum</i> var. <i>rubrum</i>	100	3
<i>Rubus trivialis</i>	100	3
<i>Lyonia lucida</i>	100	2
<i>Pinus taeda</i>	100	2
<i>Viola primulifolia</i>	100	2
<i>Eubotrys racemosa</i>	100	2
<i>Eutrochium purpureum</i> var. <i>purpureum</i>	100	2
<i>Rhus copallina</i> var. <i>copallina</i>	100	2
<i>Smilax glauca</i>	100	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	100	2
<i>Clethra alnifolia</i>	100	2
<i>Liquidambar styraciflua</i>	100	2
<i>Smilax rotundifolia</i>	100	2
<i>Toxicodendron vernix</i>	100	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100	2
<i>Nyssa biflora</i>	50	5
<i>Woodwardia areolata</i>	50	3
<i>Alnus serrulata</i>	50	2
<i>Dichanthelium</i>	50	2
<i>Dichanthelium dichotomum</i>	50	2
<i>Dichanthelium lucidum</i>	50	2
<i>Dioscorea villosa</i>	50	2
<i>Ilex opaca</i> var. <i>opaca</i>	50	2
<i>Magnolia virginiana</i> var. <i>virginiana</i>	50	2