

**Natural vegetation of the Carolinas:
Classification and Description of
Plant Communities of the Lumber
(Little Pee Dee) and Waccamaw Rivers**

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 riverine and associated vegetation of the Waccamaw, Lumber, and Little Pee Rivers of North and South Carolina are ecologically significant and floristically unique components of the southeastern Atlantic Coastal Plain. Stretching from northern Scotland County, NC to western Brunswick County, NC, the Lumber and northern Waccamaw Rivers influence a vast amount of landscape in the southeastern corner of NC. Not far south across the interstate border, the Lumber River meets the Little Pee Dee River, influencing a large portion of western Horry County and southern Marion County, SC before flowing into the Great Pee Dee River. The Waccamaw River, an oddity among Atlantic Coastal Plain rivers in that its significant flow direction is southwest rather than southeast, influences a significant portion of the eastern Horry and eastern Georgetown Counties, SC before draining into Winyah Bay along with the Great Pee Dee and several other SC blackwater rivers.

The Waccamaw River originates from Lake Waccamaw in Columbus County, NC and flows ~225 km parallel to the ocean before abruptly turning southeast in Georgetown County, SC and dumping into Winyah Bay. Throughout its course, the river drains through a series of typical blackwater floodplain landforms and unique ridge and swale topography unique to blackwater rivers of the region. The floodplain of the Waccamaw River is broad for a blackwater river, resulting in the formation of riverine features typically unique to brownwater systems. These features include channel bars, sloughs, levees, oxbows, and ancient ridge and swales. Despite the narrow width of the river in NC, these ancient ridge and swales influence the landscape miles away from its present-day natural course. The Waccamaw River drainage widens and becomes more and more tidally-influenced as it flows through SC.

Unique ridge and swale topography also mark the landscape surrounding the Lumber River. The sand ridges adjacent to the floodplain in Columbus County, NC are known for supporting xeric vegetation akin to maritime fringe open upland habitats. The Lumber River also supports typical brownwater riverine features such as point bars, levees, sloughs, and oxbows, occurring in a matrix with more typical blackwater floodplain forests. Similarly, the Little Pee Dee River is composed of a matrix of blackwater river forests, point bars, oxbows, and levees. The southern terminus of the Little Pee Dee River, the Great Pee Dee River, occurs at the confluence of Georgetown, Horry, and Marion Counties, SC. The Woodbury Wildlife Management Area encompasses the 25,000-acre landscape between the two rivers in southern Marion County. The western edge of the tract is dominated by brownwater river floodplain forests influenced by the Great Pee Dee River, while the eastern edge is dominated by blackwater river forests of the Little Pee Dee River. Between the two riverine systems are a patchwork of alluvial forests along smaller drainages, nonalluvial depressional wetlands, and mafic upland forests. All of these are communities that have formed as a result of the ancient ridge and swale topography of the landscape.

In late May-early June 2008, the Carolina Vegetation Survey conducted an initial inventory of natural communities along the Waccamaw, Lumber, Little Pee Dee, and Great Pee Dee Rivers of southeastern NC and northeastern SC. In spite of numerous floristic inventories, and field sampling of upland longleaf pine woodlands, there had never been a project designed to classify the diversity of natural wetland communities throughout this portion of North and South Carolina. Furthermore, the data captured from these plots will enable us to refine the community classification within the broader

region. The goal of this report is to determine a classification structure based on the synthesis of vegetation data obtained from the May/June 2008 sampling event, and to use the resulting information to develop restoration targets for disturbed ecosystems location in this general region of North Carolina.

STUDY AREA AND FIELD METHODS

During late May-early June 2008, a total of 76 vegetation plots were established in the Waccamaw and Lumber (Little Pee Dee) River drainages of southeastern North Carolina and northeastern South Carolina (Figure 1). Focus locations within the study area included Lumber River State Park, Little Pee Dee Heritage Preserve, the Green Swamp, Juniper Creek, Waccamaw River Heritage Preserve, Old Dock Savanna, Boiling Springs Wetlands Complex, Sandy Island, and a variety of private lands along the Waccamaw River. A total of ten team days was also spent within the South Carolina's Department of Natural Resources newly acquired Woodbury Wildlife Management Area, in southern Marion County. This 25,000-acre tract is located between the Little (blackwater) and Great (brownwater) Pee Dee Rivers, and contains a unique and diverse array of plants and plant communities. Team days were logged on both rivers, as well as in the variety of upland and nonalluvial communities within the heart of the property. Plots were also added to the analysis from a one-day sampling event in early May on the Wateree River in southern Kershaw County, SC. Target natural communities throughout the week included brownwater river forests (levees and swamps), blackwater river forests (swamps, small streams, and fringing hardwoods), blackwater mud bar herb/shrub zones, nonriverine swamp forests, pocosins, pond pine woodlands, pond cypress depression forests, natural lakeshore forests and floating zones, and tidal cypress-gum swamps.

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 m² 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 m². 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.

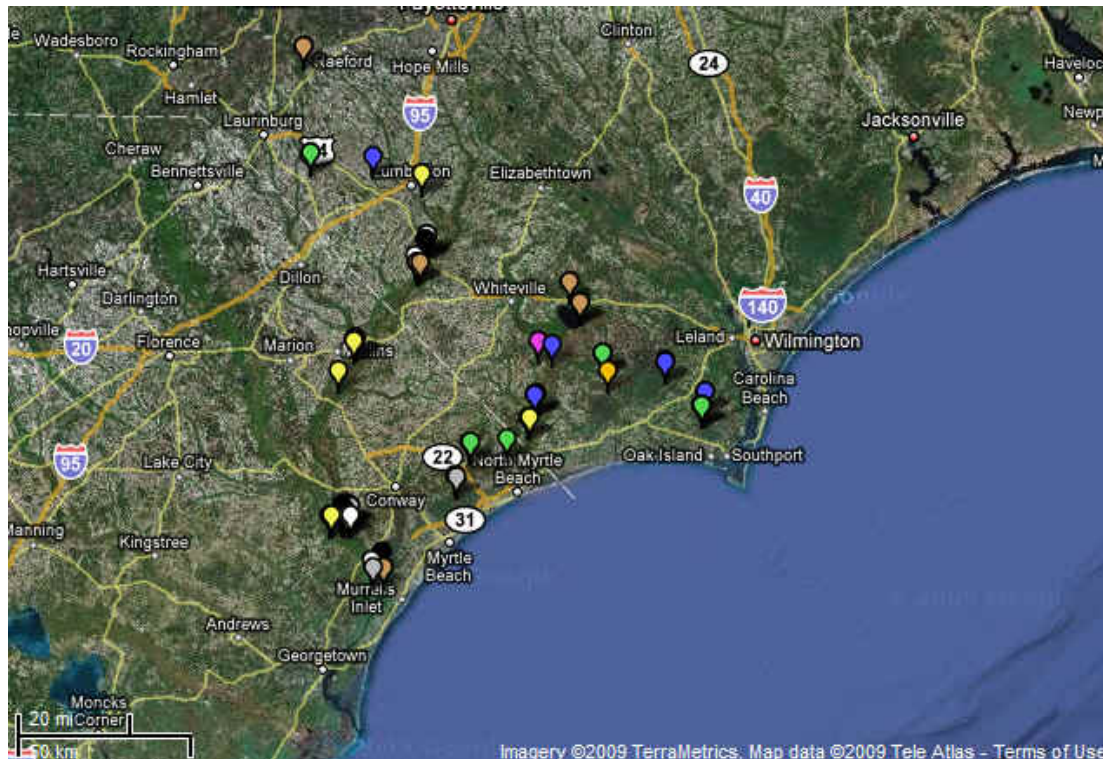


FIGURE 1. Pulse 2008A sample region and established plots: Lumber (Little Pee Dee), Great Pee Dee, and Waccamaw River Drainages (Map courtesy of VegBank:

http://vegbank.org/vegbank/views/map_userplots.jsp?latlongfile=http://www.bio.unc.edu/faculty/pet/lab/CVS/maps/88-points.csv)

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 Incorrect (unambiguously wrong). In some cases it was necessary to assign a plot to more than one community because of its intermediate character. In 49 of the 76 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 m² 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 36 high-order community associations, from 22 Ecological Groups and 15 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 alluvial forests and shrublands

A. Large River Floodplain and Levee Forests

1) [Liquidambar styraciflua - Quercus pagoda - Carya spp. / Carpinus caroliniana / Carex spp. Forest \(CEGL007353\)](#)

NVC Fit = Fair

Plots = 088-04-1198

This bottomland hardwood plot occurs on the Wateree River in southern Kershaw County, South Carolina near the Piedmont - Coastal Plain transition. The canopy of this plot is dominated by *Carya cordiformis*, *Liquidambar styraciflua*, *Ulmus alata*, and *Quercus pagoda*. The subcanopy is dominated by *Carpinus caroliniana* and the invasive, exotic *Ligustrum sinense*. The vine stratum is diverse and includes species such as *Toxicodendron radicans*, *Lonicera japonica*, *Bignonia capreolata*, *Vitis rotundifolia*, and *Campsis radicans*. Species in the herbaceous stratum of this plot include *Erigeron strigosus*, *Galium aparine*, *Boehmeria cylindrica*, *Melica mutica*, and the newly described *Trillium oostingii* (see Gaddy 2008). Association CEGL007353 is described from the Upper Coastal Plain of the Gulf Coast, and is differentiated from other bottomland hardwood types by the relative abundance of hardwood species other than *Quercus* in the canopy. This plot is clearly out of the range of description for this association, although it exhibits similarities in canopy and subcanopy composition. The abundance of *Carya cordiformis* in the canopy of this plot distinguishes it from the association.

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

NVC Fit = Good

Plots = 088-06-1199

This plot is also found along broad floodplain terrace of the Wateree River in southern Kershaw County, South Carolina near the Piedmont - Coastal Plain transition. The canopy of this plot is composed of a diversity of hardwoods, including *Quercus michauxii*, *Quercus pagoda*, *Liquidambar styraciflua*, and *Planera aquatica*. The subcanopy, shrub, and vine strata include *Carpinus caroliniana*, *Parthenocissus quinquefolia*, *Toxicodendron radicans*, *Ilex decidua*, and *Vitis rotundifolia*. The herbaceous stratum is also diverse, and includes *Chasmanthium latifolium*, *Dioscorea quaternata*, *Arisaema dracontium*, and *Euonymus americana*. diverse bluff of the Neuse River in northern Craven County.

II. Coastal Plain mixed mesic forests

A. Eutrophic Mesic Forests

1) [Quercus alba - Carya glabra - Carya alba / Aesculus pavia Forest \(CEGL007225\)](#)

NVC Fit = Fair

Plots = 088-06-1202

This nutrient-rich mesic Coastal Plain forest is typically dominated by a canopy of *Quercus alba*, *Carya glabra*, and *Carya alba* and a subcanopy of *Aesculus pavia*. This plot, which is found on an upland slope above the Lumber River in Robeson County, North Carolina, is dominated by a host of mesic, calcareous species, including *Tilia americana* var. *heterophylla*, *Fraxinus americana*, and *Celtis tenuifolia*. Both *Quercus alba* and *Aesculus pavia* are absent from the canopy and subcanopy (respectively) of this plot, which explains the “fair” fit category with the



NVC-described association. Furthermore, this plot is composed of species typically affiliated with sandy, rocky, and/or disturbed stands, such as *Aralia spinosa*, *Vaccinium arboreum*, *Asimina parviflora*, and *Callicarpa americana*. The disturbance history of this plot best explains the intergrade between these two groups of species. The NVC recognizes the need for a better definition of this community type, including its relationship with other eutrophic mesic forests of the Atlantic Coastal Plain.

B. Mesotrophic Mesic Forests

1) [Quercus hemisphaerica - Magnolia grandiflora - Carya \(glabra, pallida\) / Vaccinium arboreum / Chasmanthium sessiliflorum Forest \(CEGL004788\)](#)

NVC Fit = Poor to Fair

Plots = 088-06-1206, 088-09-1204

This association occurs on broad slopes of small stream or river bluffs in the Coastal Plain of Georgia and Florida. It is currently not described for either North or South Carolina. These two plots are located on an upland terrace of Jordan Creek, just west of the confluence of the Great and Little Pee Dee Rivers in Marion County, South Carolina. The canopy of both plots is composed of *Carya glabra*, *Quercus hemisphaerica*, *Liquidambar styraciflua*, *Tilia americana* var. *caroliniana*, and *Ulmus rubra*. The understory is composed of *Carpinus caroliniana*, *Ilex opaca*, and *Celtis occidentalis*, while the shrub/vine stratum includes *Vaccinium arboreum*, *Ilex decidua*, *Parthenocissus quinquefolia*, *Vaccinium elliotii*, and *Sideroxylon lycioides*. Diagnostic herbs include *Carex abscondita*, *Chasmanthium sessiliflorum*, *Chasmanthium latifolium*, and *Dichantheium commutatum* var. *commutatum*. These plots are geomorphologically similar to where the NVC describes this association occurring on the landscape.

Furthermore, the occurrence of *Quercus hemisphaerica* as a canopy dominant fits the association description. However, the abundance of calcareous species such as *Tilia*, *Celtis*, and *Sideroxylon* on these plots distinguishes them from the described community type.



2) [Quercus alba - Carya glabra / Mixed Herbs Coastal Plain Forest \(CEGL007226\)](#)

NVC Fit = Good

Plots = 088-06-1203

This plot is found on an upland slope above the Lumber River in Robeson County, North Carolina. The canopy and subcanopy of this stand is composed of *Quercus alba*, *Carya alba*, *Liquidambar styraciflua*, and *Sassafras albidum*. The shrub stratum is dominated by *Symplocos tinctoria*, and to a lesser extent, *Callicarpa americana*. The herb stratum is low in diversity, but includes *Mitchella repens*, *Euphorbia pubentissima*, and *Chimaphila maculata*. This is one of three NVC associations that broadly describe dry-mesic oak-hickory forests of North Carolina's Coastal Plain.

III. Coastal Plain fire-maintained woodlands

A. Silty Longleaf Pine Woodlands

1) [*Pinus palustris* - *Pinus taeda* - *Pinus serotina* / *Quercus marilandica* / \(*Quercus pumila*\) / *Aristida stricta* Woodland \(CEGL003664\)](#)

NVC Fit = Good

Plots = 088-02-1203, 088-04-1200

These wet-mesic longleaf pine savannas are found on loamy soils of the Middle Coastal Plain of southeastern North Carolina. Few good examples of this community type remain due to agriculture site conversion. The plots sampled during this inventory are located in western Robeson County, south of Maxton, North Carolina. The canopy of these woodlands is dominated by a mix of *Pinus palustris* and *Pinus taeda*, with a lesser amount of *Pinus serotina*. The subcanopy and shrub strata are composed of *Quercus elliotii*, *Quercus nigra*, *Quercus marilandica*, *Clethra alnifolia*, and *Gaylussacia frondosa*. In both plots, the herbaceous stratum is dominated by a dense cover of *Pteridium aquilinum*, a result of a prescribed fire that burned these stands 2 years prior to sampling. This community type typically occurs on intermediate hydrologic units of the landscape, which explains the occurrence of both xeric and mesic plants on these plots.

B. Pine Flatwoods

1) [*Pinus palustris* / *Ilex glabra* / *Aristida stricta* Woodland \(CEGL003648\)](#)

NVC Fit = Fair

Plots = 088-04-1203

This wet flatwood longleaf pine woodland occurs on Spodosols of the Atlantic Coastal Plain of the Carolinas. The plot sampled during this inventory is located on the Lewis Ocean Bay Heritage Preserve in Horry County, South Carolina. The open canopy of this woodland is dominated by *Pinus palustris* and *Pinus serotina*. The occurrence of pond pine in this plot distinguishes it from the NVC-defined association. Characteristic shrubs include *Vaccinium crassifolium*, *Ilex glabra*, *Gaylussacia dumosa*, and *Vaccinium tenellum*. The herbaceous stratum is dominated by *Aristida stricta*.



IV. Coastal Plain shrublands

A. Sand Barren Scrub

1) [Chrysoma pauciflosculosa - \(Clinopodium coccineum\) Dwarf-shrubland \(CEGL003946\)](#)

NVC Fit = Good

Plots = 088-07-1206

This dwarf-shrubland has previously been described for the Coastal Plain of Georgia and South Carolina. This plot, however, occurs on the Big Sandy Ridge of the Lumber River State Park in western Columbus County, North Carolina. This rare community type occurs on xeric, sandy alluvial ridges and is characterized by a dwarf-shrub stratum of *Chrysoma pauciflosculosa*. This plot has a small tree stratum (< 4 meters) dominated by *Quercus laevis*. Other species include *Selaginella aremicola*, *Stipulicida setacea* var. *setacea* and *Lyonia mariana*.



V. Coastal Plain rock outcrop vegetation

A. Shaded Rock Outcrops

1) [Adiantum capillus-veneris / Conocephalum conicum Herbaceous Vegetation \(CEGL004515\)](#)

NVC Fit = Excellent

Plots = 088-07-1200

This plot represents the type locality of NVC association CEGL004515. It occurs along a vertical cliff face on the northern edge of Lake Waccamaw in Columbus County, North Carolina. The rock is composed of coquina limestone (marl) and the resulting species assemblage is highly unique to the area. Species occurring on the rock include *Adiantum capillus-veneris*, *Juniperus virginiana* var. *virginiana*, *Fraxinus americana*, *Toxicodendron radicans* var. *radicans*, and *Decumaria barbara*. Several currently unidentified nonvascular plants also dominate this plot.



VI. Coastal Plain brownwater river forests

A. Levee and Floodplain Forests

1) [Quercus laurifolia - Quercus michauxii - Liquidambar styraciflua / Carpinus caroliniana Forest \(CEGL004678\)](#)

NVC Fit = Fair to Good

Plots = 088-06-1205, 088-06-1207, 088-08-1203

This community type represents high floodplain terrace forests of the Atlantic Coastal Plain that don't occur on large natural levees. Generally, these forests lack typical levee species and acidic wetland species. This association has been described based on data from North Carolina, although these plots are located on both the Little Pee Dee and Great Pee Dee Rivers of South Carolina. They fit the description of NVC association CEGL004678 reasonably well except for the occurrence of levee species such as *Platanus occidentalis* and wetland species such as *Persea palustris* and *Cyrilla racemiflora*. These plots are located on both the Little Pee Dee and Great Pee Dee Rivers of South Carolina. The canopy of this community type is dominated by a mixture of bottomland oak species, such as *Quercus laurifolia*, *Quercus nigra* and *Quercus michauxii*, and other hardwood species, such as *Liquidambar styraciflua*, *Acer rubrum*, and *Ilex opaca* var. *opaca*. The understory is composed of canopy species and an abundance of *Carpinus caroliniana*. In two of the three plots, *Vaccinium elliotii* is a shrub stratum dominant. Vines such as *Vitis rotundifolia* var. *rotundifolia*, *Bignonia capreolata*, and *Toxicodendron radicans* var. *radicans* are constant between these plots. The herbaceous stratum is variable, and composed of a diversity of *Carex* sp. This community type typically lacks a significant pine component.

2) [Betula nigra - Platanus occidentalis / Alnus serrulata / Boehmeria cylindrica Forest \(CEGL007312\)](#)

NVC Fit = Fair

Plots = 088-06-1208

This floodplain forest occurs directly on river edges in the Piedmont and Coastal Plain of the southeastern US. This community type is described for any stand that includes canopy dominants *Betula nigra* and *Platanus occidentalis* on such topographic units, and probably requires further subdivisions across its range based on components of the shrub and herbaceous strata. This plot occurs on the northern shore of the Great Pee Dee River in Marion County, South Carolina. The canopy is composed of association nominals, as well as *Planera aquatica*, *Salix nigra*, and *Fraxinus pennsylvanica*. The herbaceous stratum is diverse and includes *Alternanthera philoxeroides*, *Boehmeria cylindrica*, *Carex crus-corvi*, and *Carex typhina*.

3) [Quercus lyrata - Carya aquatica Forest \(CEGL007397\)](#)

NVC Fit = Good

Plots = 088-08-1206

Like plot 088-06-1208, this plot is located on the northern shore of the Great Pee Dee River in Marion County, South Carolina. The canopy of the stand is composed of *Quercus lyrata*, *Acer rubrum* var. *trilobum*, *Populus heterophylla*, *Carya aquatica*, and *Quercus laurifolia*. The understory and shrub strata are composed of canopy species, as well as *Ilex decidua* and *Gleditsia aquatica*. The herbaceous stratum is dense and includes *Carex typhina*, *Panicum* sp., *Carex crus-corvi*, *Pluchea camphorata*, and *Boehmeria cylindrica*. This community type occurs on floodplain terraces that have incurred significant overbank flooding sometime in the past.

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

NVC Fit = Poor

Plots = 088-09-1198

This plot occurs on the broad floodplain terrace of the Wateree River in Kershaw County, South Carolina. The unusually high abundance of *Planera aquatica* and lack of the association nominal *Platanus occidentalis* explains the disparity between the plot and the NVC-described association. However, like the association, this plot is found on a similar topographic position and is characterized by relatively well-drained soils. The canopy of the plot is dominated by *Planera aquatica*, with lesser amounts of *Fraxinus pennsylvanica* and *Salix nigra*. The understory and shrub strata are composed of widely spaced *Fraxinus caroliniana* and *Cephalanthus occidentalis* stems. The dominant herbaceous species is *Carex lurida*, which forms a dense mat within this plot. Other herbs include *Carex typhina*, *Boehmeria cylindrica*, *Symphotrichum elliotii*, *Glyceria* sp., and *Saururus cernuus*.

B. Brownwater Swamp Forests

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

NVC Fit = Fair

Plots = 088-06-1198

This community type occurs on semipermanently flooded low, wet flats of brownwater river systems of the Atlantic Coastal Plain and lower Piedmont. The vegetation is dominated by a nearly pure canopy of *Nyssa aquatica*, occurring with lesser amounts of *Planera aquatica* and *Quercus lyrata*. 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 lupulina*, *Boehmeria cylindrica*, *Saururus cernuus*, and *Campsis radicans*. Typically, ground cover is sparse owing to the high frequency and long duration of flood events that occur in the landscape position of these forests. The frequency of subcanopy species such as *Carpinus caroliniana*, *Ulmus americana*, and *Carya aquatica* explains why this plot mapped as a 'fair' fit to the NVC-described community type. Furthermore, it is difficult to distinguish this type from other swamps which naturally contain *Taxodium*, and have not lost this species due to logging.

2) [Quercus lyrata - Quercus laurifolia - Taxodium distichum / Saururus cernuus Forest \(CEGL004735\)](#)

NVC Fit = Fair to Excellent

Plots = 088-04-1205, 088-06-1204, 088-09-1202

This Atlantic Coastal Plain swamp forest occurs on the edges of sloughs and backswamps and is composed of a mixture of cypress-gum and bottomland hardwood species. The three plots sampled during this project are distributed widely across the study area, and are found on the Little Pee Dee, Great Pee Dee, and Lumber Rivers. The canopy of these plots is dominated by typical bottomland hardwood species, such as *Quercus lyrata*, *Quercus laurifolia*, *Acer rubrum*, and *Liquidambar styraciflua*, as well as gum-cypress species, such as *Taxodium distichum*, *Nyssa biflora*, *Fraxinus*



caroliniana, and *Planera aquatica*. The herbaceous stratum is well-developed in all of these plots, but the only constant species are the gum-cypress swamp typics—*Saururus cernuus* and *Boehmeria cylindrica*. Other herbs include *Hypoxis curtissii*, *Carex louisianica*, *Chasmanthium latifolium*, and *Pluchea camphorata*. The presence of *Betula nigra* and *Nyssa aquatica* on the Little Pee Dee River plot explains why these types are mapped as a 'fair' fit to the NVC-described community type.

3) [Taxodium distichum - Nyssa aquatica / Fraxinus caroliniana Forest \(CEGL007431\)](#)

NVC Fit = Good

Plots = 088-04-1206, 088-08-1201

This Atlantic and East Gulf Coastal Plain swamp forest occurs on flooded or saturated soils of low wet sloughs, swales, backswamps and river banks of brownwater rivers. The canopy of these plots is dominated by *Taxodium distichum* and *Nyssa aquatica*, with lesser amounts of *Planera aquatica* and *Fraxinus caroliniana* (in the subcanopy). The herbaceous stratum is very sparse in these wet forests. Some species include



Saururus cernuus, *Pluchea camphorata*, *Glyceria sp.*, and *Boehmeria cylindrica*. These brownwater cypress-gum swamps are typically flooded for long periods of time from river overbank flow. They differ from other cypress-gum swamps by the relative dominance of *Nyssa aquatica* over *Nyssa biflora*.

VII. Coastal Plain blackwater river forests

A. Blackwater Swamp Forests

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

NVC Fit = Fair to Excellent

Plots = 088-01-1203, 088-01-1207

This cypress-gum swamp forest occurs in the southeastern Coastal Plain of North and South Carolina, along streams lacking significant clay sediment. These sites are flooded by river overbank flow for long periods, and are composed of acid-tolerant species. Unlike other cypress-gum swamps of the region, this type does not have a significant component of *Nyssa aquatica* in the canopy. These plots are located in cypress-gum swamp forests of Juniper Creek, in Brunswick County, NC and a small creek in the Pee Dee River drainage in southern Marion County, SC. Canopy and subcanopy species include *Nyssa biflora*, *Acer rubrum var. trilobum*, *Persea palustris*, and *Ilex opaca var. opaca*. The shrub and small tree strata are composed of *Lyonia lucida*, *Clethra alnifolia*, and *Cyrilla racemiflora*. Diversity of herbs in this type is low and *Woodwardia areolata* is the only constant species. The Pee Dee River drainage plot only fits moderately well with the described community type due to the dense cover of sphagnum along the forest floor. This plot represented a mixture of alluvial blackwater species and nonalluvial depression species, such as *Rhododendron viscosum* and *Magnolia virginiana*.

2) [Planera aquatica Forest \(CEGL007394\)](#)

NVC Fit = Poor

Plots = 088-09-1200

This blackwater swamp forest plot is found at Bluff Swamp, off the Lumber River in Robeson County, NC. The short-statured canopy (~10 meters) is composed of a mixture of swamp and levee species, including *Planera aquatica*, *Taxodium distichum*, *Betula nigra*, *Nyssa biflora*, and *Fraxinus caroliniana*. The diversity of canopy species alone sets this plot apart from the NVC-described association. The NVS describes this community type as having a nearly monospecific, stunted canopy of *Planera aquatica*.

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

NVC Fit = Poor to Good

Plots = 088-02-1205, 088-02-1206, 088-02-1209
088-07-1205, 088-07-1208, 088-08-1204,
088-08-1207, 088-08-1208, 088-09-1209

These swamp forests occur on small brownwater river floodplains or blackwater stream forests of the Atlantic Coastal Plain. Like other swamp forests, they are flooded for long periods of time from river overbank flow. This cypress-gum type is distinguished from others by occurring on finer-textured sediments, and having a substantial mixture of *Nyssa biflora* and *Nyssa aquatica* in the canopy. Other canopy and subcanopy dominants in these plots include *Taxodium distichum*, *Fraxinus caroliniana*, and *Acer rubrum*. The shrub and herbaceous components of these plots are not well developed, and for all plots, species richness values are very low. This is a common community type and is found throughout the sampling area. The plot occurring on the Waccamaw River in northern Horry County, SC does not fit well with the NVC-described association because of the co-dominance of *Betula nigra* in the canopy. The Lumber River plots mapped to this community type are moderately different from the association owing to their diversity and number of ground species.



B. Blackwater Fringing Hardwood Forests

1) [*Quercus laurifolia* - *Quercus lyrata* / *Carpinus caroliniana* - *Persea palustris* / *Vaccinium elliotii* Forest \(CEGL004737\)](#)

NVC Fit = Fair to Excellent

Plots = 088-01-1210, 088-01-1211, 088-06-1210
088-08-1200

This forest type is located on low slope positions of blackwater river terraces and ridges of the North and South Carolina Coastal Plain. Floristic data are needed to better describe the composition of this type across its range. The canopy of these plots is composed of *Acer rubrum* var. *trilobum*, *Liquidambar styraciflua*, *Taxodium distichum*, *Quercus laurifolia*, and *Quercus lyrata*. The Waccamaw River variety of laurel oak (*Quercus* {‘waccamawensis’ – c.f. *laurifolia*}) is also found in the canopy of two of the four plots. The shrub stratum is composed of *Vaccinium elliotii* and the rare *Ditrysinia fruticosa*, while typical herbs include *Carex intumescens*, *Dichantheium yadkinense*, and *Mitchella repens*. These plots lack the herbs typical of hydric swamps, like *Boehmeria cylindrica* and *Saururus cernuus*. Three of the four plots mapped to this community type are located on the Waccamaw River, and although they are floristically similar and occur on the same geomorphic position as the NVC-described association, they contain such a unique and rare floral assemblage that may warrant further examination of this type along the Waccamaw drainage.

2) [*Taxodium distichum* - *Fraxinus pennsylvanica* - *Quercus laurifolia* / *Acer rubrum* / *Saururus cernuus* Forest \(CEGL007719\)](#)

NVC Fit = Fair

Plots = 088-06-1209, 088-06-1211, 088-07-1207
088-08-1202

This is a bottomland forest type that occurs on sloughs and alluvial flats of the North and South Carolina Atlantic Coastal Plain, usually over high silt percentage soils. Floristically, this type represents a mixture of both cypress-gum swamps and bottomland hardwoods. Like cypress-gum swamps, the herbaceous stratum in this community type is not well-developed and exhibits low diversity. These plots are from bottomlands of the Waccamaw and Little Pee Dee Rivers. The tree stratum of these plots is



similar to the composition of the NVC-described association. A mixture of bottomland hardwoods and cypress-gum trees dominate the canopy. Some of these include *Nyssa biflora*, *Taxodium distichum*, *Quercus laurifolia*, and *Liquidambar styraciflua*. The subcanopy is composed of *Acer rubrum* var. *trilobum*, *Betula nigra*, *Planera aquatica*, and *Ilex opaca* var. *opaca*. Unlike the description of this association, the herbaceous stratum is well-developed in all of these plots. Common species include *Boehmeria cylindrical*, *Saururus cernuus*, *Triadenum walteri*, *Juncus repens*, and *Carex intumescens*.

C. Coastal Plain Small Stream Forests

1) [Pinus taeda - Quercus laurifolia - Chamaecyparis thyoides - \(Quercus virginiana\) / Vaccinium elliotii Forest \(CEGL007548\)](#)

NVC Fit = Poor to Excellent

Plots = 088-01-1202, 088-01-1209, 088-02-1202
088-02-1204, 088-03-1200

This is a blackwater bottomland hardwood forest known only from the Waccamaw River and its Juniper Creek tributary. The canopy is dominated by *Chamaecyparis thyoides*, *Pinus taeda*, *Nyssa biflora*, and *Quercus laurifolia*, as well as other Coastal floodplain species. The shrub stratum and subcanopy of this forest type are dominated by acidic wetland species, including *Cyrilla racemiflora*, *Persea palustris*, *Lyonia lucida*, *Vaccinium elliotii*, and *Magnolia virginiana*. The shrub stratum can be dense in this community type, and restrict herbaceous development. The one plot that maps poorly to the NVC-described association occurs on Juniper Creek, and has very little *Chamaecyparis* in the overstory, due to past logging history. Instead the plot is dominated by *Nyssa biflora*. The shrub-subcanopy structure and composition of this plot, however, does resemble CEGL007548. This plot represents an earlier, middle seral stage of this community type.



2) [*Quercus phellos* - *Quercus laurifolia* - *Nyssa biflora* - *Liquidambar styraciflua* / *Arundinaria gigantea* ssp. *tecta* - *Sabal minor* Forest \(CEGL007846\)](#)

NVC Fit = Fair

Plots = 088-09-1203

This is a blackwater bottomland hardwood forest that has previously been described from Nemours Plantation in Beaufort County, SC. The plot sampled in this study occurs in southern Marion County, SC, along the Pee Dee River drainage (Jordan Creek). The canopy of this plot is dominated by *Quercus laurifolia* and *Carpinus caroliniana*, with *Ulmus rubra*, *Liquidambar styraciflua*, *Acer rubrum* var. *rubrum*, and *Carya ovalis*. The subshrub stratum is dominated by *Sabal minor* and *Arunidnaria tecta*. This plot differs from the NVC-described assoctaion by its lack of *Quercus phellos* as a canopy dominant. However, the substrata composition and geomorphic location of the plot fit the association description well.

VIII. Coastal Plain alluvial shrub and herb communities

A. Mud and Sand Bar Forbs

1) [*Eragrostis hypnoides* - *Micranthemum umbrosum* - *Lipocarpa micrantha* - \(*Juncus repens*\) Herbaceous Vegetation \(CEGL004341\)](#)

NVC Fit = Poor to Good

Plots = 088-01-1208, 088-02-1207, 088-02-1208
088-04-1202, 088-09-1201

This community occurs on drawdown banks of blackwater rivers, in mucky soils that are exposed due to unusually low water levels. This type is generally dominated by annuals, but perennials may also be present. The five plots sampled during this study are found along the Waccamaw, Little Pee Dee, and Lumber Rivers. The association nominals are not constant across these plots, nor is there a single species that occurs in every plot. The exotic, invasive *Alternanthera philoxeroides* is found in three of the five plots, while



Juncus repens occurs in only two of the five. Other herbaceous species encountered include *Eleocharis baldwinii*, *Centella erecta*, and *Eupatorium capillifolium*. Overhanging tree species include *Planera aquatica*, *Betula nigra*, *Quercus lyrata*, and *Taxodium distichum*.

IX. Coastal Plain lowland deciduous forests

A. Coastal Plain Nonriverine Swamp Forests

1) [Quercus laurifolia - Nyssa biflora / Clethra alnifolia - Leucothoe axillaris Forest \(CEGL007447\)](#)

NVC Fit = Poor

Plots = 088-04-1204

This wetland forest type occurs on nonalluvial flats--not subjected to overland flooding--in wet sloughs that are seasonally saturated. This plot occurs on a broad flat in the Lewis Ocean Bay Heritage Preserve of Horry County, SC. The canopy is dominated by both *Nyssa biflora* and *Quercus laurifolia*, with lesser amounts of *Liquidambar styraciflua*, *Ilex opaca* var. *opaca*, *Persea palustris*, *Pinus taeda*, and *Acer rubrum* var. *trilobum*. The shrub stratum is dominated by *Ilex coriacea*, *Lyonia lucida*, and *Leucothoe axillaris*. Common herbs include *Osmunda cinnamomea*, *Osmunda regalis* var. *spectabilis*, and *Woodwardia areolata*. The absence of *Clethra alnifolia* and dominance of bay forest species such as *Gordonia lasianthus* and *Persea palustris* separate this plot from the NVC-described association.



X. Coastal Plain lowland evergreen forests and shrublands

A. Pocosins

1) [*Pinus serotina* / *Lyonia lucida* - *Ilex glabra* - \(*Cyrilla racemiflora*\) Shrubland \(CEGL003846\)](#)

NVC Fit = Excellent

Plots = 088-01-1200, 088-01-1201, 088-01-1206,
088-02-1200

This typical high pocosin of the Atlantic Coastal Plain occurs on peatlands and wet mineral soils. These plots are found within the Boiling Springs Lakes Wetland Complex and Green Swamp in Brunswick County, NC. The dense shrub stratum is composed of *Lyonia lucida*, *Cyrilla racemiflora*, *Ilex coriacea*, and *Smilax laurifolia*. An open canopy of *Pinus serotina* grows above the dense shrubs.

2) [*Cyrilla racemiflora* - *Zenobia pulverulenta* Shrubland \(CEGL003943\)](#)

NVC Fit = Fair to Good

Plots = 088-01-1205, 088-06-1200

This is an example of a mixed evergreen-deciduous low pocosin (shrub stratum < 1.5 meters tall) of the outer North Carolina Coastal Plain. It occurs on very deep peat domes with poor nutrient content, and is maintained by occasional fires. The stands are dominated by low growing vines and shrubs, including *Lyonia lucida*, *Cyrilla racemiflora*, *Zenobia pulverulenta*, and *Smilax laurifolia*. An open canopy (5-10% cover) of *Pinus serotina* grows above the shrubs. Plot 088-06-1200 is assigned a 'fair' fit to this association due to the low abundance of community nominal shrubs, and increased abundance of *Ilex coriacea*. Perhaps this plot represents an early seral stage example of a high pocosin (e.g. CEGL003846).



3) [*Chamaedaphne calyculata* / *Carex striata* var. *striata* - *Sarracenia \(flava, purpurea, rubra ssp. rubra\)* Dwarf-shrubland \(CEGL004164\)](#)

NVC Fit = Poor to Fair

Plots = 088-02-1201, 088-06-1201

This relatively open vegetation type occurs in a matrix with other low pocosin types (e.g. CEGL003943) in peat domes of the other North Carolina Coastal Plain. In the absence of severe fire, these communities will succeed to denser low pocosin vegetation types. The two plots here represent tonal variants of this process. Pocosin Opening species, such as *Sarracenia flava* and *Woodwardia virginica*, are present in low to moderate density. The shrub stratum is filling in with pocosin species such as *Lyonia lucida*, *Cyrilla racemiflora*, and *Zenobia pulverulenta*.

B. Pond Pine Forests and Woodlands

1) [*Pinus serotina* / *Cyrilla racemiflora* - *Lyonia lucida* - *Ilex glabra* Woodland \(CEGL003670\)](#)

NVC Fit = Fair

Plots = 088-05-1200

This woodland occurs along peat-filled Carolina bays within the Outer Coastal Plain of the Carolinas. This type is differentiated from the other typical pond pine woodland with high pocosin shrubs by the absence of *Gordonia lasianthus*. The canopy of this plot, located on the Old Dock Savanna site in Columbus County, NC, is dominated by open (~25% cover) *Pinus serotina*. The moderately dense shrub stratum is composed of *Cyrilla racemiflora*, *Magnolia virginiana*, *Lyonia lucida*, and *Ilex coriacea*. The number and diversity of herbs in this plot separate it from the NVC-described association. Some common species include *Sarracenia flava*, *Sarracenia purpurea* var. *venosa*, and *Zigadenus glaberrimus*.

XI. Coastal Plain ponds and marshes

A. Pond Cypress Depression Forests

1) [*Taxodium ascendens* / *Ilex myrtifolia* / *Carex \(striata, turgescens\)* Stringer Forest \(CEGL007419\)](#)

NVC Fit = Poor to Fair

Plots = 088-09-1205, 088-09-1206, 088-09-1207

These pond cypress forests are distributed in a bead-like fashion along small creeks of the southeastern Coastal Plain. Although they occur within the broader longleaf pine flatwood landscape, not much work has been done to study their floristic composition. The plots sampled here may represent the northeastern edge of this community type. These plots are located within the SC Department of Natural Resources' Woodbury Tract, in southern Marion County. The canopy of these plots is composed of *Taxodium ascendens*, with *Nyssa biflora*, *Pinus taeda*, and (in one example) *Quercus virginiana*. The shrub stratum is composed of *Ilex myrtifolia*, *Litsea aestivalis*, and the rare *Lindera melissifolia*. Herbs include *Iris tridentata*, *Dichanthelium portoricense*, *Woodwardia virginica*, and *Andropogon sp.* This

community type is threatened from alteration of hydrology due to local agriculture and forestry practices. Furthermore, the local feral hog population is severely disturbing and removing rare plants from this rare community type.

B. Depression Pond Hardwood Forests

- 1) [*Quercus phellos* / *Carex \(albolutescens, intumescens, jorii\)* - *Chasmanthium sessiliflorum* / *Sphaqnum lescurii* Forest \(CEGL007403\)](#)

NVC Fit = Poor

Plots = 088-01-1204

This association describes upland depression swamp forests in the Piedmont (and sometimes Inner Coastal Plain) of the Carolinas and Virginia. This plot occurs in the Bear Swamp Uplands of the Lumber River drainage in Robeson County, NC. The canopy is co-dominated by *Quercus phellos* (an indicator of this depressional wetland type) and upland species, including *Quercus falcata*, *Quercus stellata*, *Nyssa sylvatica*, and *Carya alba*. The shrub stratum is moderately diverse, and includes *Vaccinium formosum*, *Vaccinium fuscatum*, *Symplocos tinctoria*, and *Vaccinium aroboreum*. The herbaceous stratum is composed of a sparse cover of *Chasmanthium laxum*. The presence of upland forest species, interspersed with depressional wetland oaks (*Quercus nigra*, *Quercus phellos*), sets this plot apart from the NVC-described community type.

C. Wooded Lake and Pond Shores

- 1) [*Taxodium distichum* - *Taxodium ascendens* / *Panicum hemitomom* - *Sclerolepis uniflora* Woodland \(CEGL004465\)](#)

NVC Fit = Good

Plots = 088-07-1202, 088-07-1203

This community type represents tree-dominated vegetation along the natural lakeshore of Lake Waccamaw, in Columbus County, NC. The canopy is sparse, and is dominated by *Taxodium distichum* and *Taxodium ascendens*. Herbs include *Sclerolepis uniflora*, *Panicum hemitomom*, *Boltonia asteroides*, and *Bacopa caroliniana*. Floating aquatic vegetation is also found in these lakeshore woodlands, and includes *Nymphoides aquatica*, *Utricularia subulata*, and *Nymphaea odorata*. The flora of the Lake Waccamaw lakeshore is distinct from other bay lakeshores due to the relatively high pH of the water-- influenced by the limestone outcrop on the northern edge of the lake.



XII. Coastal Plain aquatic vegetation

A. Nonalluvial Floating Aquatics

1) [Nuphar sagittifolia – Eriocaulon aquaticum Lakeshore Herbaceous Vegetation \(CEGL004297\)](#)

NVC Fit = Excellent

Plots = 088-07-1201

This is the permanently flooded, herb-dominated lakeshore zone on Lake Waccamaw in Columbus County, NC. This plot is dominated by *Nuphar sagittifolia*, with lesser abundance of *Sagittaria graminea* and *Eriocaulon aquaticum*. The flora of the Lake Waccamaw lakeshore is distinct from other bay lakeshores due to the relatively high pH of the water-- influenced by the limestone outcrop on the northern edge of the lake.

XIII. Coastal Plain cultural / successional / exotic alluvial wetland vegetation

A. Alien-Dominated Wetland Herbaceous Vegetation

1) *Hydrilla verticillata* Herbaceous Vegetation (CEGL004702)

NVC Fit = Incorrect

Plots = 088-08-1205

This vegetation association is currently undescribed by the NVC. The type is characterized by floating mats of the invasive, exotic *Hydrilla verticillata*. This plot is located on the Little Pee Dee River, and is characterized by a floating mat of another invasive, exotic--*Alternanthera philoxeroides*.

XIV. Outer Coastal Plain semi-evergreen forests

A. Oak and Pine Forests

1) [Quercus hemisphaerica - Pinus taeda - \(Quercus nigra\) / Osmanthus americanus var. americanus / Ilex glabra Forest \(CEGL007022\)](#)

NVC Fit = Good

Plots = 088-07-1204

This community is found on fire-restricted swamp islands of the outer and middle Coastal Plain of North and South Carolina and Georgia. This plot is located within Lake Waccamaw State Park, in Columbus County, NC. The canopy is dominated by *Quercus hemisphaerica* and *Pinus taeda*, with lesser amounts of *Taxodium distichum* and *Acer rubrum* var. *rubrum*. The subcanopy is composed of *Osmanthus americanus*, *Cyrilla racemiflora*, and *Persea palustris*. The low shrub stratum is dominated by *Gaylussacia frondosa*. The herbaceous stratum is not well-developed in this plot.

XV. Freshwater tidal woodlands

A. Tidal Hardwood Swamps

1) [*Nyssa biflora* - \(*Taxodium distichum*, *Nyssa aquatica*\) / *Morella cerifera* - *Rosa palustris* Tidal Forest \(CEGL004484\)](#)

NVC Fit = Poor to Fair

Plots = 088-04-1201, 088-04-1207, 088-09-1208

This is a broadly defined association that is used to describe tidally influenced cypress-gum swamps across the southeastern US Outer Coastal Plain. NVC recognizes the potential to subdivide this type as more data becomes available. Currently, this type is used to describe cypress-gum swamps that experience wind or lunar drive tides, as well as river flooding events. Typically, trees are marked by a stressed appearance, and herbaceous richness is high (relative to non-tidal cypress-gum swamps). The plots sampled during this event are located adjacent to Sandy Island, along the Waccamaw River in Georgetown County, SC (n=2) and along the upper reaches of tidal influence on the Little Pee Dee River in Marion County, SC (n=1). The canopy of these plots is codominated by *Nyssa biflora*, *Taxodium distichum*, and *Nyssa aquatica*. The subcanopy is dominated by *Fraxinus caroliniana*. The shrub stratum is not well developed in these plots, although the community nominal, *Morella cerifera*, is found in two of the three examples. The herbaceous stratum is highly diverse, and includes typical cypress-gum swamp species such as *Boehmeria cylindrica*, *Saururus cernuus*, *Carex louisianica*, and *Pontedaria sp.* Other species encountered include *Panicum hemitomom*, *Carex radiata*, *Carex rosea*, *Justicia ovata*, *Onoclea sensibilis*, and *Rhynchospora miliacea*.



CONCLUSIONS AND FUTURE DIRECTIONS

Collected plots were assigned to 36 vegetation types. We sampled a variety of communities unique to this portion of North and South Carolina, including blackwater riverine sandbars, blackwater riverine levees with perhaps a new variety of laural oak-- *Quercus* {'waccamawensis' – c.f. *laurifolia*}— limestone-influenced natural lakeshore vegetation of Lake Waccamaw, depressional wetland pond cypress forests with *Litsea aestivalis* and *Lindera melissifolia*, ridge and swale mafic upland forests, and previously undersampled pocosins and pond pine woodlands of Brunswick and Columbus County, NC. We also sampled broader-reaching wetland communities (e.g. cypress-gum swamps, bottomland hardwoods) that will help capture their full range of variation within the North Carolina Coastal Plain. 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 76 total plots sampled, 33 marginally fit within the classification, and 16 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 hydric to mesic vegetation communities within the blackwater riverine systems of southeastern North Carolina and northeastern South Carolina. Additional plots established in this region of the Carolinas 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.

LITERATURE CITED

- Federal Geographic Data Committee. 2007. (<http://www.fgdc.gov/standards/projects/FGDC-standards-projects/vegetation/index.html>).
- Gaddy, L.L. 2008. A new sessile-flowered *Trillium* (Liliaceae: subgenus *Phyllantherum*) from South Carolina. *Phytologia* 90:382-389.
- Grossman D.H., Faber-Langendoen D., Weakley A.S., Anderson M., Bourgeron P., Crawford R., Goodin K., Landaal S., Metzler K., Patterson K.D., Pyne M., Reid M., and Sneddon L. 1998. International classification of ecological communities: terrestrial vegetation of the United States. Volume I, The National Vegetation Classification System: development, status, and applications. The Nature Conservancy: Arlington, VA.
- Jennings, M. D. et al 2006. Description, documentation, and evaluation of associations and alliances within the U.S. national Vegetation Classification. Version 4.5. Vegetation Classification Panel. Ecological Society of America. http://www.esa.org/vegweb/docFiles/NVC_Guidelines_v45.pdf
- NatureServe. 2007. U.S. National Vegetation Classification. <http://www.natureserve.org/explorer/servlet/NatureServe?init=Ecol>

- Peet, R.K., T.R. Wentworth and P.S. White. 1998. A flexible, multipurpose method for recording vegetation composition and structure. *Castanea* 63:262-274
- Schafale, M.P. and Weakley, A.S. 1990. Classification of the Natural Communities of North Carolina: Third Approximation. N.C. Natural Heritage Program, Raleigh, N.C. 325 pp.
<http://www.ncnhp.org/Images/Other%20Publications/class.pdf>.
- Weakley, A.S. 2006. Flora of the Carolinas, Virginia, Georgia, and the Surrounding area. Draft of January 2006. University of North Carolina Herbarium, Chapel Hill, NC.

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; %).

Community Type	PH	Organic	Calcium	Magnesium	Potassium	Sodium	Manganese	Sand %	Silt %	Clay %
I.A.1: Liquidambar styraciflua - Quercus pagoda - Carya spp. / Carpinus caroliniana / Carex spp. Forest (CEGL007353)	6.2	6	2752	379	105	29	235	13	45	42
I.A.2: Quercus pagoda - Quercus phellos - Quercus lyrata - Quercus michauxii / Chasmanthium latifolium Forest (CEGL007356)	4.9	9	1356	299	138	41	333	18	47	35
II.A.1: Quercus alba - Carya glabra - Carya alba / Aesculus pavia Forest (CEGL007225)	4.4	8	377	59	50	30	6	89	8	3
II.B.1: Quercus hemisphaerica - Magnolia grandiflora - Carya (glabra, pallida) / Vaccinium arboreum / Chasmanthium sessiliflorum Forest (CEGL004788)	4.3	4	276	53	37	32	26	79	6	15
II.B.2: Quercus alba - Carya glabra / Mixed Herbs Coastal Plain Forest (CEGL007226)	4.6	5	361	60	38	31	8	87	9	4
III.A.1: Pinus palustris - Pinus taeda - Pinus serotina / Quercus marilandica / (Quercus pumila) / Aristida stricta Woodland (CEGL003664)	4.3	7	301	51	31	42	3	69	20	10
III.B.1: Pinus palustris / Ilex glabra / Aristida stricta Woodland (CEGL003648)	4.3	2	222	45	12	30	3	93	1	6
IV.A.1: Chrysoma pauciflosculosa - (Clinopodium coccineum) Dwarf-shrubland (CEGL003946)	4.4	2	189	35	9	25	4	87	7	6
V.A.1: Adiantum capillus-veneris / Conocephalum conicum Herbaceous Vegetation (CEGL004515)	6.2	3	5205	127	86	240	10	57	27	17
VI.A.1: Quercus laurifolia - Quercus michauxii - Liquidambar styraciflua / Carpinus caroliniana Forest (CEGL004678)	4.2	7	445	124	60	48	43	53	30	18
VI.A.2: Betula nigra - Platanus occidentalis / Alnus serrulata / Boehmeria cylindrica Forest (CEGL007312)	5.1	2	707	127	40	37	91	73	15	12
VI.A.3: Quercus lyrata - Carya aquatica Forest (CEGL007397)	4.5	8	722	169	69	65	55	11	37	53
VI.A.4: Platanus occidentalis - Celtis laevigata - Fraxinus pennsylvanica / Lindera benzoin - Ilex decidua / Carex retroflexa Forest (CEGL007730)	4.0	6	645	127	65	41	28	8	49	43
VI.B.1: Nyssa aquatica Forest (CEGL002419)	4.4	10	527	117	92	36	47	12	32	56
VI.B.2: Quercus lyrata - Quercus laurifolia - Taxodium distichum / Saururus cernuus Forest (CEGL004735)	4.6	9	628	151	69	53	40	52	27	21
VI.B.3: Taxodium distichum - Nyssa aquatica / Fraxinus caroliniana Forest (CEGL007431)	4.4	16	779	178	88	85	26	37	37	27
VII.A.1: Nyssa biflora - Liquidambar styraciflua / Glyceria septentrionalis - Hydrocotyle ranunculoides Forest (CEGL004733)	3.8	51	436	106	80	56	4	83	14	3
VII.A.2: Planera aquatica Forest (CEGL007394)	4.6	8	404	92	34	44	5	93	5	2
VII.A.3: Taxodium distichum - Nyssa aquatica - Nyssa biflora / Fraxinus caroliniana / Itea virginica Forest (CEGL007432)	4.5	21	641	128	72	65	22	59	30	11
VII.B.1: Quercus laurifolia - Quercus lyrata / Carpinus caroliniana - Persea palustris / Vaccinium elliotii Forest (CEGL004737)	4.1	9	489	81	56	45	2	73	18	9
VII.B.2: Taxodium distichum - Fraxinus pennsylvanica - Quercus laurifolia / Acer rubrum / Saururus cernuus Forest (CEGL007719)	4.4	15	652	141	71	74	7	62	25	12
VII.C.1: Pinus taeda - Quercus laurifolia - Chamaecyparis thyoides - (Quercus virginiana) / Vaccinium elliotii Forest (CEGL007548)	3.9	20	219	46	37	43	1	72	21	7
VII.C.2: Quercus phellos - Quercus laurifolia - Nyssa biflora - Liquidambar styraciflua / Arundinaria gigantea ssp. tecta - Sabal minor Forest (CEGL007846)	4.3	6	273	93	61	43	6	46	18	36

Community Type	PH	Organic	Calcium	Magnesium	Potassium	Sodium	Manganese	Sand %	Silt %	Clay %
VIII.A.1: Eragrostis hypnoides - Micranthemum umbrosum - Lipocarpa micrantha - (Juncus repens) Herbaceous Vegetation (CEGL004341)	4.7	3	325	54	18	38	5	87	8	5
IX.A.1: Quercus laurifolia - Nyssa biflora / Clethra alnifolia - Leucothoe axillaris Forest (CEGL007447)	4.2	6	382	47	20	39	1	91	3	6
X.A.1: Pinus serotina / Lyonia lucida - Ilex glabra - (Cyrilla racemiflora) Shrubland (CEGL003846)	3.5	88	165	155	64	63	1	77	17	6
X.A.2: Cyrilla racemiflora - Zenobia pulverulenta Shrubland (CEGL003943)	3.4	59	148	108	44	58	3	81	15	3
X.A.3: Chamaedaphne calyculata / Carex striata var. striata - Sarracenia (flava, purpurea, rubra ssp. rubra) Dwarf-shrubland (CEGL004164)	3.7	10	141	67	25	50	1	91	2	7
X.B.1: Pinus serotina / Cyrilla racemiflora - Lyonia lucida - Ilex glabra Woodland (CEGL003670)	4.2	5	187	37	23	36	1	51	43	7
XI.A.1: Taxodium ascendens / Ilex myrtifolia / Carex (striata, turgescens) Stringer Forest (CEGL007419)	3.9	4	159	43	22	29	1	95	1	4
XI.B.1: Quercus phellos / Carex (albolutescens, intumescens, jooirii) - Chasmanthium sessiliflorum / Sphagnum lescurii Forest (CEGL007403)	3.7	7	272	45	41	31	1	72	20	7
XI.C.1: Taxodium distichum - Taxodium ascendens / Panicum hemitomom - Sclerolepis uniflora Woodland (CEGL004465)	6.8	0	366	30	8	28	2	96	1	3
XII.A.1: Nuphar lutea ssp. advena - Nymphaea odorata Herbaceous Vegetation (CEGL002386)	6.8	1	326	35	20	27	3	95	0	4
XIII.A.1: Hydrilla verticillata Herbaceous Vegetation (CEGL004702)	4.9	1	283	46	26	41	12	97	1	1
XIV.A.1: Quercus hemisphaerica - Quercus geminata / Persea borbonia - Osmanthus americanus Forest (CEGL004787)	4.3	1	236	30	9	26	1	97	1	2
XV.A.1: Nyssa biflora - (Nyssa aquatica, Taxodium distichum) Tidal Forest (CEGL004484)	4.7	41	1116	159	45	78	34	50	42	9

Appendix 2: Association Groups with Poor or Fair Fit

CEGL	# of Plots	NVC Fit	Reason
<i>Liquidambar styraciflua</i> - <i>Quercus pagoda</i> - <i>Carya</i> spp. / <i>Carpinus caroliniana</i> / <i>Carex</i> spp. Forest (CEGL007353)	1	Fair	This is a Gulf Coast bottomland type; abundance of <i>Carya cordiformis</i> in the plot canopy
<i>Quercus alba</i> - <i>Carya glabra</i> - <i>Carya alba</i> / <i>Aesculus pavia</i> Forest (CEGL007225)	1	Fair	This plot lacks dominance of canopy and subcanopy species like <i>Quercus alba</i> and <i>Aesculus pavia</i>
<i>Quercus hemisphaerica</i> - <i>Magnolia grandiflora</i> - <i>Carya (glabra, pallida)</i> / <i>Vaccinium arboreum</i> / <i>Chasmanthium sessiliflorum</i> Forest (CEGL004788)	2	Poor to Fair	The abundance of calcareous species such as <i>Tilia</i> , <i>Celtis</i> , and <i>Sideroxylon</i>
<i>Pinus palustris</i> / <i>Ilex glabra</i> / <i>Aristida stricta</i> Woodland (CEGL003648)	1	Fair	Occurrence of <i>Pinus serotina</i> as a canopy co-dominant
<i>Quercus laurifolia</i> - <i>Quercus michauxii</i> - <i>Liquidambar styraciflua</i> / <i>Carpinus caroliniana</i> Forest (CEGL004678)	3	Fair to Good	Occurrence of levee species (e.g. <i>Platanus occidentalis</i>) and acidic wetland species (e.g. <i>Cyrilla racemiflora</i> and <i>Persea palustris</i>)
<i>Betula nigra</i> - <i>Platanus occidentalis</i> / <i>Alnus serrulata</i> / <i>Boehmeria cylindrica</i> Forest (CEGL007312)	1	Fair	A broadly defined community type within the NVC; occurrence of <i>Planera aquatica</i> has not been described for this forest
<i>Platanus occidentalis</i> - <i>Celtis laevigata</i> - <i>Fraxinus pennsylvanica</i> / <i>Lindera benzoin</i> - <i>Ilex decida</i> / <i>Carex retroflexa</i> Forest (CEGL007730)	1	Poor	<i>Planera aquatica</i> was by far the dominant and <i>Platanus occidentalis</i> was absent
<i>Nyssa aquatica</i> Forest (CEGL002419)	1	Fair	Presence of <i>Carpinus caroliniana</i> in the subcanopy
<i>Quercus lyrata</i> - <i>Quercus laurifolia</i> - <i>Taxodium distichum</i> / <i>Saururus cernuus</i> Forest (CEGL004735)	3	Fair to Excellent	Presence of <i>Gaylussacia frondosa</i> of <i>Betula nigra</i> in the canopy of the Little Pee Dee River plot
<i>Taxodium distichum</i> - <i>Nyssa biflora</i> / <i>Fraxinus caroliniana</i> / <i>Lyonia lucida</i> Forest (CEGL004733)	2	Fair to Excellent	Mixture of nonalluvial ground cover with blackwater swamp species
<i>Planera aquatica</i> Forest (CEGL007394)	1	Poor	The canopy is composed of a diversity of tree species
<i>Taxodium distichum</i> - <i>Nyssa aquatica</i> - <i>Nyssa biflora</i> / <i>Fraxinus caroliniana</i> / <i>Itea virginica</i> Forest (CEGL007432)	9	Poor to Excellent	Presence of <i>Betula nigra</i> (Wacammaw River) and high species richness values (Lumber River)
<i>Quercus laurifolia</i> - <i>Quercus lyrata</i> / <i>Carpinus caroliniana</i> - <i>Persea palustris</i> / <i>Vaccinium elliotii</i> Forest (CEGL004737)	4	Fair to Excellent	Association needs more floristic information across its broad range
<i>Taxodium distichum</i> - <i>Fraxinus pennsylvanica</i> - <i>Quercus laurifolia</i> / <i>Acer rubrum</i> / <i>Saururus cernuus</i> Forest (CEGL007719)	4	Fair	Herbaceous stratum is well-developed in these plots

CEGL	# of Plots	NVC Fit	Reason
<i>Pinus taeda</i> - <i>Quercus laurifolia</i> - <i>Chamaecyparis thyoides</i> - (<i>Quercus virginiana</i>) / <i>Vaccinium elliotii</i> Forest (CEGL007548)	5	Poor to Excellent	Absence of <i>Chamaecyparis</i> (or <i>Quercus virginiana</i>) in the canopy of these plots
<i>Quercus phellos</i> - <i>Quercus laurifolia</i> - <i>Nyssa biflora</i> - <i>Liquidambar styraciflua</i> / <i>Arundinaria gigantea</i> ssp. <i>tecta</i> - <i>Sabal minor</i> Forest (CEGL007846)	1	Fair	Absence of <i>Quercus phellos</i> in the canopy of the plot
<i>Eragrostis hypnoides</i> - <i>Micranthemum umbrosum</i> - <i>Lipocarpha micrantha</i> - (<i>Juncus repens</i>) Herbaceous Vegetation (CEGL004341)	5	Poor to Good	Absence of community nominals in plots
<i>Quercus laurifolia</i> - <i>Nyssa biflora</i> / <i>Clethra alnifolia</i> - <i>Leucothoe axillaris</i> Forest (CEGL007447)	1	Poor	Plot's floristic composition bares little resemblance to described community
<i>Cyrilla racemiflora</i> - <i>Zenobia pulverulenta</i> Shrubland (CEGL003943)	2	Fair to Good	Although present, the plot lacks dominance from community nominal shrubs
<i>Chamaedaphne calyculata</i> / <i>Carex striata</i> var. <i>striata</i> - <i>Sarracenia</i> (<i>flava</i> , <i>purpurea</i> , <i>rubra</i> ssp. <i>rubra</i>) Dwarf-shrubland (CEGL004164)	2	Poor to Fair	These plots are succeeding to a more dense low pocosin vegetation type
<i>Pinus serotina</i> / <i>Cyrilla racemiflora</i> - <i>Lyonia lucida</i> - <i>Ilex glabra</i> Woodland (CEGL003670)	1	Fair	High herbaceous diversity in the plot
<i>Quercus phellos</i> / <i>Carex</i> (<i>albolutescens</i> , <i>intumescens</i> , <i>joorii</i>) / <i>Climacium americanum</i> Forest (CEGL007403)	1	Poor	Plot includes a mixture of upland forest and depressional wetland species
<i>Taxodium ascendens</i> / <i>Ilex myrtifolia</i> / <i>Carex</i> (<i>striata</i> , <i>turgescens</i>) Stringer Forest (CEGL007419)	3	Poor to Fair	Association needs more floristic information across its broad range
<i>Hydrilla verticillata</i> Herbaceous Vegetation (CEGL004702)	1	Incorrect	Absence of community nominal
<i>Nyssa biflora</i> - (<i>Taxodium distichum</i> , <i>Nyssa aquatica</i>) / <i>Morella cerifera</i> - <i>Rosa palustris</i> Tidal Forest (CEGL004484)	3	Poor to Fair	Association needs more floristic information across its broad range

Floristic table for Group :

I.A.2: *Quercus pagoda* - *Quercus phellos* - *Quercus lyrata* -
Quercus michauxii / *Chasmanthium latifolium* Forest
(CEGL007356)

Number of Plots: 1
Average Species Richness: 54 Species listed: 54
Average Plot Size: 800 May be > avg. spp. richness
Homoteneity: 100 due to ties

Species	Constancy	Avg Cover		Species	Constancy	Avg Cover	Class
		Constancy	Class				
				<i>Boehmeria cylindrica</i>	100%		1
				<i>Carex sp. #2</i>	100%		1
				<i>Celtis laevigata</i>	100%		1
				<i>Dichantheium sp.</i>	100%		1
				<i>Fagus grandifolia</i>	100%		1
				<i>Galium aparine</i>	100%		1
				<i>Microstegium vimineum</i>	100%		1
				<i>Microstegium vimineum</i>	100%		1
				<i>Oxalis corniculata</i>	100%		1
				<i>Passiflora lutea var. lutea</i>	100%		1
				<i>Persicaria sp.</i>	100%		1
				<i>Tillandsia usneoides</i>	100%		1
<i>Quercus michauxii</i>	100%		7				
<i>Quercus pagoda</i>	100%		7				
<i>Carpinus caroliniana</i>	100%		6				
<i>Parthenocissus quinquefolia</i>	100%		5				
<i>Toxicodendron radicans var. radicans</i>	100%		5				
<i>Bignonia capreolata</i>	100%		4				
<i>Ilex decidua</i>	100%		4				
<i>Liquidambar styraciflua</i>	100%		4				
<i>Planera aquatica</i>	100%		4				
<i>Vitis rotundifolia var. rotundifolia</i>	100%		4				
<i>Carex sp.</i>	100%		3				
<i>Chasmanthium latifolium</i>	100%		3				
<i>Dioscorea quaternata</i>	100%		3				
<i>Fraxinus caroliniana</i>	100%		3				
<i>Ulmus rubra</i>	100%		3				
<i>Acer negundo</i>	100%		2				
<i>Arisaema dracontium</i>	100%		2				
<i>Arundinaria gigantea</i>	100%		2				
<i>Asimina triloba</i>	100%		2				
<i>Callicarpa americana</i>	100%		2				
<i>Campsis radicans</i>	100%		2				
<i>Carya ovalis</i>	100%		2				
<i>Clematis sp.</i>	100%		2				
<i>Desmodium sp.</i>	100%		2				
<i>Diospyros virginiana</i>	100%		2				
<i>Euonymus americanus</i>	100%		2				
<i>Gleditsia aquatica</i>	100%		2				
<i>Ligustrum sinense</i>	100%		2				
<i>Lonicera japonica</i>	100%		2				
<i>Morus rubra</i>	100%		2				
<i>Nemophila aphylla</i>	100%		2				
<i>Poaceae sp.</i>	100%		2				
<i>Quercus nigra</i>	100%		2				
<i>Rubus sp.</i>	100%		2				
<i>Sanicula canadensis</i>	100%		2				
<i>Smilax bona-nox</i>	100%		2				
<i>Smilax glauca</i>	100%		2				
<i>Smilax rotundifolia</i>	100%		2				
<i>Smilax walteri</i>	100%		2				
<i>Ulmus alata</i>	100%		2				
<i>Viola pubescens</i>	100%		2				
[<i>Matelea</i> + <i>Gonolobus</i>]	100%		1				
<i>Acer rubrum</i>	100%		1				

Floristic table for Group :

II.A.1: Quercus alba - Carya glabra - Carya alba / Aesculus pavia Forest (CEGL007225)				Avg Cover	
Species	Constancy	Avg Cover Class	Species	Constancy	Class
			<i>Scleria sp.</i>	100%	2
			<i>Smilax glauca</i>	100%	2
Number of Plots:	1		<i>Smilax rotundifolia</i>	100%	2
Average Species Richness:	61	Species listed: 61	<i>Smilax smallii</i>	100%	2
Average Plot Size:	1000	May be > avg. spp. richness	<i>Tillandsia usneoides</i>	100%	2
Homoteneity:	100	due to ties	<i>Viburnum rafinesquianum</i>	100%	2
			<i>Vitis aestivalis</i>	100%	2
			<i>Vitis aestivalis</i>	100%	2
<i>Carya alba</i>	100%	7	<i>Vitis cinerea</i>	100%	2
<i>Callicarpa americana</i>	100%	5	<i>Woodwardia areolata</i>	100%	2
<i>Fraxinus americana</i>	100%	5	<i>Bignonia capreolata</i>	100%	1
<i>Toxicodendron radicans var. radicans</i>	100%	5	<i>Botrypus virginianus</i>	100%	1
<i>Cornus florida</i>	100%	4	<i>Campsis radicans</i>	100%	1
<i>Symplocos tinctoria</i>	100%	4	<i>Crataegus sp.</i>	100%	1
<i>Vaccinium arboreum</i>	100%	4	<i>Elephantopus tomentosus</i>	100%	1
<i>Vitis rotundifolia var. rotundifolia</i>	100%	4	<i>Mitchella repens</i>	100%	1
<i>Carya pallida</i>	100%	3	<i>Morus rubra</i>	100%	1
<i>Celtis tenuifolia</i>	100%	3	<i>Passiflora lutea var. lutea</i>	100%	1
<i>Ilex opaca var. opaca</i>	100%	3	<i>Sassafras albidum</i>	100%	1
<i>Ligustrum sinense</i>	100%	3			
<i>Parthenocissus quinquefolia</i>	100%	3			
<i>Tilia americana var. heterophylla</i>	100%	3			
<i>Acer rubrum var. rubrum</i>	100%	2			
<i>Aralia spinosa</i>	100%	2			
<i>Asimina parviflora</i>	100%	2			
<i>Athyrium asplenoides</i>	100%	2			
<i>Berchemia scandens</i>	100%	2			
<i>Carex muehlenbergii</i>	100%	2			
<i>Carex nigromarginata</i>	100%	2			
<i>Dichanthelium boscii</i>	100%	2			
<i>Dichanthelium commutatum var. commutatum</i>	100%	2			
<i>Diospyros virginiana</i>	100%	2			
<i>Euonymus americanus</i>	100%	2			
<i>Galium pilosum var. punctulosum</i>	100%	2			
<i>Galium sp.</i>	100%	2			
<i>Gelsemium sempervirens</i>	100%	2			
<i>Juniperus virginiana var. virginiana</i>	100%	2			
<i>Ligustrum lucidum</i>	100%	2			
<i>Liquidambar styraciflua</i>	100%	2			
<i>Lonicera japonica</i>	100%	2			
<i>Lonicera sempervirens</i>	100%	2			
<i>Nyssa sylvatica</i>	100%	2			
<i>Osmunda cinnamomea var. cinnamomea</i>	100%	2			
<i>Persea palustris</i>	100%	2			
<i>Prunus caroliniana</i>	100%	2			
<i>Quercus alba</i>	100%	2			
<i>Quercus laurifolia</i>	100%	2			
<i>Quercus muehlenbergii</i>	100%	2			
<i>Quercus nigra</i>	100%	2			
<i>Quercus velutina</i>	100%	2			
<i>Sanicula canadensis</i>	100%	2			

Floristic table for Group:

II.B.1: <i>Quercus hemisphaerica</i> - <i>Magnolia grandiflora</i> - <i>Carya</i> (<i>glabra</i> , <i>pallida</i>) / <i>Vaccinium arboreum</i> / <i>Chasmanthium</i> <i>sessiliflorum</i> Forest (CEGL004788)				Avg Cover	
Species	Constancy	Avg Cover Class	Species	Constancy	Class
Number of Plots:	2		<i>Carex sp.</i>	50%	2
Average Species Richness:	52	Species listed: 54	<i>Carya alba</i>	50%	2
Average Plot Size:	1000	May be > avg. spp. richness	<i>Chasmanthium laxum</i>	50%	2
Homoteneity:	76	due to ties	<i>Dichanthelium dichotomum var. dichotomum</i>	50%	2
			<i>Dioscorea quaternata</i>	50%	2
			<i>Gelsemium sempervirens</i>	50%	2
			<i>Ilex decidua var. decidua</i>	50%	2
			<i>Ilex decidua var. decidua</i>	50%	2
			<i>Sassafras albidum</i>	50%	2
			<i>Smilax bona-nox</i>	50%	2
			<i>Sporobolus pinetorum</i>	50%	2
			<i>Trachelospermum difforme</i>	50%	2
<i>Carya glabra</i>	100%	6			
<i>Liquidambar styraciflua</i>	100%	6			
<i>Quercus hemisphaerica</i>	100%	6			
<i>Tilia americana var. caroliniana</i>	100%	6			
<i>Ulmus rubra</i>	100%	5			
<i>Carex abscondita</i>	100%	5			
<i>Carpinus caroliniana</i>	100%	5			
<i>Ilex opaca var. opaca</i>	100%	5			
<i>Nyssa sylvatica</i>	100%	4			
<i>Vaccinium arboreum</i>	100%	4			
<i>Crataegus marshallii</i>	100%	4			
<i>Arundinaria tecta</i>	100%	4			
<i>Dichanthelium commutatum var. commutatum</i>	100%	4			
<i>Vitis rotundifolia var. rotundifolia</i>	100%	4			
<i>Bignonia capreolata</i>	100%	3			
<i>Quercus nigra</i>	100%	3			
<i>Parthenocissus quinquefolia</i>	100%	2			
<i>Diospyros virginiana</i>	100%	2			
<i>Euonymus americanus</i>	100%	2			
<i>Mitchella repens</i>	100%	2			
<i>Sabal minor</i>	100%	2			
<i>Smilax pumila</i>	100%	2			
<i>Endodeca serpentaria</i>	100%	2			
<i>Galium obtusum</i>	100%	2			
<i>Passiflora lutea var. lutea</i>	100%	2			
<i>Smilax smallii</i>	100%	2			
<i>Tillandsia usneoides</i>	100%	2			
<i>Acer rubrum</i>	100%	1			
<i>Chasmanthium sessiliflorum var. sessiliflorum</i>	50%	6			
<i>Celtis occidentalis</i>	50%	4			
<i>Ilex decidua</i>	50%	4			
<i>Ulmus alata</i>	50%	4			
<i>Vaccinium elliotii</i>	50%	4			
<i>Chasmanthium latifolium</i>	50%	2			
<i>Piptochaetium avenaceum</i>	50%	2			
<i>Quercus michauxii</i>	50%	2			
<i>Sideroxylon lycioides</i>	50%	2			
<i>Toxicodendron radicans var. radicans</i>	50%	2			
<i>Asimina parviflora</i>	50%	2			
<i>Asplenium platyneuron</i>	50%	2			
<i>Berchemia scandens</i>	50%	2			
<i>Callicarpa americana</i>	50%	2			
<i>Carex radiata</i>	50%	2			

Floristic table for Group :
II.B.2: Quercus alba - Carya glabra / Mixed Herbs Coastal Plain
Forest (CEGL007226)

Number of Plots: 1
 Average Species Richness: 40 Species listed: 40
 Average Plot Size: 600 May be > avg. spp. richness
 Homoteneity: 100 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Quercus alba</i>	100%	7
<i>Carya alba</i>	100%	6
<i>Liquidambar styraciflua</i>	100%	6
<i>Symplocos tinctoria</i>	100%	6
<i>Toxicodendron radicans</i> var. <i>radicans</i>	100%	6
<i>Sassafras albidum</i>	100%	5
<i>Callicarpa americana</i>	100%	4
<i>Cornus florida</i>	100%	4
<i>Quercus coccinea</i>	100%	4
<i>Asimina parviflora</i>	100%	3
<i>Prunus serotina</i> var. <i>serotina</i>	100%	3
<i>Tillandsia usneoides</i>	100%	3
<i>Vaccinium arboreum</i>	100%	3
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100%	3
<i>Acer rubrum</i> var. <i>rubrum</i>	100%	2
<i>Campsis radicans</i>	100%	2
<i>Carex</i> sp.	100%	2
<i>Carpinus caroliniana</i>	100%	2
<i>Chimaphila maculata</i>	100%	2
<i>Chionanthus virginicus</i>	100%	2
<i>Euonymus americanus</i>	100%	2
<i>Fraxinus americana</i>	100%	2
<i>Gelsemium sempervirens</i>	100%	2
<i>Ilex opaca</i> var. <i>opaca</i>	100%	2
<i>Passiflora lutea</i> var. <i>lutea</i>	100%	2
<i>Pinus taeda</i>	100%	2
<i>Quercus falcata</i>	100%	2
<i>Quercus velutina</i>	100%	2
<i>Smilax rotundifolia</i>	100%	2
<i>Smilax smallii</i>	100%	2
<i>Vaccinium fuscatum</i>	100%	2
<i>Vitis aestivalis</i>	100%	2
<i>Carex</i> sp. #3	100%	1
<i>Diospyros virginiana</i>	100%	1
<i>Euphorbia pubentissima</i>	100%	1
<i>Galium</i> sp. #2	100%	1
<i>Mitchella repens</i>	100%	1
<i>Polygonatum biflorum</i>	100%	1
<i>Quercus nigra</i>	100%	1
<i>Smilax glauca</i>	100%	1

Floristic table for Group :

III.A.1: <i>Pinus palustris</i> - <i>Pinus taeda</i> - <i>Pinus serotina</i> / <i>Quercus marilandica</i> / (<i>Quercus pumila</i>) / <i>Aristida stricta</i> Woodland (CEGL003664)			Avg Cover		
Species	Constancy	Avg Cover Class	Species	Constancy	Class
			<i>Pityopsis graminifolia</i>	100%	1
			<i>Rhexia alifanus</i>	100%	1
Number of Plots:	2		<i>Rubus sp.</i>	100%	1
Average Species Richness:	80	Species listed: 113	<i>Sassafras albidum</i>	100%	1
Average Plot Size:	1000	May be > avg. spp. richness	<i>Acer rubrum var. trilobum</i>	50%	2
Homoteneity:	71	due to ties	<i>Desmodium rotundifolium</i>	50%	2
			<i>Desmodium sp.</i>	50%	2
			<i>Desmodium sp.</i>	50%	2
			<i>Dichanthelium acuminatum var. fasciculatum</i>	50%	2
<i>Pteridium aquilinum</i>	100%	8	<i>Eurybia paludosa</i>	50%	2
<i>Gaylussacia frondosa</i>	100%	6	<i>Juncus dichotomus</i>	50%	2
<i>Pinus palustris</i>	100%	6	<i>Lespedeza angustifolia</i>	50%	2
<i>Clethra alnifolia</i>	100%	6	<i>Morella caroliniensis</i>	50%	2
<i>Pinus taeda</i>	100%	6	Moss	50%	2
<i>Quercus elliotii</i>	100%	4	<i>Poaceae sp.</i>	50%	2
<i>Quercus nigra</i>	100%	4	<i>Prunus serotina</i>	50%	2
<i>Quercus marilandica var. marilandica</i>	100%	4	<i>Prunus serotina var. serotina</i>	50%	2
<i>Symplocos tinctoria</i>	100%	4	<i>Psoralidium tenuiflorum</i>	50%	2
<i>Pinus serotina</i>	100%	3	<i>Quercus falcata</i>	50%	2
<i>Gaylussacia dumosa</i>	100%	3	<i>Quercus hemisphaerica</i>	50%	2
<i>Liquidambar styraciflua</i>	100%	3	<i>Scleria ciliata var. glabra</i>	50%	2
<i>Rhododendron atlanticum</i>	100%	3	<i>Scleria sp.</i>	50%	2
<i>Andropogon virginicus</i>	100%	2	<i>Sericocarpus linifolius</i>	50%	2
<i>Lyonia ligustrina</i>	100%	2	<i>Symphotrichum walteri</i>	50%	2
<i>Amelanchier sp.</i>	100%	2	<i>Vaccinium formosum</i>	50%	2
<i>Andropogon sp.</i>	100%	2	<i>Vaccinium virgatum</i>	50%	2
<i>Aronia arbutifolia</i>	100%	2	<i>Vitis rotundifolia var. rotundifolia</i>	50%	2
<i>Arundinaria tecta</i>	100%	2	<i>Acer rubrum</i>	50%	1
<i>Chionanthus virginicus</i>	100%	2	<i>Acer rubrum var. rubrum</i>	50%	1
<i>Eupatorium rotundifolium</i>	100%	2	<i>Astragalus sp.</i>	50%	1
<i>Ilex glabra</i>	100%	2	<i>Carya alba</i>	50%	1
<i>Iris verna</i>	100%	2	<i>Chasmanthium laxum</i>	50%	1
<i>Lespedeza capitata</i>	100%	2	<i>Cirsium sp.</i>	50%	1
<i>Lyonia mariana</i>	100%	2	<i>Cleistes sp.</i>	50%	1
<i>Morella cerifera</i>	100%	2	<i>Coreopsis major</i>	50%	1
<i>Nyssa sylvatica</i>	100%	2	<i>Coreopsis verticillata</i>	50%	1
<i>Quercus stellata</i>	100%	2	<i>Crotalaria purshii</i>	50%	1
<i>Rhus copallinum</i>	100%	2	<i>Cyrilla racemiflora</i>	50%	1
<i>Vaccinium tenellum</i>	100%	2	<i>Desmodium sp. #2</i>	50%	1
<i>Aletris farinosa</i>	100%	2	<i>Desmodium sp. #3</i>	50%	1
<i>Dichanthelium tenue</i>	100%	2	<i>Dichanthelium consanguineum</i>	50%	1
<i>Ionactis linariifolia</i>	100%	2	<i>Dichanthelium ovale var. ovale</i>	50%	1
<i>Lespedeza sp.</i>	100%	2	<i>Dichanthelium villosissimum var.</i>	50%	1
<i>Pycnanthemum flexuosum</i>	100%	2	<i>Diospyros virginiana</i>	50%	1
<i>Smilax glauca</i>	100%	2	<i>Erechtites hieracifolia</i>	50%	1
<i>Solidago odora</i>	100%	2	<i>Eupatorium album</i>	50%	1
<i>Tephrosia virginiana</i>	100%	2	<i>Eupatorium pubescens</i>	50%	1
<i>Andropogon sp. #2</i>	100%	1	<i>Eupatorium recurvans</i>	50%	1
<i>Carphephorus paniculatus</i>	100%	1	<i>Eupatorium sp. #2</i>	50%	1
<i>Chamaecrista sp.</i>	100%	1	<i>Euphorbia pubentissima</i>	50%	1
<i>Eupatorium capillifolium</i>	100%	1	<i>Galactia sp.</i>	50%	1
<i>Lactuca sp.</i>	100%	1	<i>Hypericum hypericoides</i>	50%	1

Species	Avg Cover	
	Constancy	Class
<i>Hypericum setosum</i>	50%	1
<i>Ipomoea sp.</i>	50%	1
<i>Juncus sp.</i>	50%	1
<i>Lespedeza sp. #2</i>	50%	1
<i>Linum sp.</i>	50%	1
<i>Lobelia nuttallii</i>	50%	1
<i>Packera anonyma</i>	50%	1
<i>Persea palustris</i>	50%	1
<i>Potentilla sp.</i>	50%	1
<i>Scleria ciliata</i>	50%	1
<i>Silphium compositum</i>	50%	1
<i>Sisyrinchium capillare</i>	50%	1
<i>Solidago lancifolia</i>	50%	1
<i>Sporobolus pinetorum</i>	50%	1
<i>Stylosanthes biflora</i>	50%	1
<i>Toxicodendron radicans var. radicans</i>	50%	1
<i>Vernonia acaulis</i>	50%	1
<i>Woodwardia virginica</i>	50%	1
<i>Xyris caroliniana</i>	50%	1

Floristic table for Group :

III.B.1: *Pinus palustris* / *Ilex glabra* / *Aristida stricta* Woodland
(CEGL003648)

Number of Plots: 1
 Average Species Richness: 53 Species listed: 53
 Average Plot Size: 1000 May be > avg. spp. richness
 Homoteneity: 100 due to ties

Species	Constancy	Class	Species	Avg Cover	
				Constancy	Class
			<i>Quercus marilandica</i>	100%	1
			<i>Quercus virginiana</i>	100%	1
			<i>Rhus copallinum</i>	100%	1
			<i>Scleria pauciflora</i>	100%	1
			<i>Scleria sp. #2</i>	100%	1
			<i>Sericocarpus tortifolius</i>	100%	1
			<i>Smilax rotundifolia</i>	100%	1
			<i>Smilax rotundifolia</i>	100%	1
			<i>Solidago odora</i>	100%	1
			<i>Symphotrichum sp.</i>	100%	1
			<i>Vaccinium stamineum</i>	100%	1
<i>Aristida stricta</i>	100%	7			
<i>Pinus palustris</i>	100%	6			
<i>Vaccinium crassifolium</i>	100%	6			
<i>Gaylussacia dumosa</i>	100%	5			
<i>Ilex glabra</i>	100%	5			
<i>Pinus serotina</i>	100%	5			
<i>Vaccinium tenellum</i>	100%	5			
<i>Clethra alnifolia</i>	100%	4			
<i>Rhododendron atlanticum</i>	100%	4			
<i>Pityopsis graminifolia</i>	100%	3			
<i>Quercus elliotii</i>	100%	3			
<i>Andropogon perangustatus</i>	100%	2			
<i>Andropogon sp.</i>	100%	2			
<i>Carphephorus bellidifolius</i>	100%	2			
<i>Carphephorus paniculatus</i>	100%	2			
<i>Carphephorus tomentosus</i>	100%	2			
<i>Diospyros virginiana</i>	100%	2			
<i>Gaylussacia frondosa</i>	100%	2			
<i>Gelsemium sempervirens</i>	100%	2			
<i>Liatris sp.</i>	100%	2			
<i>Morella pumila</i>	100%	2			
<i>Pterocaulon pycnostachyum</i>	100%	2			
<i>Quercus nigra</i>	100%	2			
<i>Rhexia alifanus</i>	100%	2			
<i>Scleria sp.</i>	100%	2			
<i>Smilax glauca</i>	100%	2			
<i>Symphotrichum walteri</i>	100%	2			
<i>Tephrosia sp.</i>	100%	2			
<i>Xyris caroliniana</i>	100%	2			
<i>Amorpha herbacea</i>	100%	1			
<i>Andropogon virginicus</i>	100%	1			
<i>Baptisia cinerea</i>	100%	1			
<i>Chrysopsis sp.</i>	100%	1			
<i>Cnidocolus stimulosus</i>	100%	1			
<i>Dichantherium dichotomum var. dichotomum</i>	100%	1			
<i>Dichantherium sp.</i>	100%	1			
<i>Dichantherium tenue</i>	100%	1			
<i>Eupatorium leucolepis</i>	100%	1			
<i>Eupatorium recurvans</i>	100%	1			
<i>Galactia sp.</i>	100%	1			
<i>Lechea tenuifolia</i>	100%	1			
<i>Lobelia nuttallii</i>	100%	1			
<i>Lyonia mariana</i>	100%	1			

Floristic table for Group :

**IV.A.1: Chrysoma pauciflosculosa - (Clinopodium coccineum)
Dwarf-shrubland (CEGL003946)**

Number of Plots: 1
 Average Species Richness: 11 Species listed: 11
 Average Plot Size: 200 May be > avg. spp. richness
 Homoteneity: 100 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Quercus laevis</i>	100%	7
<i>Chrysoma pauciflosculosa</i>	100%	6
<i>Lichen</i>	100%	3
<i>Agalinis sp.</i>	100%	2
<i>Gelsemium sempervirens</i>	100%	2
<i>Lyonia mariana</i>	100%	2
<i>Polygonella polygama var. croomii</i>	100%	2
<i>Quercus hemisphaerica</i>	100%	2
<i>Selaginella arenicola</i>	100%	2
<i>Stipulicida setacea var. setacea</i>	100%	2
<i>Gaylussacia frondosa</i>	100%	1

Floristic table for Group :

				Avg Cover	
V.A.1: Adiantum capillus-veneris / Conocephalum conicum				Constancy	Class
Herbaceous Vegetation (CEGL004515)					
Species					
				100%	1
				100%	1
				100%	1
				100%	1
				100%	1
Number of Plots:	1				
Average Species Richness:	48	Species listed:	48		
Average Plot Size:	100	May be > avg. spp. richness			
Homoteneity:	100	due to ties			

Species	Avg Cover	
	Constancy	Class
<i>Morella cerifera</i>	100%	7
<i>Adiantum capillus-veneris</i>	100%	6
<i>Fraxinus americana</i>	100%	5
<i>Juniperus virginiana</i> var. <i>virginiana</i>	100%	5
Liverwort	100%	5
<i>Quercus shumardii</i> var. <i>shumardii</i>	100%	5
<i>Toxicodendron radicans</i>	100%	5
<i>Acer rubrum</i> var. <i>rubrum</i>	100%	4
<i>Decumaria barbara</i>	100%	4
Moss	100%	4
<i>Ulmus alata</i>	100%	4
<i>Baccharis halimifolia</i>	100%	3
<i>Ilex opaca</i> var. <i>opaca</i>	100%	3
<i>Prunus serotina</i> var. <i>serotina</i>	100%	3
<i>Solidago caesia</i>	100%	3
<i>Solidago</i> sp.	100%	3
<i>Tillandsia usneoides</i>	100%	3
<i>Ulmus americana</i> var. <i>floridana</i>	100%	3
<i>Andropogon glomeratus</i>	100%	2
<i>Berchemia scandens</i>	100%	2
<i>Bignonia capreolata</i>	100%	2
<i>Boehmeria cylindrica</i>	100%	2
<i>Campsis radicans</i>	100%	2
<i>Carya glabra</i>	100%	2
<i>Dichanthelium commutatum</i> var. <i>commutatum</i>	100%	2
<i>Elymus hystrix</i>	100%	2
<i>Eupatorium capillifolium</i>	100%	2
<i>Gelsemium sempervirens</i>	100%	2
<i>Juncus coriaceous</i>	100%	2
<i>Liquidambar styraciflua</i>	100%	2
<i>Lonicera japonica</i>	100%	2
<i>Lonicera sempervirens</i>	100%	2
<i>Mikania scandens</i>	100%	2
<i>Pinus taeda</i>	100%	2
<i>Piptochaetium avenaceum</i>	100%	2
<i>Pleopeltis polypodioides</i> ssp. <i>michauxiana</i>	100%	2
<i>Quercus nigra</i>	100%	2
<i>Rhus copallinum</i> var. <i>copallinum</i>	100%	2
<i>Smilax bona-nox</i>	100%	2
<i>Smilax rotundifolia</i>	100%	2
<i>Symphotrichum pilosum</i>	100%	2
Unknown sp.	100%	2
<i>Wisteria sinensis</i>	100%	2

Floristic table for Group :

VI.A.1: Quercus laurifolia - Quercus michauxii - Liquidambar styraciflua / Carpinus caroliniana Forest (CEGL004678)				Species	Constancy	Avg Cover Class
Number of Plots:	3			<i>Dichanthelium commutatum</i> var. <i>commutatum</i>	33%	2
Average Species Richness:	34	Species listed:	74	<i>Dichanthelium dichotomum</i> var. <i>dichotomum</i>	33%	2
Average Plot Size:	733	May be > avg. spp. richness		<i>Endodeca serpentaria</i>	33%	2
Homoteneity:	46	due to ties		<i>Erechtites hieracifolia</i>	33%	2
				<i>Fraxinus pennsylvanica</i>	33%	2
				<i>Hypericum hypericoides</i>	33%	2
Species	Constancy		Avg Cover Class			
<i>Quercus laurifolia</i>	100%		7	<i>Itea virginica</i>	33%	2
<i>Ilex opaca</i> var. <i>opaca</i>	100%		4	<i>Juncus effusus</i> ssp. <i>solutus</i>	33%	2
<i>Liquidambar styraciflua</i>	100%		4	<i>Nyssa biflora</i>	33%	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100%		3	<i>Poaceae</i> sp.	33%	2
<i>Bignonia capreolata</i>	100%		2	<i>Quercus lyrata</i>	33%	2
<i>Tillandsia usneoides</i>	100%		2	<i>Rhododendron</i> sp. #2	33%	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	100%		2	<i>Rubus</i> sp.	33%	2
<i>Parthenocissus quinquefolia</i>	100%		2	<i>Saururus cernuus</i>	33%	2
<i>Vaccinium elliotii</i>	67%		6	<i>Scleria triglomerata</i>	33%	2
<i>Cyrilla racemiflora</i>	67%		4	<i>Smilax bona-nox</i>	33%	2
<i>Acer rubrum</i> var. <i>trilobum</i>	67%		4	<i>Smilax rotundifolia</i>	33%	2
<i>Boehmeria cylindrica</i>	67%		2	<i>Smilax smallii</i>	33%	2
<i>Asplenium platyneuron</i>	67%		2	<i>Smilax walteri</i>	33%	2
<i>Betula nigra</i>	67%		2	<i>Trachelospermum difforme</i>	33%	2
<i>Campsis radicans</i>	67%		2	<i>Ulmus rubra</i>	33%	2
<i>Carex</i> sp.	67%		2	Unknown sp.	33%	2
<i>Mitchella repens</i>	67%		2	<i>Carex</i> sp. #2	33%	1
<i>Woodwardia areolata</i>	67%		2	<i>Carex typhina</i>	33%	1
<i>Eubotrys racemosa</i>	67%		2	<i>Dichanthelium dichotomum</i> var. <i>ramulosum</i>	33%	1
<i>Nyssa sylvatica</i>	67%		2	<i>Diospyros virginiana</i>	33%	1
<i>Arundinaria gigantea</i>	33%		7	<i>Eupatorium</i> sp.	33%	1
<i>Acer rubrum</i> var. <i>rubrum</i>	33%		6	<i>Gelsemium sempervirens</i>	33%	1
<i>Carpinus caroliniana</i>	33%		6	<i>Smilax glauca</i>	33%	1
<i>Persea palustris</i>	33%		5	<i>Solidago</i> sp.	33%	1
<i>Quercus nigra</i>	33%		5	<i>Vitis cinerea</i>	33%	1
<i>Carya glabra</i>	33%		4			
<i>Celtis</i> sp.	33%		4			
<i>Pinus taeda</i>	33%		4			
<i>Platanus occidentalis</i> var. <i>occidentalis</i>	33%		4			
<i>Chasmanthium sessiliflorum</i>	33%		3			
<i>Ilex decidua</i> var. <i>decidua</i>	33%		3			
<i>Quercus michauxii</i>	33%		3			
<i>Magnolia virginiana</i>	33%		2			
<i>Rhododendron canescens</i>	33%		2			
<i>Carex blanda</i>	33%		2			
<i>Carex corrugata</i>	33%		2			
<i>Carex debilis</i>	33%		2			
<i>Carex grayi</i>	33%		2			
<i>Carex intumescens</i> var. <i>intumescens</i>	33%		2			
<i>Carex lurida</i>	33%		2			
<i>Carya aquatica</i>	33%		2			
<i>Chasmanthium latifolium</i>	33%		2			
<i>Crataegus</i> sp.	33%		2			

Floristic table for Group :

VI.A.2: <i>Betula nigra</i> - <i>Platanus occidentalis</i> / <i>Alnus serrulata</i> / <i>Boehmeria cylindrica</i> Forest (CEGL007312)				Avg Cover	
Species	Constancy	Avg Cover Class	Species	Constancy	Class
			<i>Nyssa biflora</i>	100%	1
			<i>Pleopeltis polypodioides</i> ssp. <i>michauxiana</i>	100%	1
Number of Plots:	1		<i>Quercus lyrata</i>	100%	1
Average Species Richness:	54	Species listed: 54	<i>Saururus cernuus</i>	100%	1
Average Plot Size:	1000	May be > avg. spp. richness	<i>Scutellaria lateriflora</i>	100%	1
Homoteneity:	100	due to ties	<i>Smilax bona-nox</i>	100%	1
			<i>Smilax hispida</i>	100%	1
			<i>Smilax hispida</i>	100%	1
			<i>Smilax rotundifolia</i>	100%	1
			<i>Smilax walteri</i>	100%	1
			<i>Trachelospermum difforme</i>	100%	1
			<i>Viola</i> sp.	100%	1
<i>Betula nigra</i>	100%	6			
<i>Planera aquatica</i>	100%	6			
<i>Platanus occidentalis</i> var. <i>occidentalis</i>	100%	6			
<i>Poaceae</i> sp.	100%	6			
<i>Salix nigra</i>	100%	6			
<i>Commelina virginica</i>	100%	5			
<i>Carya aquatica</i>	100%	4			
<i>Chasmanthium latifolium</i>	100%	4			
<i>Fraxinus pennsylvanica</i>	100%	4			
<i>Gleditsia aquatica</i>	100%	4			
<i>Alternanthera philoxeroides</i>	100%	3			
<i>Boehmeria cylindrica</i>	100%	3			
<i>Liquidambar styraciflua</i>	100%	3			
<i>Solidago</i> sp.	100%	3			
<i>Taxodium distichum</i>	100%	3			
<i>Acer negundo</i>	100%	2			
<i>Acer rubrum</i>	100%	2			
<i>Ampelopsis arborea</i>	100%	2			
<i>Bidens</i> sp.	100%	2			
<i>Carex crus-corvi</i>	100%	2			
<i>Carex grayi</i>	100%	2			
<i>Carex louisianica</i>	100%	2			
<i>Carex lurida</i>	100%	2			
<i>Carex typhina</i>	100%	2			
<i>Dichanthelium clandestinum</i>	100%	2			
<i>Dichanthelium dichotomum</i> var. <i>dichotomum</i>	100%	2			
<i>Erechtites hieracifolia</i>	100%	2			
<i>Gelsemium sempervirens</i>	100%	2			
<i>Impatiens</i> sp.	100%	2			
<i>Mikania scandens</i>	100%	2			
<i>Murdannia keisak</i>	100%	2			
<i>Pluchea camphorata</i>	100%	2			
<i>Ptilimnium capillaceum</i>	100%	2			
<i>Rumex</i> sp.	100%	2			
<i>Toxicodendron radicans</i> var. <i>radicans</i>	100%	2			
Unknown sp.	100%	2			
Unknown sp. #2	100%	2			
<i>Asclepias perennis</i>	100%	1			
<i>Endodeca serpentaria</i>	100%	1			
<i>Galium tinctorium</i> var. <i>tinctorium</i>	100%	1			
<i>Gamochaeta coarctata</i>	100%	1			
<i>Hibiscus laevis</i>	100%	1			
<i>Ilex decidua</i>	100%	1			

Floristic table for Group :

VI.A.3: Quercus lyrata - Carya aquatica Forest (CEGL007397)

Number of Plots: 1
 Average Species Richness: 47 Species listed: 47
 Average Plot Size: 1000 May be > avg. spp. richness
 Homoteneity: 100 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Physostegia leptophylla</i>	100%	1
<i>Smilax auriculata</i>	100%	1
<i>Taxodium distichum</i>	100%	1
<i>Vitis rotundifolia</i>	100%	1

Species	Avg Cover	
	Constancy	Class
<i>Acer rubrum var. trilobum</i>	100%	6
<i>Panicum sp.</i>	100%	6
<i>Populus heterophylla</i>	100%	6
<i>Quercus lyrata</i>	100%	6
<i>Carex sp.</i>	100%	5
<i>Carya aquatica</i>	100%	5
<i>Betula nigra</i>	100%	4
<i>Carex crus-corvi</i>	100%	4
<i>Fraxinus pennsylvanica</i>	100%	4
<i>Ilex decidua</i>	100%	4
<i>Liquidambar styraciflua</i>	100%	4
<i>Nyssa aquatica</i>	100%	4
<i>Quercus laurifolia</i>	100%	4
<i>Gleditsia aquatica</i>	100%	3
<i>Ampelopsis arborea</i>	100%	2
<i>Asclepias perennis</i>	100%	2
<i>Boehmeria cylindrica</i>	100%	2
<i>Campsis radicans</i>	100%	2
<i>Carex sp. #2</i>	100%	2
<i>Carex sp. #3</i>	100%	2
<i>Carex typhina</i>	100%	2
<i>Crataegus aestivalis</i>	100%	2
<i>Dichanthelium sp.</i>	100%	2
<i>Diospyros virginiana</i>	100%	2
<i>Hydrocotyle sp.</i>	100%	2
<i>Phanopyrum gymnocarpon</i>	100%	2
<i>Planera aquatica</i>	100%	2
<i>Platanus occidentalis var. occidentalis</i>	100%	2
<i>Pluchea camphorata</i>	100%	2
<i>Polygonum sp.</i>	100%	2
<i>Saccharum brevibarbe</i>	100%	2
<i>Saururus cernuus</i>	100%	2
<i>Smilax sp.</i>	100%	2
<i>Styrax americanus</i>	100%	2
<i>Tillandsia usneoides</i>	100%	2
<i>Toxicodendron radicans var. radicans</i>	100%	2
<i>Trachelospermum difforme</i>	100%	2
<i>Triadenum walteri</i>	100%	2
<i>Ulmus americana</i>	100%	2
<i>Vitis aestivalis var. aestivalis</i>	100%	2
<i>Celtis laevigata</i>	100%	1
<i>Cephalanthus occidentalis</i>	100%	1
<i>Galium obtusum</i>	100%	1

Floristic table for Group :

VI.A.4: Platanus occidentalis - Celtis laevigata - Fraxinus pennsylvanica / Lindera benzoin - Ilex decidua / Carex retroflexa Forest (CEGL007730)				Avg Cover	
Species	Constancy	Avg Cover Class	Species	Constancy	Class
			<i>Quercus lyrata</i>	100%	1
			<i>Ranunculus sp.</i>	100%	1
Number of Plots:	1		<i>Rosaceae sp.</i>	100%	1
Average Species Richness:	51	Species listed: 51	<i>Rubus sp. #2</i>	100%	1
Average Plot Size:	1000	May be > avg. spp. richness	<i>Sanicula odorata</i>	100%	1
Homoteneity:	100	due to ties	<i>Smilax bona-nox</i>	100%	1
			<i>Stachys sp.</i>	100%	1
			<i>Stachys sp.</i>	100%	1
			<i>Unknown sp.</i>	100%	1
<i>Carex lurida</i>	100%	8			
<i>Planera aquatica</i>	100%	8			
<i>Fraxinus pennsylvanica</i>	100%	6			
<i>Salix nigra</i>	100%	5			
<i>Carex typhina</i>	100%	4			
<i>Glyceria sp.</i>	100%	4			
<i>Polygonum sp.</i>	100%	4			
<i>Acer negundo</i>	100%	3			
<i>Acer rubrum</i>	100%	3			
<i>Boehmeria cylindrica</i>	100%	3			
<i>Fraxinus caroliniana</i>	100%	3			
<i>Smilax rotundifolia</i>	100%	3			
<i>Smilax walteri</i>	100%	3			
<i>Toxicodendron radicans var. radicans</i>	100%	3			
<i>Acer saccharinum</i>	100%	2			
<i>Ampelopsis sp.</i>	100%	2			
<i>Asteraceae sp.</i>	100%	2			
<i>Campsis radicans</i>	100%	2			
<i>Carex sect. Ouales sp.</i>	100%	2			
<i>Carya aquatica</i>	100%	2			
<i>Celtis laevigata</i>	100%	2			
<i>Cephalanthus occidentalis</i>	100%	2			
<i>Crataegus sp.</i>	100%	2			
<i>Galium aparine</i>	100%	2			
<i>Ilex decidua</i>	100%	2			
<i>Leersia sp.</i>	100%	2			
<i>Phytolacca americana</i>	100%	2			
<i>Rubus sp.</i>	100%	2			
<i>Rubus sp. #3</i>	100%	2			
<i>Saururus cernuus</i>	100%	2			
<i>Symphotrichum elliotii</i>	100%	2			
<i>Viola sp.</i>	100%	2			
<i>Vitis rotundifolia var. rotundifolia</i>	100%	2			
<i>Carex grayi</i>	100%	1			
<i>Carex intumescens</i>	100%	1			
<i>Carex retroflexa</i>	100%	1			
<i>Commelina sp.</i>	100%	1			
<i>Diospyros virginiana</i>	100%	1			
<i>Erechtites hieracifolia</i>	100%	1			
<i>Hypochaeris radicata</i>	100%	1			
<i>Ligustrum sinense</i>	100%	1			
<i>Parthenocissus quinquefolia</i>	100%	1			
<i>Pilea pumila</i>	100%	1			

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

Number of Plots: 1
 Average Species Richness: 29 Species listed: 29
 Average Plot Size: 1000 May be > avg. spp. richness
 Homoteneity: 100 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Nyssa aquatica</i>	100%	8
<i>Planera aquatica</i>	100%	4
<i>Quercus lyrata</i>	100%	4
<i>Carpinus caroliniana</i>	100%	3
<i>Carya aquatica</i>	100%	3
<i>Quercus nigra</i>	100%	3
<i>Ulmus americana</i>	100%	3
<i>Acer rubrum</i>	100%	2
<i>Asteraceae sp.</i>	100%	2
<i>Boehmeria cylindrica</i>	100%	2
<i>Campsis radicans</i>	100%	2
<i>Carex lupulina</i>	100%	2
<i>Erechtites hieracifolia</i>	100%	2
<i>Ligustrum sinense</i>	100%	2
<i>Liquidambar styraciflua</i>	100%	2
<i>Packera glabella</i>	100%	2
<i>Parthenocissus quinquefolia</i>	100%	2
<i>Pseudognaphalium sp.</i>	100%	2
<i>Saururus cernuus</i>	100%	2
<i>Smilax walteri</i>	100%	2
<i>Vitis rotundifolia var. rotundifolia</i>	100%	2
<i>Bacopa sp.</i>	100%	1
<i>Cephalanthus occidentalis</i>	100%	1
<i>Fraxinus pennsylvanica</i>	100%	1
<i>Hypochaeris radicata</i>	100%	1
<i>Impatiens sp.</i>	100%	1
<i>Persicaria sp.</i>	100%	1
<i>Toxicodendron radicans var. radicans</i>	100%	1
<i>Viola pubescens</i>	100%	1

Floristic table for Group :

VI.B.2: Quercus lyrata - Quercus laurifolia - Taxodium distichum / Saururus cernuus Forest (CEGL004735)				Avg Cover	
Species	Constancy	Avg Cover Class	Species	Constancy	Class
			<i>Bacopa sp.</i>	33%	2
			<i>Carex crus-corvi</i>	33%	2
Number of Plots:	3		<i>Carex intumescens var. intumescens</i>	33%	2
Average Species Richness:	43	Species listed: 92	<i>Chasmanthium sessiliflorum</i>	33%	2
Average Plot Size:	1000	May be > avg. spp. richness	<i>Clematis virginiana</i>	33%	2
Homoteneity:	46	due to ties	<i>Diospyros virginiana</i>	33%	2
			<i>Gleditsia aquatica</i>	33%	2
			<i>Gleditsia aquatica</i>	33%	2
<i>Quercus lyrata</i>	100%	6	<i>Habenaria sp.</i>	33%	2
<i>Quercus laurifolia</i>	100%	6	<i>Hydrocotyle verticillata</i>	33%	2
<i>Acer rubrum var. trilobum</i>	100%	6	<i>Lobelia cardinalis</i>	33%	2
<i>Liquidambar styraciflua</i>	100%	6	<i>Ludwigia palustris</i>	33%	2
<i>Fraxinus caroliniana</i>	100%	5	<i>Morella cerifera</i>	33%	2
<i>Planera aquatica</i>	100%	5	<i>Pleopeltis polypodioides ssp. michauxiana</i>	33%	2
<i>Taxodium distichum</i>	100%	4	<i>Poaceae sp.</i>	33%	2
<i>Boehmeria cylindrica</i>	100%	2	<i>Poaceae sp. #2</i>	33%	2
<i>Toxicodendron radicans var. radicans</i>	100%	2	<i>Riccia fluitans</i>	33%	2
<i>Persicaria sp.</i>	100%	2	<i>Rubus sp.</i>	33%	2
<i>Saururus cernuus</i>	100%	2	<i>Saccharum sp.</i>	33%	2
<i>Smilax walteri</i>	100%	2	<i>Ulmus sp.</i>	33%	2
<i>Nyssa biflora</i>	67%	6	<i>Woodwardia areolata</i>	33%	2
<i>Betula nigra</i>	67%	5	<i>Bignonia capreolata</i>	33%	1
<i>Campsis radicans</i>	67%	4	<i>Cardamine sp.</i>	33%	1
<i>Crataegus sp.</i>	67%	4	<i>Carex corrugata</i>	33%	1
<i>Cyrilla racemiflora</i>	67%	4	<i>Carex grayi</i>	33%	1
<i>Smilax rotundifolia</i>	67%	3	<i>Carex sp.</i>	33%	1
<i>Tillandsia usneoides</i>	67%	2	<i>Carex sp. #2</i>	33%	1
<i>Alternanthera philoxeroides</i>	67%	2	<i>Carex typhina</i>	33%	1
<i>Hypoxis curtissii</i>	67%	2	<i>Carpinus caroliniana</i>	33%	1
<i>Hydrocotyle sp.</i>	67%	2	<i>Celtis occidentalis</i>	33%	1
<i>Cephalanthus occidentalis</i>	67%	1	<i>Centella erecta</i>	33%	1
<i>Mikania scandens</i>	67%	1	<i>Commelina virginica</i>	33%	1
<i>Fraxinus pennsylvanica</i>	33%	5	<i>Cyperus sp.</i>	33%	1
<i>Hymenocallis sp.</i>	33%	5	<i>Dichanthelium dichotomum var. ramulosum</i>	33%	1
<i>Ilex decidua var. decidua</i>	33%	5	<i>Dichanthelium yadkinense</i>	33%	1
<i>Murdannia keisak</i>	33%	5	<i>Ditrysinia fruticosa</i>	33%	1
<i>Smilax smallii</i>	33%	4	<i>Itea virginica</i>	33%	1
<i>Carex louisianica</i>	33%	3	<i>Leersia sp.</i>	33%	1
<i>Carya aquatica</i>	33%	3	<i>Ludwigia sp.</i>	33%	1
<i>Chasmanthium latifolium</i>	33%	3	<i>Microstegium vimineum</i>	33%	1
<i>Magnolia virginiana</i>	33%	3	<i>Mitchella repens</i>	33%	1
<i>Cornus foemina</i>	33%	2	<i>Pluchea sp.</i>	33%	1
<i>Hymenocallis crassifolia</i>	33%	2	<i>Proserpinaca palustris</i>	33%	1
<i>Justicia ovata</i>	33%	2	<i>Smilax bona-nox</i>	33%	1
<i>Nyssa aquatica</i>	33%	2	<i>Solidago sp.</i>	33%	1
<i>Pluchea camphorata</i>	33%	2	<i>Styrax americanus</i>	33%	1
<i>Trachelospermum difforme</i>	33%	2	<i>Triadenum sp.</i>	33%	1
<i>Vitis cinerea var. floridana</i>	33%	2	<i>Unknown sp.</i>	33%	1
<i>Vitis rotundifolia var. rotundifolia</i>	33%	2	<i>Viola esculenta</i>	33%	1
<i>Ampelopsis arborea</i>	33%	2	<i>Woodwardia virginica</i>	33%	1
<i>Asclepias variegata</i>	33%	2			

Floristic table for Group :

VI.B.3: Taxodium distichum - Nyssa aquatica / Fraxinus caroliniana Forest (CEGL007431)

Number of Plots: 2
 Average Species Richness: 35 Species listed: 39
 Average Plot Size: 400 May be > avg. spp. richness
 Homoteneity: 64 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Taxodium distichum</i>	100%	7
<i>Nyssa aquatica</i>	100%	6
<i>Planera aquatica</i>	100%	6
<i>Fraxinus caroliniana</i>	100%	6
<i>Tillandsia usneoides</i>	100%	3
<i>Liquidambar styraciflua</i>	100%	2
<i>Carex sp.</i>	100%	2
<i>Carex sp. #2</i>	100%	2
<i>Saururus cernuus</i>	100%	2
<i>Pluchea camphorata</i>	100%	1
<i>Smilax rotundifolia</i>	100%	1
<i>Acer rubrum</i>	50%	5
<i>Acer rubrum var. trilobum</i>	50%	5
<i>Fraxinus pennsylvanica</i>	50%	5
<i>Nyssa biflora</i>	50%	5
<i>Quercus laurifolia</i>	50%	5
<i>Carya aquatica</i>	50%	4
<i>Glyceria sp.</i>	50%	2
<i>Hibiscus moscheutos</i>	50%	2
<i>Lemna minor</i>	50%	2
<i>Murdannia keisak</i>	50%	2
<i>Alternanthera philoxeroides</i>	50%	2
<i>Ampelopsis arborea</i>	50%	2
<i>Andropogon virginicus</i>	50%	2
<i>Boehmeria cylindrica</i>	50%	2
<i>Campsis radicans</i>	50%	2
<i>Cephalanthus occidentalis</i>	50%	2
<i>DONTKNOW: unsure record</i>	50%	2
<i>Erechtites hieracifolia</i>	50%	2
<i>Gleditsia aquatica</i>	50%	2
<i>Hymenocallis crassifolia</i>	50%	2
<i>Hypoxis curtissii</i>	50%	2
<i>Hypoxis sp.</i>	50%	2
<i>Persicaria punctata</i>	50%	2
<i>Pleopeltis polypodioides ssp. michauxiana</i>	50%	2
<i>Smilax smallii</i>	50%	2
<i>Trachelospermum difforme</i>	50%	2
<i>Ulmus rubra</i>	50%	2
<i>Woodwardia virginica</i>	50%	2

Floristic table for Group :

VII.A.1: Nyssa biflora - Liquidambar styraciflua / Glyceria septentrionalis - Hydrocotyle ranunculoides Forest (CEGL004733)

Number of Plots: 2
 Average Species Richness: 31 Species listed: 36
 Average Plot Size: 1000 May be > avg. spp. richness
 Homoteneity: 69 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Nyssa biflora</i>	100%	8
<i>Acer rubrum var. trilobum</i>	100%	7
<i>Persea palustris</i>	100%	6
<i>Lyonia lucida</i>	100%	6
<i>Ilex opaca var. opaca</i>	100%	5
<i>Woodwardia areolata</i>	100%	5
<i>Clethra alnifolia</i>	100%	2
<i>Smilax laurifolia</i>	100%	2
<i>Smilax walteri</i>	100%	2
<i>Itea virginica</i>	100%	2
<i>Mitchella repens</i>	100%	2
<i>Pinus taeda</i>	100%	1
<i>Quercus laurifolia</i>	100%	1
<i>Smilax glauca</i>	100%	1
<i>Cyrilla racemiflora</i>	50%	6
<i>Magnolia virginiana</i>	50%	6
<i>Sphagnum sp.</i>	50%	5
<i>Leucothoe axillaris</i>	50%	4
<i>Parthenocissus quinquefolia</i>	50%	3
<i>Vitis rotundifolia var. rotundifolia</i>	50%	3
<i>Ilex cassine var. cassine</i>	50%	2
<i>Ilex myrtifolia</i>	50%	2
<i>Rhododendron viscosum</i>	50%	2
<i>Saururus cernuus</i>	50%	2
<i>Taxodium ascendens</i>	50%	2
<i>Taxodium distichum</i>	50%	2
<i>Vaccinium formosum</i>	50%	2
<i>Aronia arbutifolia</i>	50%	2
<i>Decumaria barbara</i>	50%	2
<i>Eubotrys racemosa</i>	50%	2
<i>Liverwort</i>	50%	2
<i>Morella cerifera</i>	50%	2
<i>Rubus sp.</i>	50%	2
<i>Toxicodendron radicans var. radicans</i>	50%	2
<i>Vaccinium fuscatum</i>	50%	2
<i>Viburnum nudum</i>	50%	2

Floristic table for Group :
VII.A.2: Planera aquatica Forest (CEGL007394)

Number of Plots: 1
 Average Species Richness: 35 Species listed: 35
 Average Plot Size: 300 May be > avg. spp. richness
 Homoteneity: 100 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Betula nigra</i>	100%	7
<i>Planera aquatica</i>	100%	7
<i>Taxodium distichum</i>	100%	6
<i>Acer rubrum var. trilobum</i>	100%	5
<i>Murdannia keisak</i>	100%	5
<i>Nyssa biflora</i>	100%	5
<i>Fraxinus caroliniana</i>	100%	4
<i>Tillandsia usneoides</i>	100%	4
<i>Toxicodendron radicans var. radicans</i>	100%	4
<i>Alternanthera philoxeroides</i>	100%	3
<i>Pleopeltis polypodioides ssp. michauxiana</i>	100%	3
<i>Poaceae sp.</i>	100%	3
<i>Vitis rotundifolia var. rotundifolia</i>	100%	3
<i>Asplenium platyneuron</i>	100%	2
<i>Asteraceae sp.</i>	100%	2
<i>Boehmeria cylindrica</i>	100%	2
<i>Cardamine sp.</i>	100%	2
<i>Carex sp.</i>	100%	2
<i>Cephalanthus occidentalis</i>	100%	2
<i>Commelina virginica</i>	100%	2
<i>Dichantherium sp.</i>	100%	2
<i>Hibiscus sp.</i>	100%	2
<i>Hypoxis curtissii</i>	100%	2
<i>Isoetes sp.</i>	100%	2
<i>Lobelia nuttallii</i>	100%	2
<i>Mikania scandens</i>	100%	2
<i>Panicum sp.</i>	100%	2
<i>Persicaria sp.</i>	100%	2
<i>Rubus sp.</i>	100%	2
<i>Saururus cernuus</i>	100%	2
<i>Smilax rotundifolia</i>	100%	2
<i>Triadenum walteri</i>	100%	2
<i>Viburnum nudum</i>	100%	2
<i>Hydrocotyle sp.</i>	100%	1
<i>Pluchea sp.</i>	100%	1

Floristic table for Group :

**VII.A.3: Taxodium distichum - Nyssa aquatica - Nyssa biflora /
Fraxinus caroliniana / Itea virginica Forest (CEGL007432)**

Number of Plots: 9
 Average Species Richness: 34 Species listed: 35
 Average Plot Size: 944 May be > avg. spp. richness
 Homoteneity: 56 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Boehmeria cylindrica</i>	100%	2
<i>Nyssa biflora</i>	89%	6
<i>Mikania scandens</i>	89%	2
<i>Taxodium distichum</i>	78%	6
<i>Acer rubrum var. trilobum</i>	78%	5
<i>Smilax walteri</i>	78%	2
<i>Triadenum walteri</i>	78%	2
<i>Nyssa aquatica</i>	67%	7
<i>Fraxinus caroliniana</i>	67%	6
<i>Quercus laurifolia</i>	67%	2
<i>Toxicodendron radicans var. radicans</i>	67%	2
<i>Alternanthera philoxeroides</i>	56%	5
<i>Murdannia keisak</i>	56%	4
<i>Planera aquatica</i>	56%	3
<i>Cyrilla racemiflora</i>	56%	2
<i>Pluchea camphorata</i>	56%	2
<i>Cephalanthus occidentalis</i>	56%	2
<i>Carex sp.</i>	56%	2
<i>Tillandsia usneoides</i>	56%	2
<i>Saururus cernuus</i>	56%	2
<i>Poaceae sp.</i>	56%	2
<i>Liquidambar styraciflua</i>	44%	3
<i>Juncus repens</i>	44%	2
<i>Micranthemum umbrosum</i>	44%	2
<i>Itea virginica</i>	44%	2
<i>Proserpinaca palustris</i>	44%	2
<i>Hydrocotyle umbellata</i>	44%	2
<i>Woodwardia areolata</i>	44%	2
<i>Unknown sp.</i>	44%	1
<i>Moss</i>	33%	3
<i>Pinus taeda</i>	33%	2
<i>Scirpus cyperinus</i>	33%	2
<i>Persicaria sp.</i>	33%	1
<i>Hydrocotyle sp.</i>	33%	1
<i>Quercus lyrata</i>	33%	1

Floristic table for Group :

VII.B.1: Quercus laurifolia - Quercus lyrata / Carpinus caroliniana - Persea palustris / Vaccinium elliotii Forest (CEGL004737)

Number of Plots: 4
 Average Species Richness: 46 Species listed: 46
 Average Plot Size: 1000 May be > avg. spp. richness
 Homoteneity: 65 due to ties

Species	Constancy	Avg Cover Class
<i>Quercus nigra</i>	50%	2
<i>Rhynchospora miliacea</i>	50%	2
<i>Vaccinium fuscatum</i>	50%	2

Species	Constancy	Avg Cover Class
<i>Acer rubrum var. trilobum</i>	100%	7
<i>Liquidambar styraciflua</i>	100%	4
<i>Carex sp.</i>	100%	2
<i>Hypericum hypericoides</i>	100%	2
<i>Vaccinium elliotii</i>	75%	5
<i>Crataegus sp.</i>	75%	4
<i>Fraxinus caroliniana</i>	75%	4
<i>Taxodium distichum</i>	75%	4
<i>Nyssa biflora</i>	75%	3
<i>Smilax walteri</i>	75%	3
<i>Betula nigra</i>	75%	3
<i>Ditrysinia fruticosa</i>	75%	3
<i>Ilex opaca var. opaca</i>	75%	3
<i>Toxicodendron radicans var. radicans</i>	75%	3
<i>Vitis rotundifolia var. rotundifolia</i>	75%	3
<i>Mitchella repens</i>	75%	2
<i>Tillandsia usneoides</i>	75%	2
<i>Campsis radicans</i>	75%	2
<i>Persea palustris</i>	75%	2
<i>Planera aquatica</i>	75%	2
<i>Smilax glauca</i>	75%	2
<i>Styrax americanus</i>	75%	2
<i>Berchemia scandens</i>	75%	2
<i>Quercus</i> {'waccamawensis' - c.f. laurifolia}	50%	7
<i>Quercus laurifolia</i>	50%	6
<i>Quercus lyrata</i>	50%	6
<i>Arundinaria tecta</i>	50%	5
<i>Ilex decidua var. decidua</i>	50%	5
<i>Carpinus caroliniana</i>	50%	4
<i>Cyrilla racemiflora</i>	50%	3
<i>Hypoxis sp.</i>	50%	3
<i>Pleopeltis polypodioides ssp. michauxiana</i>	50%	3
<i>Carex intumescens</i>	50%	2
<i>Carex sp. #2</i>	50%	2
<i>Dichanthelium yadkinense</i>	50%	2
<i>Hymenocallis pygmaea</i>	50%	2
<i>Nyssa aquatica</i>	50%	2
<i>Diospyros virginiana</i>	50%	2
<i>Eubotrys racemosa</i>	50%	2
<i>Smilax rotundifolia</i>	50%	2
<i>Unknown sp.</i>	50%	2
<i>Viola sp.</i>	50%	2
<i>Pinus taeda</i>	50%	2

Floristic table for Group :

VII.B.2: Taxodium distichum - Fraxinus pennsylvanica - Quercus laurifolia / Acer rubrum / Saururus cernuus Forest (CEGL007719)				Species	Constancy	Avg Cover Class
Number of Plots:	4			<i>Pleopeltis polypodioides ssp. michauxiana</i>	50%	2
Average Species Richness:	50	Species listed:	50	<i>Sclerolepis uniflora</i>	50%	2
Average Plot Size:	1000	May be > avg. spp. richness		<i>Cephalanthus occidentalis</i>	50%	1
Homoteneity:	65	due to ties		<i>Unknown sp.</i>	50%	1
				<i>Morella cerifera</i>	25%	5
				<i>Quercus</i> {'waccamawensis' - c.f. <i>laurifolia</i> }	25%	5
				<i>Lyonia lucida</i>	25%	3
				<i>Lyonia lucida</i>	25%	3
Species	Constancy	Avg Cover	Class			
<i>Acer rubrum var. trilobum</i>	100%		7			
<i>Taxodium distichum</i>	100%		6			
<i>Liquidambar styraciflua</i>	100%		4			
<i>Boehmeria cylindrica</i>	100%		2			
<i>Carex sp.</i>	100%		2			
<i>Mikania scandens</i>	100%		2			
<i>Nyssa biflora</i>	75%		7			
<i>Quercus laurifolia</i>	75%		6			
<i>Betula nigra</i>	75%		5			
<i>Planera aquatica</i>	75%		4			
<i>Ilex opaca var. opaca</i>	75%		4			
<i>Nyssa aquatica</i>	75%		3			
<i>Campsis radicans</i>	75%		3			
<i>Quercus lyrata</i>	75%		3			
<i>Tillandsia usneoides</i>	75%		3			
<i>Alternanthera philoxeroides</i>	75%		3			
<i>Saururus cernuus</i>	75%		2			
<i>Centella erecta</i>	75%		2			
<i>Pluchea camphorata</i>	75%		2			
<i>Toxicodendron radicans var. radicans</i>	75%		2			
<i>Carex intumescens</i>	75%		2			
<i>Carex sp. #2</i>	75%		2			
<i>Smilax walteri</i>	75%		2			
<i>Triadenum walteri</i>	75%		2			
<i>Juncus repens</i>	75%		2			
<i>Vitis rotundifolia var. rotundifolia</i>	75%		1			
<i>Murdannia keisak</i>	50%		4			
<i>Cyrilla racemiflora</i>	50%		4			
<i>Carex seorsa</i>	50%		2			
<i>Fraxinus caroliniana</i>	50%		2			
<i>Vaccinium elliotii</i>	50%		2			
<i>Arundinaria tecta</i>	50%		2			
<i>Woodwardia areolata</i>	50%		2			
<i>Proserpinaca palustris</i>	50%		2			
<i>Rubus sp.</i>	50%		2			
<i>Smilax laurifolia</i>	50%		2			
<i>Smilax rotundifolia</i>	50%		2			
<i>Commelina virginica</i>	50%		2			
<i>Dichantherium yadkinense</i>	50%		2			
<i>Itea virginica</i>	50%		2			
<i>Justicia ovata</i>	50%		2			
<i>Lobelia sp.</i>	50%		2			
<i>Persicaria sp.</i>	50%		2			

Floristic table for Group :

**VII.C.1: Pinus taeda - Quercus laurifolia - Chamaecyparis thyoides -
(Quercus virginiana) / Vaccinium elliotii Forest (CEGL007548)**

Number of Plots: 5
 Average Species Richness: 34 Species listed: 38
 Average Plot Size: 1000 May be > avg. spp. richness
 Homoteneity: 58 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Cyrilla racemiflora</i>	100%	6
<i>Nyssa biflora</i>	100%	6
<i>Ilex opaca</i> var. <i>opaca</i>	100%	6
<i>Smilax laurifolia</i>	100%	2
<i>Smilax glauca</i>	100%	2
<i>Quercus laurifolia</i>	80%	7
<i>Persea palustris</i>	80%	5
<i>Chamaecyparis thyoides</i>	80%	5
<i>Pinus taeda</i>	80%	4
<i>Magnolia virginiana</i>	80%	4
<i>Lyonia lucida</i>	80%	4
<i>Clethra alnifolia</i>	80%	2
<i>Itea virginica</i>	80%	2
<i>Acer rubrum</i> var. <i>trilobum</i>	60%	5
<i>Ilex glabra</i>	60%	3
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	60%	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	60%	1
<i>Vaccinium elliotii</i>	40%	4
<i>Liquidambar styraciflua</i>	40%	3
<i>Osmunda regalis</i> var. <i>spectabilis</i>	40%	3
<i>Ilex cassine</i> var. <i>cassine</i>	40%	3
<i>Chasmanthium laxum</i>	40%	2
<i>Hypericum hypericoides</i>	40%	2
<i>Quercus lyrata</i>	40%	2
<i>Vaccinium formosum</i>	40%	2
<i>Eubotrys racemosa</i>	40%	2
<i>Fraxinus caroliniana</i>	40%	2
<i>Gelsemium sempervirens</i>	40%	2
<i>Mitchella repens</i>	40%	2
<i>Parthenocissus quinquefolia</i>	40%	2
<i>Smilax rotundifolia</i>	40%	2
<i>Taxodium ascendens</i>	40%	2
<i>Tillandsia usneoides</i>	40%	2
<i>Asteraceae</i> sp.	40%	1
<i>Carex</i> sp.	40%	1
<i>Crataegus</i> sp.	40%	1
<i>Diospyros virginiana</i>	40%	1
<i>Woodwardia areolata</i>	40%	1

Floristic table for Group :

**VII.C.2: Quercus phellos - Quercus laurifolia - Nyssa biflora -
Liquidambar styraciflua / Arundinaria gigantea ssp. tecta - Sabal
minor Forest (CEGL007846)**

Number of Plots: 1
 Average Species Richness: 29 Species listed: 29
 Average Plot Size: 1000 May be > avg. spp. richness
 Homoteneity: 100 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Quercus laurifolia</i>	100%	8
<i>Sabal minor</i>	100%	7
<i>Carpinus caroliniana</i>	100%	5
<i>Liquidambar styraciflua</i>	100%	5
<i>Arundinaria tecta</i>	100%	4
<i>Acer rubrum</i> var. <i>rubrum</i>	100%	3
<i>Ilex decidua</i> var. <i>decidua</i>	100%	3
<i>Quercus virginiana</i>	100%	3
<i>Ulmus rubra</i>	100%	3
<i>Berchemia scandens</i>	100%	2
<i>Dichantherium</i> sp.	100%	2
<i>Diospyros virginiana</i>	100%	2
<i>Ilex opaca</i> var. <i>opaca</i>	100%	2
<i>Pleopeltis polypodioides</i> ssp. <i>michauxiana</i>	100%	2
<i>Smilax smallii</i>	100%	2
<i>Vaccinium elliotii</i>	100%	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100%	2
<i>Carya ovalis</i>	100%	1
<i>Clematis</i> sp.	100%	1
<i>Crataegus marshallii</i>	100%	1
<i>Crataegus</i> sp.	100%	1
<i>Dichantherium</i> sp. #2	100%	1
<i>Dioscorea quaternata</i>	100%	1
<i>DONTKNOW: unsure record</i>	100%	1
<i>Mitchella repens</i>	100%	1
<i>Pinus taeda</i>	100%	1
<i>Smilax auriculata</i>	100%	1
<i>Tillandsia usneoides</i>	100%	1
<i>Toxicodendron radicans</i>	100%	1

Floristic table for Group :

**VIII.A.1: Eragrostis hypnoides - Micranthemum umbrosum -
Lipocarpa micrantha - (Juncus repens) Herbaceous Vegetation
(CEGL004341)**

Number of Plots: 5
 Average Species Richness: 18 Species listed: 18
 Average Plot Size: 100 May be > avg. spp. richness
 Homoteneity: 46 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Planera aquatica</i>	80%	2
<i>Alternanthera philoxeroides</i>	60%	5
<i>Persicaria sp.</i>	60%	2
<i>Cyperaceae sp.</i>	60%	2
<i>Juncus repens</i>	40%	5
<i>Betula nigra</i>	40%	5
<i>Quercus lyrata</i>	40%	5
<i>Ludwigia sp.</i>	40%	4
<i>Bacopa sp.</i>	40%	4
<i>Taxodium distichum</i>	40%	3
<i>Poaceae sp.</i>	40%	3
<i>Fraxinus caroliniana</i>	40%	2
<i>Eleocharis baldwinii</i>	40%	2
<i>Centella erecta</i>	40%	2
<i>Eupatorium capillifolium</i>	40%	2
<i>Juncus sp.</i>	40%	2
<i>Pluchea sp.</i>	40%	2
<i>Poaceae sp. #2</i>	40%	2

Floristic table for Group :

**IX.A.1: Quercus laurifolia - Nyssa biflora / Clethra alnifolia -
Leucothoe axillaris Forest (CEGL007447)**

Species

Viburnum nudum
Woodwardia virginica

Avg Cover	
Constancy	Class
100%	1
100%	1

Number of Plots: 1
 Average Species Richness: 45 Species listed: 45
 Average Plot Size: 500 May be > avg. spp. richness
 Homoteneity: 100 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Lyonia lucida</i>	100%	7
<i>Nyssa biflora</i>	100%	7
<i>Quercus laurifolia</i>	100%	7
<i>Ilex coriacea</i>	100%	6
<i>Leucothoe axillaris</i>	100%	6
<i>Liquidambar styraciflua</i>	100%	6
<i>Persea palustris</i>	100%	6
<i>Pinus taeda</i>	100%	6
<i>Acer rubrum var. trilobum</i>	100%	4
<i>Ilex opaca var. opaca</i>	100%	4
<i>Morella cerifera</i>	100%	4
<i>Quercus nigra</i>	100%	4
<i>Gordonia lasianthus</i>	100%	3
<i>Lyonia mariana</i>	100%	3
<i>Smilax laurifolia</i>	100%	3
<i>Chionanthus virginicus</i>	100%	2
<i>Liriodendron tulipifera</i>	100%	2
<i>Mitchella repens</i>	100%	2
<i>Osmunda cinnamomea</i>	100%	2
<i>Osmunda regalis var. spectabilis</i>	100%	2
<i>Parthenocissus quinquefolia</i>	100%	2
<i>Pinus sp.</i>	100%	2
<i>Rubus sp.</i>	100%	2
<i>Toxicodendron radicans</i>	100%	2
<i>Vitis rotundifolia var. rotundifolia</i>	100%	2
<i>Woodwardia areolata</i>	100%	2
<i>Andropogon sp.</i>	100%	1
<i>Aronia arbutifolia</i>	100%	1
<i>Berchemia scandens</i>	100%	1
<i>Campsis radicans</i>	100%	1
<i>Decumaria barbara</i>	100%	1
<i>Dioscorea sp.</i>	100%	1
<i>Fraxinus pennsylvanica</i>	100%	1
<i>Gelsemium sempervirens</i>	100%	1
<i>Hexastylis arifolia</i>	100%	1
<i>Hypericum hypericoides</i>	100%	1
<i>Ilex cassine</i>	100%	1
<i>Ilex glabra</i>	100%	1
<i>Lonicera sempervirens</i>	100%	1
<i>Magnolia virginiana</i>	100%	1
<i>Rhynchospora sp.</i>	100%	1
<i>Rhynchospora sp. #2</i>	100%	1
<i>Smilax rotundifolia</i>	100%	1

Floristic table for Group :

X.A.1: Pinus serotina / Lyonia lucida - Ilex glabra - (Cyrilla racemiflora) Shrubland (CEGL003846)

Number of Plots: 4
 Average Species Richness: 10 Species listed: 10
 Average Plot Size: 100 May be > avg. spp. richness
 Homoteneity: 73 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Pinus serotina</i>	100%	6
<i>Smilax laurifolia</i>	100%	4
<i>Cyrilla racemiflora</i>	100%	3
<i>Ilex glabra</i>	100%	2
<i>Lyonia lucida</i>	75%	8
<i>Ilex coriacea</i>	75%	6
<i>Gordonia lasianthus</i>	50%	4
<i>Zenobia pulverulenta</i>	50%	3
<i>Vaccinium sp.</i>	50%	2
<i>Vaccinium formosum</i>	25%	4

Floristic table for Group :

X.A.2: Cyrilla racemiflora - Zenobia pulverulenta Shrubland (CEGL003943)

Number of Plots: 2
 Average Species Richness: 16 Species listed: 21
 Average Plot Size: 150 May be > avg. spp. richness
 Homoteneity: 71 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Lyonia lucida</i>	100%	7
<i>Cyrilla racemiflora</i>	100%	6
<i>Smilax laurifolia</i>	100%	6
<i>Pinus serotina</i>	100%	5
<i>Zenobia pulverulenta</i>	100%	5
<i>Sphagnum</i>	100%	5
<i>Gordonia lasianthus</i>	100%	3
<i>Woodwardia virginica</i>	100%	3
<i>Ilex glabra</i>	100%	2
<i>Ilex coriacea</i>	50%	4
<i>Carex striata</i>	50%	3
<i>Chamaedaphne calyculata</i>	50%	3
<i>Gaylussacia frondosa</i>	50%	3
<i>Vaccinium formosum</i>	50%	2
<i>Lichen</i>	50%	2
<i>Liverwort</i>	50%	2
<i>Morella cerifera</i>	50%	2
<i>Nyssa biflora</i>	50%	2
<i>Persea palustris</i>	50%	2
<i>Rhynchospora sp.</i>	50%	2
<i>Vaccinium fuscatum</i>	50%	2

Floristic table for Group :

**X.A.3: Chamaedaphne calyculata / Carex striata var. striata -
Sarracenia (flava, purpurea, rubra ssp. rubra) Dwarf-shrubland
(CEGL004164)**

Number of Plots: 2
 Average Species Richness: 24 Species listed: 30
 Average Plot Size: 100 May be > avg. spp. richness
 Homoteneity: 72 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Cyrilla racemiflora</i>	100%	7
<i>Lyonia lucida</i>	100%	6
<i>Smilax laurifolia</i>	100%	6
<i>Zenobia pulverulenta</i>	100%	4
<i>Ilex coriacea</i>	100%	4
<i>Pinus serotina</i>	100%	4
<i>Pilea tenuifolia</i>	100%	4
<i>Ilex glabra</i>	100%	3
<i>Sarracenia flava</i>	100%	3
<i>Arundinaria tecta</i>	100%	2
<i>Gordonia lasianthus</i>	100%	2
<i>Rhexia alifanus</i>	100%	2
<i>Woodwardia virginica</i>	100%	2
<i>Carex sp.</i>	50%	4
<i>Sphagnum</i>	50%	3
<i>Andropogon sp.</i>	50%	2
<i>Poaceae sp. #2</i>	50%	2
<i>Aristida stricta</i>	50%	2
<i>Aronia arbutifolia</i>	50%	2
<i>Calopogon sp.</i>	50%	2
<i>Gaylussacia dumosa</i>	50%	2
<i>Ilex myrtifolia</i>	50%	2
<i>Magnolia virginiana</i>	50%	2
<i>Morella caroliniensis</i>	50%	2
<i>Persea palustris</i>	50%	2
<i>Rhynchospora sp.</i>	50%	2
<i>Sporobolus sp.</i>	50%	2
<i>Vaccinium crassifolium</i>	50%	2
<i>Xyris ambigua</i>	50%	2
<i>Xyris sp.</i>	50%	2

Floristic table for Group :

X.B.1: Pinus serotina / Cyrilla racemiflora - Lyonia lucida - Ilex glabra Woodland (CEGL003670)

Number of Plots: 1
 Average Species Richness: 40 Species listed: 40
 Average Plot Size: 1000 May be > avg. spp. richness
 Homoteneity: 100 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Cyrilla racemiflora</i>	100%	7
<i>Pinus serotina</i>	100%	6
<i>Ilex coriacea</i>	100%	5
<i>Magnolia virginiana</i>	100%	5
<i>Acer rubrum</i>	100%	4
<i>Aronia arbutifolia</i>	100%	4
<i>Clethra alnifolia</i>	100%	4
<i>Lyonia lucida</i>	100%	4
<i>Morella caroliniensis</i>	100%	4
<i>Nyssa sylvatica</i>	100%	4
<i>Persea palustris</i>	100%	4
<i>Ilex myrtifolia</i>	100%	3
<i>Ilex glabra</i>	100%	2
<i>Sarracenia flava</i>	100%	2
<i>Smilax laurifolia</i>	100%	2
<i>Sphagnum</i>	100%	2
<i>Zigadenus glaberrimus</i>	100%	2
<i>Amphicarpum amphicarpon</i>	100%	1
<i>Andropogon virginicus var. decipiens</i>	100%	1
<i>Arundinaria tecta</i>	100%	1
<i>Coreopsis linifolia</i>	100%	1
<i>Ctenium aromaticum</i>	100%	1
<i>Dichantherium sp.</i>	100%	1
<i>Drosera intermedia</i>	100%	1
<i>Erigeron vernus</i>	100%	1
<i>Eriocaulon decangulare</i>	100%	1
<i>Eupatorium leucolepis</i>	100%	1
<i>Hypericum brachyphyllum</i>	100%	1
<i>Lobelia nuttallii</i>	100%	1
<i>Lycopodiella appressa</i>	100%	1
<i>Moss</i>	100%	1
<i>Muhlenbergia expansa</i>	100%	1
<i>Platanthera sp.</i>	100%	1
<i>Rhexia alifanus</i>	100%	1
<i>Rhexia lutea</i>	100%	1
<i>Rhexia petiolata</i>	100%	1
<i>Rhynchospora sp.</i>	100%	1
<i>Sarracenia purpurea var. venosa</i>	100%	1
<i>Sporobolus pinetorum</i>	100%	1
<i>Sporobolus teretifolius</i>	100%	1

Floristic table for Group :

XI.A.1: Taxodium ascendens / Ilex myrtifolia / Carex (striata, turgescens) Stringer Forest (CEGL007419)

Number of Plots: 3
 Average Species Richness: 20 Species listed: 36
 Average Plot Size: 133 May be > avg. spp. richness
 Homoteneity: 55 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Ilex myrtifolia</i>	100%	6
<i>Taxodium ascendens</i>	100%	5
<i>Nyssa biflora</i>	100%	5
<i>Pinus taeda</i>	100%	5
<i>Litsea aestivalis</i>	100%	4
<i>Tillandsia usneoides</i>	100%	2
<i>Lindera melissifolia</i>	67%	7
<i>Iris tridentata</i>	67%	4
<i>Lyonia lucida</i>	67%	3
<i>Dichantherium portoricense</i>	67%	3
<i>Panicum sp.</i>	67%	3
<i>Persea palustris</i>	67%	3
<i>Woodwardia virginica</i>	67%	3
<i>Smilax laurifolia</i>	67%	2
<i>Andropogon sp.</i>	67%	2
<i>Dichantherium sp. #2</i>	67%	2
<i>Vaccinium fuscatum</i>	67%	2
<i>Quercus virginiana</i>	33%	5
<i>Liquidambar styraciflua</i>	33%	3
<i>Andropogon capillipes var. 1</i>	33%	2
<i>Dichantherium sp.</i>	33%	2
<i>Itea virginica</i>	33%	2
<i>Taxodium distichum</i>	33%	2
<i>Vaccinium sp.</i>	33%	2
<i>Andropogon glaucopsis</i>	33%	2
<i>Carex sp.</i>	33%	2
<i>Diospyros virginiana</i>	33%	2
<i>Magnolia virginiana</i>	33%	2
<i>Rhexia mariana var. ventricosa</i>	33%	2
<i>Smilax glauca</i>	33%	2
<i>Smilax walteri</i>	33%	2
<i>Toxicodendron radicans var. radicans</i>	33%	2
<i>Clethra alnifolia</i>	33%	1
<i>Gelsemium sempervirens</i>	33%	1
<i>Rhus copallinum</i>	33%	1
<i>Rhynchospora sp.</i>	33%	1

Floristic table for Group :

XI.B.1: Quercus phellos / Carex (albolutescens, intumescens, jorii) - Chasmanthium sessiliflorum / Sphagnum lescurii Forest (CEGL007403)

Number of Plots: 1
 Average Species Richness: 41 Species listed: 41
 Average Plot Size: 1000 May be > avg. spp. richness
 Homoteneity: 100 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Quercus phellos</i>	100%	9
<i>Ilex opaca</i> var. <i>opaca</i>	100%	7
<i>Nyssa sylvatica</i>	100%	7
<i>Quercus nigra</i>	100%	7
<i>Gaylussacia frondosa</i>	100%	6
<i>Liquidambar styraciflua</i>	100%	6
<i>Quercus falcata</i>	100%	5
<i>Vaccinium fuscatum</i>	100%	5
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100%	5
<i>Acer rubrum</i>	100%	4
<i>Gelsemium sempervirens</i>	100%	4
<i>Smilax rotundifolia</i>	100%	4
<i>Symplocos tinctoria</i>	100%	3
<i>Vaccinium arboreum</i>	100%	3
<i>Amelanchier</i> sp.	100%	2
<i>Callicarpa americana</i>	100%	2
<i>Carex</i> sp.	100%	2
<i>Chasmanthium laxum</i>	100%	2
<i>Eubotrys racemosa</i>	100%	2
<i>Hypericum hypericoides</i>	100%	2
<i>Magnolia virginiana</i>	100%	2
<i>Mitchella repens</i>	100%	2
<i>Morus rubra</i>	100%	2
<i>Pinus taeda</i>	100%	2
<i>Prunus serotina</i> var. <i>serotina</i>	100%	2
<i>Quercus stellata</i>	100%	2
<i>Rhus copallinum</i>	100%	2
<i>Smilax glauca</i>	100%	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	100%	2
<i>Vaccinium pallidum</i>	100%	2
<i>Vaccinium tenellum</i>	100%	2
<i>Carya alba</i>	100%	1
<i>Chimaphila maculata</i>	100%	1
<i>Diospyros virginiana</i>	100%	1
<i>Euonymus americanus</i>	100%	1
<i>Parthenocissus quinquefolia</i>	100%	1
<i>Rubus</i> sp.	100%	1
<i>Sassafras albidum</i>	100%	1
<i>Unknown</i> sp.	100%	1
<i>Vaccinium formosum</i>	100%	1
<i>Vaccinium stamineum</i>	100%	1

Floristic table for Group :

XI.C.1: Taxodium distichum - Taxodium ascendens / Panicum hemitomon - Sclerolepis uniflora Woodland (CEGL004465)

Number of Plots: 2
 Average Species Richness: 22 Species listed: 27
 Average Plot Size: 150 May be > avg. spp. richness
 Homoteneity: 70 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Sclerolepis uniflora</i>	100%	6
<i>Taxodium distichum</i>	100%	4
<i>Panicum hemitomon</i>	100%	4
<i>Boltonia asteroides</i>	100%	3
<i>Taxodium ascendens</i>	100%	3
<i>Bacopa caroliniana</i>	100%	3
<i>Nymphoides aquatica</i>	100%	3
<i>Hydrocotyle umbellata</i>	100%	2
<i>Pluchea baccharis</i>	100%	2
<i>Sagittaria graminea</i>	100%	2
<i>Centella erecta</i>	100%	2
<i>Utricularia subulata</i>	50%	5
<i>Cladium mariscoides</i>	50%	3
<i>Ludwigia sphaerocarpa</i>	50%	2
<i>Luziola fluitans var. fluitans</i>	50%	2
<i>Cephalanthus occidentalis</i>	50%	2
<i>Dichantherium erectifolium</i>	50%	2
<i>Eriocaulon aquaticum</i>	50%	2
<i>Lachnanthes caroliniana</i>	50%	2
<i>Nymphaea odorata</i>	50%	2
<i>Nyssa biflora</i>	50%	2
<i>Poaceae sp.</i>	50%	2
<i>Pontederia cordata var. lancifolia</i>	50%	2
<i>Rhexia cubensis</i>	50%	2
<i>Rhynchospora elliotii</i>	50%	2
<i>Smilax rotundifolia</i>	50%	2
<i>Xyris smalliana</i>	50%	2

Floristic table for Group :

**XII.A.1: Nuphar sagittifolia – Eriocaulon aquaticum Lakeshore
Herbaceous Vegetation (CEGL004297)**

Number of Plots: 1
 Average Species Richness: 6 Species listed: 6
 Average Plot Size: 200 May be > avg. spp. richness
 Homoteneity: 100 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Nuphar sagittifolia</i>	100%	7
<i>Sagittaria graminea</i>	100%	4
<i>Taxodium distichum</i>	100%	3
<i>Tillandsia usneoides</i>	100%	3
<i>Najas sp.</i>	100%	2
<i>Eriocaulon aquaticum</i>	100%	1

Floristic table for Group :

XIII.A.1: Hydrilla verticillata Herbaceous Vegetation (CEGL004702)

Number of Plots: 1
 Average Species Richness: 12 Species listed: 12
 Average Plot Size: 100 May be > avg. spp. richness
 Homoteneity: 100 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Alternanthera philoxeroides</i>	100%	9
<i>Lemna sp.</i>	100%	5
<i>Hydrocotyle ranunculoides</i>	100%	4
<i>Bacopa caroliniana</i>	100%	2
<i>Lycopus sp.</i>	100%	2
<i>Panicum sp.</i>	100%	2
<i>Panicum sp. #2</i>	100%	2
<i>Persicaria sp.</i>	100%	2
<i>Bidens sp.</i>	100%	1
<i>Galium obtusum var. obtusum</i>	100%	1
<i>Physostegia leptophylla</i>	100%	1
<i>Sium suave</i>	100%	1

Floristic table for Group :

XIV.A.1: Quercus hemisphaerica – Pinus taeda – (Quercus nigra) / Osmanthus americanus var. americanus / Ilex glabra Forest (CEGL007022)

Number of Plots: 1
 Average Species Richness: 35 Species listed: 35
 Average Plot Size: 1000 May be > avg. spp. richness
 Homoteneity: 100 due to ties

Species	Avg Cover	
	Constancy	Class
<i>Quercus hemisphaerica</i>	100%	8
<i>Gaylussacia frondosa</i>	100%	7
<i>Osmanthus americanus</i>	100%	6
<i>Pinus taeda</i>	100%	6
<i>Clethra alnifolia</i>	100%	4
<i>Cyrilla racemiflora</i>	100%	4
<i>Magnolia virginiana</i>	100%	4
<i>Nyssa sylvatica</i>	100%	4
<i>Vaccinium elliotii</i>	100%	3
<i>Acer rubrum var. rubrum</i>	100%	2
<i>Diospyros virginiana</i>	100%	2
<i>Eubotrys racemosa</i>	100%	2
Lichen	100%	2
<i>Morella cerifera</i>	100%	2
Moss	100%	2
<i>Persea palustris</i>	100%	2
<i>Pteridium aquilinum var. pseudocaudatum</i>	100%	2
<i>Smilax glauca</i>	100%	2
<i>Smilax laurifolia</i>	100%	2
<i>Taxodium ascendens</i>	100%	2
<i>Taxodium distichum</i>	100%	2
<i>Tillandsia usneoides</i>	100%	2
<i>Vaccinium stamineum</i>	100%	2
<i>Berchemia scandens</i>	100%	1
<i>Bignonia capreolata</i>	100%	1
<i>Dichantherium portoricense</i>	100%	1
<i>Gelsemium sempervirens</i>	100%	1
<i>Ilex coriacea</i>	100%	1
<i>Ilex glabra</i>	100%	1
<i>Lyonia lucida</i>	100%	1
<i>Mitchella repens</i>	100%	1
<i>Sassafras albidum</i>	100%	1
<i>Vitis rotundifolia var. rotundifolia</i>	100%	1
<i>Woodwardia areolata</i>	100%	1
<i>Woodwardia virginica</i>	100%	1

Floristic table for Group :

XV.A.1: <i>Nyssa biflora</i> - (<i>Nyssa aquatica</i> , <i>Taxodium distichum</i>) Tidal Forest (CEGL004484)		Species		Constancy	Avg Cover Class
Number of Plots:	3		<i>Taxodium ascendens</i>	33%	5
Average Species Richness:	57	Species listed: 123	<i>Sabal minor</i>	33%	4
Average Plot Size:	633	May be > avg. spp. richness	<i>Acer saccharinum</i>	33%	3
Homoteneity:	47	due to ties	<i>Arundinaria tecta</i>	33%	3
			<i>Carex bebbii</i>	33%	3
			<i>Mikania scandens</i>	33%	3
			<i>Sagittaria lancifolia</i>	33%	3
			<i>Sagittaria lancifolia</i>	33%	3
Species	Constancy	Avg Cover Class			
<i>Nyssa biflora</i>	100%	7	<i>Nymphoides sp.</i>	33%	2
<i>Taxodium distichum</i>	100%	6	<i>Panicum hemitomom</i>	33%	2
<i>Nyssa aquatica</i>	100%	6	<i>Panicum sp.</i>	33%	2
<i>Fraxinus caroliniana</i>	100%	5	<i>Sagittaria sp.</i>	33%	2
<i>Persicaria sp.</i>	100%	3	<i>Triadenum tubulosum</i>	33%	2
<i>Tillandsia usneoides</i>	100%	3	<i>Ulmus americana</i>	33%	2
<i>Smilax walteri</i>	100%	2	<i>Ampelaster carolinianus</i>	33%	2
<i>Poaceae sp.</i>	100%	2	<i>Campsis radicans</i>	33%	2
<i>Dulichium arundinaceum var. arundinaceum</i>	100%	2	<i>Carex radiata</i>	33%	2
<i>Boehmeria cylindrica</i>	100%	2	<i>Carex rosea</i>	33%	2
<i>Saururus cernuus</i>	67%	6	<i>Carex sect. Ovales sp.</i>	33%	2
<i>Liquidambar styraciflua</i>	67%	6	<i>Carex sp. #3</i>	33%	2
<i>Alnus serrulata</i>	67%	5	<i>Cornus foemina</i>	33%	2
<i>Pontederia sp.</i>	67%	5	<i>Crataegus viridis</i>	33%	2
<i>Acer rubrum var. trilobum</i>	67%	5	<i>Dichanthelium dichotomum var. dichotomum</i>	33%	2
<i>Fraxinus pennsylvanica</i>	67%	4	<i>Diospyros virginiana</i>	33%	2
<i>Quercus laurifolia</i>	67%	4	<i>Gelsemium sempervirens</i>	33%	2
<i>Carpinus caroliniana</i>	67%	3	<i>Gelsemium sp.</i>	33%	2
<i>Morella cerifera</i>	67%	3	<i>Glyceria sp.</i>	33%	2
<i>Carex sp.</i>	67%	3	<i>Hydrocotyle sp.</i>	33%	2
<i>Carex louisianica</i>	67%	2	<i>Ipomoea sp.</i>	33%	2
<i>Vaccinium elliotii</i>	67%	2	<i>Justicia ovata</i>	33%	2
<i>Carex sp. #2</i>	67%	2	<i>Ludwigia palustris</i>	33%	2
<i>Hydrocotyle verticillata</i>	67%	2	<i>Lycopus rubellus</i>	33%	2
<i>Hypoxis curtissii</i>	67%	2	<i>Myriophyllum heterophyllum</i>	33%	2
<i>Mitchella repens</i>	67%	2	<i>Onoclea sensibilis var. sensibilis</i>	33%	2
<i>Planera aquatica</i>	67%	2	<i>Osmunda regalis var. spectabilis</i>	33%	2
<i>Asclepias perennis</i>	67%	2	<i>Persea palustris</i>	33%	2
<i>Carex crus-corvi</i>	67%	2	<i>Persicaria sp. #2</i>	33%	2
<i>Cephalanthus occidentalis</i>	67%	2	<i>Platanthera flava var. flava</i>	33%	2
<i>Commelina virginica</i>	67%	2	<i>Rhynchospora miliacea</i>	33%	2
<i>Decumaria barbara</i>	67%	2	<i>Rubus sp.</i>	33%	2
<i>Itea virginica</i>	67%	2	<i>Sagittaria latifolia</i>	33%	2
<i>Lycopus sp.</i>	67%	2	<i>Smilax rotundifolia</i>	33%	2
<i>Quercus lyrata</i>	67%	2	<i>Triadenum walteri</i>	33%	2
<i>Smilax laurifolia</i>	67%	2	<i>Typha sp.</i>	33%	2
<i>Toxicodendron radicans var. radicans</i>	67%	2	<i>Vitis cinerea</i>	33%	2
<i>Viola sp.</i>	67%	2	<i>Zizaniopsis miliacea</i>	33%	2
<i>Pluchea camphorata</i>	67%	1	<i>Amphicarpaea bracteata</i>	33%	1
<i>Alternanthera philoxeroides</i>	33%	6	<i>Angelica sp.</i>	33%	1
<i>Ludwigia sp.</i>	33%	6	<i>Bacopa sp. #2</i>	33%	1
<i>Bacopa sp.</i>	33%	5	<i>Bidens sp.</i>	33%	1
<i>Phanopyrum gymnocarpon</i>	33%	5	<i>Carex intumescens</i>	33%	1
			<i>Carex lupulina</i>	33%	1

Species	Avg Cover	
	Constancy	Class
<i>Carex sect. Ouales</i>	33%	1
<i>Carex sp. #4</i>	33%	1
<i>Carex typhina</i>	33%	1
<i>Carya aquatica</i>	33%	1
<i>Centella erecta</i>	33%	1
<i>Crataegus sp.</i>	33%	1
<i>Cyperus pseudovegetus</i>	33%	1
<i>Cyrilla racemiflora</i>	33%	1
<i>Dichanthelium commutatum var. commutatum</i>	33%	1
<i>Dichanthelium yadkinense</i>	33%	1
<i>Eubotrys racemosa</i>	33%	1
<i>Eupatorium capillifolium</i>	33%	1
<i>Galium sp.</i>	33%	1
<i>Hypericum hypericoides</i>	33%	1
<i>Ilex decidua var. decidua</i>	33%	1
<i>Ilex opaca var. opaca</i>	33%	1
<i>Iris virginica</i>	33%	1
<i>Juncus tenuis</i>	33%	1
<i>Lamiaceae sp.</i>	33%	1
<i>Peltandra virginica</i>	33%	1
<i>Pinus taeda</i>	33%	1
<i>Pleopeltis polypodioides ssp. michauxiana</i>	33%	1
<i>Pontederia cordata</i>	33%	1
<i>Populus heterophylla</i>	33%	1
<i>Rhynchospora sp.</i>	33%	1
<i>Sabatia sp.</i>	33%	1
<i>Spiranthes sp.</i>	33%	1
<i>Viola tripartita var. tripartita</i>	33%	1
<i>Woodwardia areolata</i>	33%	1