

**Natural vegetation of the Carolinas:
Classification and description of
plant communities of Bladen County, NC and vicinity**

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

Bladen County and its surroundings is host to a variety of unique natural plant communities. Terrestrial, riverine, and nonriverine wetland natural communities form a large proportion of the land coverage within this part of the state. This is largely due to the sterility of the regional soils and extensive peatland formations which limited landscape conversion to farmland. The Cape Fear River forms the major riverine drainage for Bladen County. Along the river, there is a mosaic of alluvial plant communities, such as levee and terrace forests, rich mesic slope forests, floodplain hardwood swamps, and cypress swamps. Other river systems that drain Bladen County include the South and Lumber Rivers. The area east of the Cape Fear River, however, contains arguably the most unique vegetated landscape within Bladen County. This area is home to the largest extent of Carolina bay habitat left in the world. These elliptical-shaped depressions have very limited drainage, and large portions of the bays are composed of dense shrub thickets. In spite of a general awareness of these riverine and Carolina bay communities, there previously had not been any vigorous assessment of their composition and structure. Knowledge of the vegetation composition and structure of these communities can inform management decisions and direct future restoration projects.

In May 2006, the Carolina Vegetation Survey conducted an initial inventory of natural plant communities within Bladen County and surrounding areas. The objectives of the study were to define and characterize the vegetation of this poorly described area. 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 define a classification structure based on our synthesis of vegetation data obtained from the May 2006 plots, and to use the resulting information to develop restoration targets for disturbed ecosystems located in this general region.

STUDY AREA AND FIELD METHODS

During May 2006, a total of 52 vegetation plots were established in and around Bladen County, North Carolina (Figure 1). Focus locations within the study area included Bladen Lakes State Forest, Singletary Lake State Park, Jones Lake State Park, Suggs Mill Pond Game Land, Bushy Bay Sand Ridge, South River, Black River, Walkers Bluff, Cape Fear Bluffs, Cape Fear Lowlands, and The Big Swamp. Target natural communities included Pond Pine Woodland, Peatland Atlantic White Cedar Forest, Low Pocosin, High Pocosin, Coastal Plain Small Stream Swamp, Mixed Mesic Hardwood Forest, Coastal Plain Bottomland Hardwoods, Cypress-Gum Swamp and Brownwater Levee Forest.

Vegetation was sampled following the North Carolina Vegetation Survey protocol described in Peet et al. (1998), and data collected conforms to established and proposed federal standards (see: Jennings et al. 2007, and Federal Geographic Data Committee 2007). 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.

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, including 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 identifier (NatureServe CEGL code). 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 the standards employed by the VegBank archive and the proposed US Federal standards (see Jennings et al. 2007): Excellent, Good, Fair, Poor (similar but wrong), and Bad (unambiguously wrong). In some cases it was necessary to assign a plot to more than one community because of its intermediate character. In 34 of the 52 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 poor or fair, 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 decreasing constancy among plots, with 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).

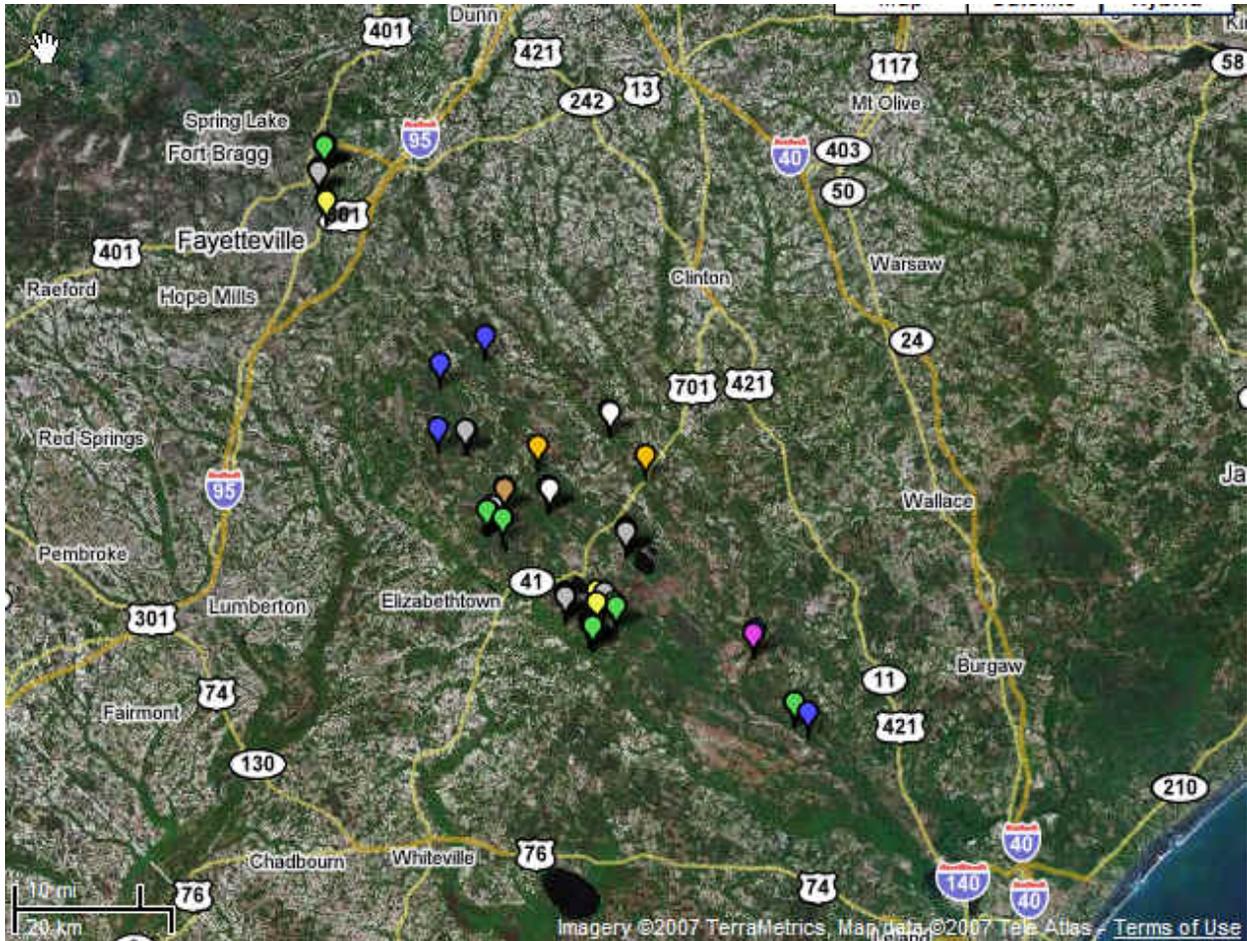


FIGURE 1. Pulse 2006a sample region and established plots, Map courtesy of VegBank:

http://vegbank.org/vegbank/views/map_userplots.jsp?latlongfile=http://www.bio.unc.edu/faculty/peet/lab/CVS/maps/75-points.csv

Our classification yielded assignments to 34 community associations, from 18 Ecological Groups and 8 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 stratum while a '/' separates species of different strata. Average cover class was calculated using the geometric mean of the true cover range for each cover class. These values were then averaged and converted back to cover classes.

ASSOCIATIONS

I. Coastal Plain mixed mesic forests

A. Eutrophic Mesic Forests

Eutrophic mesic forests of the inner coastal plain have been heretofore poorly documented with no plots previously documenting their composition. We identified and sampled a number of sites along the bluffs of the Cape Fear River.

- 1) *Quercus alba* – *Carya glabra* – *Carya alba* / *Aesculus pavia* Forest (CEGL007225)
http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.689571

NVC Fit = Fair

Plots = 075-03-1001, 075-04-1002

This nutrient-rich mesic Coastal Plain forest is dominated by a canopy of *Quercus alba*, *Quercus shumardii* var. *shumardii*, *Carya cordiformis*, *Carya glabra*, *Liquidambar styraciflua*, *Acer floridanum*, and *Fagus grandifolia* var. *caroliniana*. In these plots, *Aesculus sylvatica* is a common component in the shrub strata (rather than *Aesculus pavia* noted in the NVC definition of this community type. Subcanopy composition is variable and can contain *Acer floridanum*, *Ulmus alata*, and *Liquidambar styraciflua*. Other constant species include *Parthenocissus quinquefolia*, *Lonicera japonica*, *Toxicodendron radicans* var. *radicans*, *Fraxinus americana*, *Carex blanda*, *Morus rubra*, and *Asimina triloba*. 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.



- 2) *Fagus grandifolia* – *Quercus alba* - (*Acer barbatum*) / Mixed Herbs Forest (CEGL007206)
http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.685944

NVC Fit =Fair?

Plots = 075-04-1010, 075-08-1002

This vegetation type is dominated by a closed canopy of both *Fagus grandifolia* var. *caroliniana* and *Acer floridanum*. Other trees found in this plot include *Carya cordiformis*, *Fraxinus americana*, *Liquidambar styraciflua*, *Quercus pagoda*, and *Ulmus americana*. Moderately diverse shrub and herbaceous strata include *Laportea canadensis*, *Lindera benzoin* var. *pubescens*, *Staphylea trifolia*, *Prunus caroliniana* and *Podophyllum peltatum*. The NVC recognizes the need for a better definition of this community type, including its relationships with other eutrophic mesic forests of the Atlantic

Coastal Plain.
Furthermore, these plots lack *Quercus alba*, a diagnostic canopy species for this community.



B. Mesotrophic Mesic Forests

1) *Quercus alba* – *Carya glabra* / Mixed Herbs Coastal Plain (CEGL007226)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUid=ELEMENT_GLOBAL.2.685135

NVC Fit = Fair?

Plots = 075-02-1007

This oak-hickory forest type is primarily found on the east Gulf Coastal Plain, but is also attributed to the Atlantic slope. The type is dominated by *Quercus alba*, *Carya ovata*, *Fagus grandifolia* var. *caroliniana*, *Quercus shumardii* var. *shumardii*, *Acer floridanum*, and *Carya alba*. Shrub and mid-story dominants include *Carpinus caroliniana* var. *caroliniana*, *Cornus florida*, *Asimina triloba*, and *Nyssa sylvatica*. Herbs found on this plot include *Festuca subverticillata*, *Carex abscondita*, *Chasmanthium sessiliflorum* var. *sessiliflorum*, *Carex laxiflora*, *Dichanthelium commutatum* var. *commutatum*, and *Smilax rotundifolia*. This is a broadly defined community type within the NVC and regional diagnostic vegetation components have not yet been established. This plot lacks a *Carya glabra* component used to define this type across the southeast. Although our plot fits CEGL007226 reasonably well, the whole type is in need of a more complete characterization, which might lead to recognition of a distinct Atlantic slope type.

2) *Quercus rubra* – *Quercus alba* – *Carya glabra* / *Geranium maculatum* Forest (CEGL007237)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUid=ELEMENT_GLOBAL.2.683335

NVC Fit = Fair

Plots = 075-04-1009

This vegetation community is composed of *Quercus alba*, *Quercus shumardii* var. *shumardii*, *Carya cordiformis*, *Acer floridanum*, *Fagus grandifolia* var. *caroliniana*, and *Liquidambar styraciflua* in the canopy. Important shrub species include *Aesculus sylvatica*, *Asimina triloba*, *Lindera benzoin* var. *pubescens*, and *Ulmus rubra*. The herbaceous stratum is highly diverse in this plot and includes species such as *Carex grisea*, *Euonymus americanus*, *Galium aparine*, *Geranium maculatum*, *Osmorhiza longistylis*, *Polystichum acrostichoides*, *Phryma leptostachya* var. *leptostachya*, and *Viola pubescens* var. *scabriuscula*. This plot was found on a bluff of the Cape Fear River in Cumberland County, North Carolina. The NVC defines this community type as occurring only within the Piedmont Physiographic

Province, but at the steep topography and proximity to the Piedmont Seem sufficient to recognize this type on the Coastal Plain, despite the absence of the indicator species *Quercus rubra var rubra*.



3) *Quercus hemisphaerica* – *Magnolia grandiflora* – *Carya (glabra, pallida)* / *Vaccinium arboreum* / *Chasmanthium sessiliflorum* Forest (CEGL004788)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.683553

NVC Fit =Poor

Plots = 075-04-1011

This plot records a mesotrophic mesic forest of stream and river bluffs dominated by *Carya pallida*, *Fagus grandifolia var. caroliniana*, *Liquidambar styraciflua*, *Quercus velutina*, *Quercus alba*, and *Quercus stellata* in the canopy. Subcanopy species include *Carpinus caroliniana var. caroliniana*, *Ilex opaca var. opaca*, and *Nyssa sylvatica*. Typical shrub species encountered include *Persea palustris*, *Rhododendron canescens*, *Symplocos tinctoria*, and *Vaccinium arboreum*. Typical herbs include *Chasmanthium sessiliflorum var. sessiliflorum*, *Dichanthelium commutatum var. commutatum*, *Galium circaezans var. circaezans*, *Mitchella repens*, and *Smilax bona-nox*. This plot perhaps best fits CEGL004788 among the current NVC types, but is differentiated from the NVC description by its lack of either *Quercus hemisphaerica* or *Magnolia grandiflora* in the canopy, and its occurrence north of the South Carolina Coastal Plain where more typical examples can be found within the Frances Marion National Forest.

II. Coastal Plain fire-maintained woodlands

A. Wet-Mesic Pine Savannas and Flatwoods

1) *Pinus palustris* – (*Pinus serotina*) / *Ilex glabra* – *Gaylussacia frondosa* – (*Kalmia carolina*) Woodland (CEGL003647)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.683713

NVC Fit = Fair

Plots = 075-02-1002

This Atlantic Coastal Plain flatwoods community is dominated by an open canopy of both *Pinus palustris* and *Pinus serotina*. A dense shrub layer ranges from 0 – 1 meter in height and includes *Gaylussacia frondosa*, *Kalmia angustifolia*, *Vaccinium crassifolium*, *Ilex coriacea*, and *Clethra alnifolia*. The NVC recognizes the need to better classify these rare community types. Our particular plot is largely shrub dominated with a few *Pinus serotina* and not *P. palustris*, making the assignment problematic

B. Dry-Mesic Pine-Oak Woodlands

1) *Pinus palustris* / *Quercus laevis* – *Quercus (incana, margarettiae)* / *Gaylussacia dumosa* / *Aristida stricta* Woodland (CEGL003591)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.686413

NVC Fit = Fair

Plots = 075-04-1007, 075-04-1008

The open canopy of this pine - oak woodland is dominated by *Pinus palustris*. The shrub stratum is composed of a diversity

of scrubby oaks with some *Quercus laevis*, but especially *Q. margaretta*, and *falcata*. Graminoids such as *Aristida stricta*, *Andropogon virginicus*, *Andropogon ternarius var. ternarius*, *Aristida purpurea var. longiseta*, and *Schizachyrium scoparium var. scoparium* dominate the herb stratum. Typical herbaceous indicators of



somewhat silty sites relatively abundant on the plots include *Arnoglossum atriplicifolium*, *Ceanothus americanus var. intermedius*, *Robinia nana*, *Tephrosia virginiana*, and *Toxicodendron pubescens*. Other common herbs include *Euphorbia pubentissima*, *Hypericum hypericoides*, and *Solidago odora var. odora*. These plots are higher in diversity than the IVC definition for this dry pine – oak woodland.

The somewhat silty yellow sand substrate is highly unusual for this region, and the abundance of silt-indicating forbs, and especially legumes, sets these plots apart from previously documented examples of CEGL003591. Indeed, the type has not previously been documented in North Carolina outside the fall-line sandhills and may be sufficiently unusual to justify creation of a new community type if further examples can be identified.

2) *Pinus palustris* / *Quercus laevis* / *Aristida stricta* / *Cladonia* spp. Woodland (CEGL003584)
http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.685300

NVC Fit = Excellent

Plots = 075-01-1006

This plot represents a very xeric sand barren found on Big White Bay in Cumberland County, NC. The canopy is composed of *Quercus laevis*, with *Pinus palustris* and *Pinus serotina* occurring but very sparse. Low shrubs and herbs are sparsely scattered throughout and include such species as *Gaylussacia dumosa*, *Arundinaria tecta*, *Lyonia mariana*, and *Hypericum tenuifolium*. Of particular note is the abundance of the sand barren indicator *Chrysoma pauciflosculosa*, a species very rare in North Carolina, known only from a few sites spread over a three-county area.

3) *Pinus palustris* / *Quercus incana* / *Aristida stricta* – *Sorghastrum nutans* – *Anthaenantia villosa* Woodland (CEGL003578)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.688272

NVC Fit = Fair

Plots = 075-05-1001

This plot is located in on a sand rim nearby Lake Bagget in the Sandhills Game Lands (Richmond County, NC). The community type is typically found on upland slopes, flats, or shallow swales and is associated with more mesic, silty site conditions than other longleaf pine flatwoods. The open canopy is composed of *Pinus palustris*, *Quercus laevis*, and *Quercus margaretta*. Herbs found on this plot include *Andropogon gerardii*, *Andropogon ternarius* var. *ternarius*, *Aristida lanosa*, *Desmodium ciliare*, *Eupatorium album* var. *album*, *Helianthus atrorubens*, *Helianthus divaricatus*, *Brickellia eupatorioides* var. *eupatorioides*, *Rhus michauxii*, *Symphytotrichum concolor* var. *concolor*, and *Tephrosia virginiana*. This is a classic bean depression of the type described by James (2000). The NVC describes the herb stratum of this community type as dominated by *Aristida stricta*, which was absent in this plot, suggesting this plot to be representative of a more silty soil than is typically associated with CEGL003578.

III. Coastal Plain Brownwater River Forests

A. Levee and Floodplain Forests

1) *Celtis laevigata* – *Fraxinus pennsylvanica* – *Acer negundo* – (*Juglans nigra*) / *Asimina triloba* / *Carex grayi* Forest (CEGL004740)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.689854

NVC Fit = Excellent

Plots = 075-02-1004

This community is a classic levee forest of brownwater rivers along the Atlantic Coastal Plain of the Carolinas. Dominant tree species include *Acer negundo* var. *negundo*, *Celtis laevigata*, *Carya cordiformis*, *Juglans nigra*, *Quercus shumardii* var. *shumardii*, and *Ulmus americana*. The subcanopy and shrub strata are composed of *Asimina triloba*, *Aesculus sylvatica*, *Ligustrum sinense*, and *Ilex decidua*

var. decida. The herb stratum is species rich and includes *Carex grayi*, *Carex amphibola*, *Carex jamesii*, *Elymus virginicus var. virginicus*, and *Laportea canadensis*.

2) *Populus deltoides* / *Acer negundo* / *Boehmeria cylindrica* Forest (CEGL007731)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUid=ELEMENT_GLOBAL.2.684908

NVC Fit = Excellent

Plots = 075-07-1002

This brownwater river levee forest is dominated by a canopy of *Populus deltoides var. deltoides*. Other trees found here include *Acer negundo var. negundo*, *Celtis laevigata*, *Fraxinus americana*, *Platanus occidentalis var. occidentalis*, and *Ulmus americana*. The herb and shrub strata are sparse in this community, but include *Carex grayi*, *Carex scoparia var. scoparia*, *Carex typhina*, *Laportea canadensis*, and *Elymus virginicus*. There is an abundance of high climbing vines within this community type. Species include *Parthenocissus quinquefolia*, *Toxicodendron radicans var. radicans*, *Smilax bona-nox*, *Smilax hispida*, and *Bignonia capreolata*. The current description is largely based on plots from the Congaree National Monument in South Carolina, but this North Carolina example clearly belongs to the type and should help in the development of a more robust description.

3) *Platanus occidentalis* – *Celtis laevigata* – *Fraxinus pennsylvanica* / *Lindera benzoin* – *Ilex deciduas* / *Carex retroflexa* Forest (CEGL007730)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUid=ELEMENT_GLOBAL.2.687763

NVC Fit = Good

Plots = 075-07-1003

This brownwater river levee forest of the Atlantic Coastal Plain and lower Piedmont is dominated by a canopy of *Platanus occidentalis var. occidentalis*. Other trees found here include *Aesculus sylvatica*, *Celtis laevigata*, and *Populus deltoides var. deltoides*. Important shrub species in this community include *Asimina triloba* and *Lindera benzoin var. pubescens*. The herbaceous stratum is sparse and includes *Carex grayi*, *Galium aparine*, and *Laportea canadensis*. The current description is largely based on plots from the Congaree National Monument in South Carolina, but this North Carolina example clearly belongs to the type and should help in the development of a more robust description.

4) *Quercus laurifolia* – *Quercus michauxii* – *Liquidambar styraciflua* / *Carpinus caroliniana* Forest (CEGL004678)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUid=ELEMENT_GLOBAL.2.683670

NVC Fit = Fair

Plots = 075-07-1006

This plot represents high floodplain terrace forest of the Atlantic Coastal Plain. It fits the description of CEGL004678 reasonably well except that the *Quercus* species are typical of dryer sites than the *Quercus* species emphasized in the type description (*laurifolia*, *michauxii*, *phellos*, *pagoda*). Instead, dominant canopy species include *Carya alba*, *Fagus grandifolia var. caroliniana*, *Liquidambar styraciflua*, and *Quercus alba*. In the subcanopy, *Carpinus caroliniana var. caroliniana* and *Ilex opaca var. opaca* are co-dominants. Herb species diversity and richness are high in this community. Species encountered here include *Euonymus americanus*, *Festuca subverticillata*, *Carex debilis*, *Carex radiata*,

Scleria oligantha, and *Uvularia sessilifolia*. The abundance of *Arundinaria gigantea* is also typical of this type.



B. Brown-water Swamp Forests

1) *Taxodium distichum* – *Nyssa aquatica* / *Fraxinus caroliniana* Forest (CEGL007431)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUid=ELEMENT_GLOBAL.2.686827

NVC Fit = Good

Plots = 075-08-1003

This backswamp community of high-quality brownwater rivers of the Atlantic Coastal Plain is typically composed of a canopy of *Taxodium distichum*, *Nyssa aquatica*, and *Acer rubrum*. Plot 075-08-1003, which closely resembles the NVC description of this community type, includes *Nyssa aquatica* and *Quercus lyrata* as canopy co-dominants.



2) *Quercus lyrata* – *Quercus laurifolia* – *Taxodium distichum* / *Saururus cernuus* Forest (CEGL004735)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUid=ELEMENT_GLOBAL.2.689572

NVC Fit = Fair

Plots = 075-08-1004

This plot occurred as on a very low ridge within a backswamp along the Cape Fear River. Canopy dominants include *Quercus lyrata*, *Taxodium distichum*, *Fraxinus pennsylvanica*, *Liquidambar styraciflua*, and *Nyssa aquatica*. The herb stratum is composed of many species of *Carex*, including *typhina*, *crucicorvi*, *grayi*, *amphibola*, and *louisianica*. Other



herbs include *Panicum hemitomon* and *Myosotis macrosperma*. This plot and association (CEGL004735) are typical of the hardwood bottoms adjacent to *Taxodium*-*Nyssa* aquatic backswamps (CEGL007431). Nonetheless, 4735 is a rather broad and poorly defined community type within NVC and requires further characterization of its range of variation.

3) *Nyssa biflora* – (*Acer rubrum*) / *Ilex opaca* / *Leucothoe axillaris* / *Carex atlantica* ssp. *capillacea* Forest (CEGL004427)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.684512

NVC Fit = Good

Plot = 075-01-1007

This temporarily flooded hardwood swamp occurs along brownwater floodplains in the southeastern Coastal Plains. The NVC describes the community as constantly saturated from adjacent upland slopes, and rarely influenced by alluvial waters. The canopy is dominated by *Nyssa biflora*, with smaller amounts of *Acer rubrum* and *Taxodium*. Our example is not only influenced by local seepage, but has that seepage slightly impounded by beavers.

NVC Fit = Poor

Plots = 075-01-1008, 075-04-1012

Plots 01-1008, and 4-1012, appear to receive substantial and sustained groundwater water input from seepage from the base of the river bluff, thereby providing a more constant and more aerated water source, thus providing some affinity with CEGL004427. Perhaps this explains the unusual abundance of *Nyssa biflora*. However, they also have some affinity with the *Taxodium*-dominated CEGL007431, which more typically is characterized by a sparse shrub and herb strata and receives water almost exclusively from flooding over the levee that separates it from the main channel of the river. They also stand out in the unusually high diversity of herbaceous species. Species with high abundances include *Carex crinita*, *Carex radiata*, *Saururus cernuus*, and *Carex intumescens* var. *intumescens*. These plots may warrant a new association that represents a hybrid between a coastal plain seepage swamp

life CEGLO04427, a blackwater fringing hardwood forest such as CEGLO07719, and a floodplain backswamp such as CEGLO07431.



IV. Coastal Plain blackwater river forests

A. Black-water Swamp Forests

1) *Taxodium distichum* – *Nyssa biflora* / *Fraxinus caroliniana* / *Lyonia lucida* Forest (CEGLO04733)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.686425

NVC Fit = Good

Plots = 075-02-1003, 075-09-1008

This swamp forest association is relatively widespread along blackwater rivers of the North Carolina Coastal Plain. It is strongly influenced by the adjacent river's overbank flow. Standing water can collect in these flat, backswamps causing long periods of soil saturation. Representative tree species include *Taxodium distichum*, *Betula nigra*, *Nyssa biflora*, *Fraxinus caroliniana*, *Acer rubrum* var. *rubrum*, *Liquidambar styraciflua*, and *Quercus lyrata*. The herb stratum is more diverse in these plots than the formal community description of the association.

B. Black-water Fringing Hardwood Forests

1) *Taxodium distichum* – *Fraxinus pennsylvanica* – *Quercus laurifolia* / *Acer rubrum* / *Saururus cernuus* Forest (CEGLO07719)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.687855

NVC Fit = Fair

Plots = 075-09-1002

This Atlantic and Gulf Coastal Plain swamp –hardwood forest transition occurs in sloughs and other alluvial flats with a large percentage of silt in the soil. The canopy of this community type is composed of *Acer drummondii*, *Acer rubrum* var. *rubrum*, *Liquidambar styraciflua*, *Taxodium distichum*, *Quercus nigra*, *Q. lyrata*, and *Nyssa biflora*. Subcanopy species found in these plots include *Crataegus crus-galli*, *Betula nigra*, *Ilex decidua* var. *decidua*, *Carpinus caroliniana* var. *caroliniana*, and *Ulmus*

americana. The shrub stratum in these plots is rather sparse, while herb species diversity is moderately high. Vines such as *Smilax rotundifolia*, *Campsis radicans*, *Trachelospermum difforme*, *Campsis radicans*, and *Toxicodendron radicans* var. *radicans* were abundant in this plot. This community type requires further investigation based on its composition in response to variable inundation frequencies throughout its range.

2) *Quercus laurifolia* – *Quercus lyrata* / *Carpinus caroliniana* – *Persea palustris* / *Vaccinium elliotii* Forest (CEGL004737)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUid=ELEMENT_GLOBAL.2.683664

NVC Fit = Poor to Good

Plots = 075-01-1002, 075-03-1003,
075-06-1001, 075-09-1007

This community type occurs along ridges and terraces of blackwater rivers in the Atlantic Coastal Plain of the Carolinas. Constant canopy species include *Quercus laurifolia*, *Quercus lyrata*, *Liquidambar styraciflua*, *Acer rubrum*, and *Nyssa biflora*. Plot 075-01-1002, which corresponds well to the IVC description of this community type, had a subcanopy dominated by *Fraxinus caroliniana* and *Ilex decidua* var. *decidua*. Important herbs found in this plot included *Dichantherium yadkinense*, *Carex intumescens* var. *intumescens*, *Carex glaucescens*, and *Commelina virginica*. The other plots did not correspond as well to the NVC description, although their shrub strata were composed of the diagnostic *Vaccinium elliotii*. Both the occurrence of high species diversity and a significant portion of *Pinus taeda* relegated these plots to poor – medium fit categories within this community type.

C. Small Stream Forests

1) *Nyssa biflora* - *Quercus nigra* - *Quercus laurifolia* - *Pinus taeda* / *Ilex opaca* - *Carpinus caroliniana* Forest (CEGL007350)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUid=ELEMENT_GLOBAL.2.684868

IVC Fit = Good

Plot = 075-02-1001

This plot, located along the exit stream from Singletary Lake, is similar to small stream swamps of the Carolina Coastal Plain, except that it has bay forest attributes owing to its proximity to the bay-fringing peatland. The canopy is dominated by *Nyssa biflora*, with smaller amounts of *Acer rubrum*. The subcanopy is dominated by *Ilex opaca* var. *opaca*, with significant *Persea palustris*, and *Liquidambar styraciflua*. There are few herbs found within this plot, probably as a consequence of a soil that has a higher ratio of organic to mineral constituents than a typical small stream forest.

V. Coastal Plain lowland deciduous forests

A. Coastal Plain Hardwood Flats

1) *Quercus alba* – *Quercus (michauxii, nigra)* / *Ilex opaca* / *Chasmanthium laxum* Forest (CEGL007845)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUid=ELEMENT_GLOBAL.2.684856

NVC Fit = Fair

Plots = 075-09-1001

This community type occurs on uplands with poorly drained flats in the Outer Coastal Plain of the Carolinas and Georgia. The canopy of this wet forest is composed of *Quercus alba*, *Quercus shumardii* var. *shumardii*, *Ulmus alata*, *Liriodendron tulipifera* var. *tulipifera*, *Liquidambar styraciflua*, and *Fagus grandifolia* var. *caroliniana*. The subcanopy contains an abundance of *Carpinus caroliniana* var. *caroliniana*, *Acer floridanum*, and *Fagus grandifolia* var. *caroliniana*. The shrub stratum is virtually non-existent in this community. There is, however, a high diversity of herbs. Some of these include *Mitchella repens*, *Galium triflorum*, *Carex abscondita*, *Viola tripartita* var. *tripartita*, *Botrypus virginianus*, and *Poa cuspidata*. The diversity and richness of the vegetation within this plot separates it from the IVC community description.

2) *Quercus pagoda* – *Quercus michauxii* – *Quercus alba* / *Arundinaria gigantea* spp. *tecta* – *Sabal minor* / *Chasmanthium laxum* Forest (CEGL007849)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUid=ELEMENT_GLOBAL.2.688018

NVC Fit = Fair

Plots = 075-01-1001

This oak-dominated wet swale association is described from in the Outer Coastal Plain of South Carolina and Georgia. It is composed of both upland and bottomland species, and probably experiences flooding only during severe (e.g. hurricane) rain events, and then without significant overland flow. Canopy *Quercus* species diversity is high; species include *Quercus pagoda*, *Quercus michauxii*, *Quercus falcata*, *Quercus alba*, and *Quercus phellos*. Other canopy trees include *Fraxinus americana*, *Acer floridanum*, *Carya ovata*, and *Fagus grandifolia* var. *caroliniana*. The subcanopy and shrub strata are sparse within this plot. Species include *Ulmus alata*, *Ilex decidua* var. *decidua*, and *Liquidambar styraciflua*. Unlike the NVC community description, this plot does not contain either *Arundinaria tecta* or *Sabal minor*. Furthermore, this plot has much higher species richness values than acknowledged by the described community type. Herbaceous species found in this plot include *Poa cuspidata*, *Chasmanthium sessiliflorum* var. *sessiliflorum*, *Viola affinis*, and *Chasmanthium laxum*. Ultimately the original type concept will need to be modified, or a new type created.

B. Coastal Plain Nonriverine Swamp Forests

1) *Taxodium ascendens* / (*Nyssa biflora*) / *Leucothoe racemosa* – *Lyonia lucida* – *Morella cerifera*
Depression Forest (CEGL007420)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUid=ELEMENT_GLOBAL.2.683580

NVC Fit = Poor to Good

Plots = 075-04-1006, 075-08-1001

This community type occurs in wet, peaty depressions throughout the entire southeastern Coastal Plain. The canopy is typically dominated by *Taxodium ascendens*, although this species is absent from plot 075-08-1001. Other canopy dominants include *Nyssa biflora* and *Taxodium distichum*. The subcanopy and shrub strata are composed of *Persea palustris*, *Pinus*



serotina, *Clethra alnifolia*, *Lyonia lucida*, *Itea virginica*, and *Magnolia virginiana* var. *virginiana*. The herb community is dominated by *Woodwardia virginica*. The current description reads as if it serves as a placeholder for a great diversity of types across the Southeast; further data collection will be needed to determine the consistency of composition and assess the need for possible new types.

2) *Taxodium distichum* – *Nyssa biflora* / *Berchemia scandens* – *Toxicodendron radicans* /
Woodwardia areolata Forest (CEGL004429)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUid=ELEMENT_GLOBAL.2.688741

NVC Fit = Fair

Plots = 075-07-1001

This nonriverine swamp forest is dominated by a canopy of *Nyssa biflora*, *Taxodium distichum*, and *Acer rubrum* var. *trilobum* with a subcanopy of *Liquidambar styraciflua*. The shrub stratum is not well developed, but includes *Itea virginica*. The woody vine component is not as well developed in this plot as the IVC community description reads. Herbs found here include both *Woodwardia areolata* and *Woodwardia virginica*. Although this plot was located near Turnbull Creek, the distance from the creek was sufficient to fit the typically nonriverine character of CEGL004429.

VI. Coastal Plain lowland evergreen forests and shrublands

A. White cedar forests

- 1) *Chamaecyparis thyoides* / *Persea palustris* / *Lyonia lucida* – *Ilex coriacea* Forest (CEGL006146)
http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.688673

NVC Fit = Good

Plots = 075-02-1006, 075-04-1001

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



B. Bay Forests

- 1) *Gordonia lasianthus* – *Magnolia virginiana* – *Persea palustris* / *Sphagnum* ssp. Forest (CEGL007044)
http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.684012

NVC Fit = Poor to Good

Plots = 075-01-1003, 075-02-1005,
075-03-1002, 075-07-1004

This community is found on peaty seepage depressions on landforms with a high water table. The canopy in all four of these plots is dominated by a mixture of *Gordonia lasianthus*, *Persea palustris*, and *Magnolia virginiana* var. *virginiana*. Other canopy species include *Acer drummondii*, *Acer rubrum*, and *Nyssa biflora*. The shrub and vine component of these plots is patchy to dense, and includes *Lyonia lucida*, *Clethra alnifolia*, *Cyrilla racemiflora*, *Ilex coriacea*, *Gaylussacia frondosa*, *Leucothoe axillaris*, *Smilax laurifolia*, *Vitis rotundifolia* var. *rotundifolia*, and *Toxicodendron radicans* var. *radicans*. The high variability of the shrub and herb component of these plots warrants an examination of the NVC schema for this community type.

2) *Magnolia virginiana* – *Persea palustris* / *Lyonia lucida* Forest (CEGL007049)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.688884

IVC Fit = Poor

Plots = 075-03-1004

This saturated forest represents an intergrade to a shrub-dominated high pocosin of the Outer Coastal Plain of the southeastern United States. The open canopy of this community is composed of both *Acer rubrum* var. *trilobum* and *Magnolia virginiana* var. *virginiana*. The shrub stratum is dense and composed of many species. These include *Ilex coriacea*, *Lyonia lucida*, *Clethra alnifolia*, and *Ilex laevigata*. This plot differs from the IVC community description by having a diverse shrub stratum and by having a significant amount of *Arundinaria tecta* in the herb-shrub strata. It is also significantly north of the documented range of this association. The next closest match would be the *Gordonia* type described above (CEGL007044), though this plot completely lacks *Gordonia*.

C. Pocosins

1) *Cyrilla racemiflora* – *Zenobia pulverulenta* Shrubland (CEGL003943)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.684423

NVC Fit = Excellent

Plots = 075-01-1005

This community is defined as a low pocosin of peat domes within the outer Coastal Plain of North Carolina. A mixture of both evergreen and deciduous species is found within this community, and canopy heights are generally low (<15m for the scattered trees and ~2m for the dominating shrubs). In this plot, the open canopy is composed of *Pinus serotina*, *Gordonia lasianthus*, *Ilex laevigata*, and *Acer drummondii*. The extremely dense shrub stratum is composed of *Zenobia pulverulenta*, *Ilex coriacea*, *Smilax laurifolia*, and *Kalmia cuneata*. Abundant dead *Woodwardia virginica* covers the herbaceous stratum of this plot (cover class = 9), suggesting a steep decrease in herbaceous cover in the recent past.

D. Pond Pine Forests and Woodlands

1) *Pinus serotina* – *Gordonia lasianthus* / *Lyonia lucida* Woodland (CEGL003671)

http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.689441

NVC Fit = Fair to Good

Plots = 075-07-1005, 075-09-1003

075-09-1004, 075-09-1005

This woodland occurs along peat-filled Carolina bays within the Outer Coastal Plain of the Carolinas. The canopy is open in these areas and is co-dominated by *Pinus serotina* and *Gordonia lasianthus*. The dense shrub stratum is composed of *Ilex coriacea*, *Lyonia lucida*, *Smilax laurifolia*, *Persea palustris*, *Gaylussacia frondosa*, *Vaccinium formosum*, and *Magnolia virginiana* var. *virginiana*. Herbaceous species are essentially absent from this association.

VII. Coastal Plain Forested Seepage Slopes and Streamhead Wetlands

A. Forested Seepage slopes

1) NO DESCRIBED COMMUNITY

NVC Fit = n/a

Plots = 075-01-1009

This plot occurred on a limestone bluff overlooking the Black River in Sampson County, NC. The short, open canopy was composed of *Persea palustris*, *Pinus taeda*, *Betula nigra*, and *Ilex opaca* var. *opaca*. The shrub strata was relatively dense (total cover = 60%) and composed of *Clethra alnifolia*, *Carpinus caroliniana* var. *caroliniana*, *Lyonia lucida*, *Morella cerifera*, *Symplocos tinctoria*, *Hamamelis virginiana* var. *virginiana* and *Vaccinium formosum*. The herbaceous component of this plot was also dense (total cover = 70%) and included *Osmunda cinnamomea* var. *cinnamomea*, *Woodwardia areolata*, *Hypericum hypericoides*, *Viola lanceolata*, and *Elephantopus tomentosus*. This plot does not resemble any described association or alliance within the current NVC.

VIII. Coastal Plain ponds and marshes

A. Pond Cypress Savannas

1) *Taxodium ascendens* / *Cyrilla racemiflora* – *Zenobia pulverulenta* Woodland (CEGL003734) http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.684162

NVC Fit = Good

Plots = 075-01-1004

This seasonally flooded community type occurs over clay-based Carolina bays in the outer Coastal Plain of North Carolina.

The canopy dominant species in this plot is *Taxodium ascendens*, but other canopy species include *Magnolia virginiana* var. *virginiana*, *Acer rubrum*, and *Persea palustris*. The dense shrub stratum is composed of *Zenobia pulverulenta*, *Lyonia lucida*, *Smilax rotundifolia*, *Smilax laurifolia*, *Vaccinium fuscatum*, and *Vaccinium formosum*.



2) *Taxodium ascendens* / *Panicum hemitomom* – *Polygala cymosa* Woodland (CEGL003733)
http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.687749

NVC Fit = Poor or Fair

Plots = 075-04-1003, 075-04-1005

This seasonally flooded community type also occurs over clay-based Carolina bays in the outer Coastal Plain of North Carolina. The open canopy is composed of *Pinus serotina*, *Pinus taeda*, *Nyssa biflora*, and *Taxodium ascendens*. The NVC only lists pond cypress as a dominant canopy species for this community type. The herbaceous stratum is relatively diverse for a Carolina bay vegetation associate. Species that are present include *Andropogon glaucopsis*, *Lachanthes caroliniana*, *Rhexia nashii*, *Woodwardia virginica*, and *Eriocaulon compressum*. Considerable diversity exists among the various temporary sandhill pond communities and doubtless further elaboration of this diversity will follow with additional Associations or phases being described as more data become available.

B. Depression Pond Shrublands

1) *Vaccinium formosum* – *Vaccinium fuscatum* / *Sphagnum cuspidatum* Shrubland (CEGL003907)
http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.684312

NVC Fit = Fair

Plots = 075-04-1004

This depression pond community is dominated by a woody shrub and tree component. Dominant species include *Pinus palustris*, *Vaccinium fuscatum*, *Lyonia mariana*, and *Nyssa biflora*. This plot does not fit well with the NVC description of the community type and is transitional to upland longleaf pine.



2) *Panicum hemitomom* – *Eleocharis equisetoides* – *Rhynchospora inundata* Herbaceous Vegetation (CEGL004127)
http://www.natureserve.org/explorer/servlet/NatureServe?searchCommunityUId=ELEMENT_GLOBAL.2.688051

NVC Fit = Poor

Plots = 075-09-1006

This community is found over outer Coastal Plain limesink ponds. The two species found on the plot are *Panicum hemitomom* and *Xyris iridifolia*. The absence of the other community nominal species

sets this plot apart from the NVC description of this vegetation type. There is a clear need for study of the broad range of link-sink and other temporarily-ponded depressions of the Carolina Coastal Plain.

CONCLUSIONS AND FUTURE DIRECTIONS

Collected plots were assigned to 34 vegetation types. In some cases the plots site well into established types, but for the most part our plots deviate from the previous descriptions suggesting a need for substantial refinement of the NVC. In particular 21 plots only marginally fit within the classification, and 13 plots seemed to fit not at all. Appendix 2 provides a summary table for identified groups that do not fit well into the current IVC schema. As illustrated in the above descriptions, much work is needed to refine our understanding of Carolina Bay communities in the Coastal Plain of North Carolina. Additional plots established in the eastern portion of the state will be needed to increase our understanding of these under-sampled communities. For now, however, these current plots will provide a framework for future classification projects undertaken in the study area.

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Appendix 1: Soil Nutrient and Texture Values Summarized by Association. Specific soil variables represent the top 10 cm of soil and include pH, Organic Matter (%), exchangeable cations (Ca, Mg, K, Na, Mn; in ppm), and texture class (clay, silt, sand; as %).

I. COASTAL PLAIN MIXED MESIC FORESTS		pH	Organic Matter	Calcium	Magnesium	Potassium	Sodium	Maganese	Clay%	Silt%	Sand%
A. Eutrophic Mesic Forests											
1	CEGL007225	6.0	8.5	2129	354	88	33	207	25	57	18
2	CEGL007206	5.5	7.4	1979	275	74	28	176	22	48	30
B. Mesotrophic Mesic Forests											
1	CEGL007226	5.2	6.1	3211	288	166	36	63	35	37	29
2	CEGL007237	5.6	7.1	1457	261	100	28	139	21	46	32
3	CEGL004788	4.7	2.5	204	41	45	27	24	5	6	89
II. COASTAL PLAIN FIRE-MAINTAINED WOODLANDS											
A. Wet-Mesic Pine Savannahs and Flatwoods											
1	CEGL003647	3.9	2.0	188	50	7	54	1	1	2	97
B. Dry-Mesic Pine-Oak Woodlands											
1	CEGL003591	4.7	1.1	103	23	7	26	6	3	4	93
2	CEGL003584	4.9	0.5	88	20	3	24	1	1	1	99
3	CEGL003578	--	--	--	--	--	--	--	--	--	--
III. COASTAL PLAIN BROWNWATER RIVER FORESTS											
A. Levee and Floodplain Forests											
1	CEGL004740	5.8	10.5	2517	388	102	27	100	30	57	13
2	CEGL007731	4.9	5.6	1280	228	69	31	98	24	59	17
3	CEGL007730	5.2	6.9	2253	361	86	45	94	32	58	10
4	CEGL004678	4.4	5.5	291	86	81	29	44	15	30	55
B. Brown-water Swamp Forests											
1	CEGL007431	4.8	5.4	718	172	68	42	59	37	53	10
2	CEGL004735	4.7	5.7	642	150	74	36	37	36	61	3
3	CEGL004427	4.3	15.5	320	83	34	40	22	37	53	11
IV. COASTAL PLAIN BLACKWATER RIVER FORESTS											
A. Black-water Swamp Forests											
1	CEGL004733	4.7	6.8	392	115	66	43	3	7	18	74
B. Black-water Fringing Hardwood Forests											
1	CEGL007719	4.5	6.0	221	88	65	37	1	7	17	76
2	CEGL004737	4.3	8.3	260	97	73	42	2	11	21	68
C. Small Stream Forests											
1	CEGL007350	3.9	5.3	99	28	15	31	1	1	5	95

V. COASTAL PLAIN LOWLAND DECIDUOUS FORESTS			pH	Organic Matter	Calcium	Magnesium	Potassium	Sodium	Maganese	Clay%	Silt%	Sand%
A. Coastal Plain Hardwood Flats												
1	CEGL007845		4.6	6.4	364	195	72	35	97	6	64	30
2	CEGL007849		4.5	2.8	122	107	40	30	34	26	59	16
B. Coastal Plain Nonriverine Swamp Forests												
1	CEGL007420		4.1	10.1	122	35	31	30	1	10	21	69
2	CEGL004429		4.1	10.7	179	43	39	33	1	5	26	70
VI. COASTAL PLAIN LOWLAND EVERGREEN FORESTS AND SHRUBLANDS												
A. White Cedar Forests												
1	CEGL006146		3.5	77.3	126	92	39	55	1	7	16	76
B. Bay Forests												
1	CEGL007044		3.9	31.3	129	53	46	44	3	6	12	82
2	CEGL007049		3.8	8.2	190	48	6	43	1	2	16	83
C. Pocosins												
1	CEGL003943		3.6	69.3	124	51	33	57	1	7	15	79
D. Pond Pine Forests and Woodlands												
1	CEGL003671		3.6	44.4	116	74	47	56	1	1	11	88
VII. COASTAL PLAIN FORESTED SEEPAGE SLOPES AND STREAMHEAD WETLANDS												
A. Forested Seepage Slopes												
1	--		3.9	0.9	188	61	62	33	3	14	12	74
VIII. COASTAL PLAIN PONDS AND MARSHES												
A. Pond Cypress Savannas												
1	CEGL003734		4.1	2.9	108	33	5	31	1	7	1	92
2	CEGL003733		3.8	6.8	110	27	14	32	1	7	9	83
B. Depression Pond Shrublands												
1	CEGL003907		4.0	1.5	125	32	10	34	1	1	2	97
2	CEGL004127		4.6	0.1	48	10	1	27	1	1	1	98

Appendix 2: Association Groups with Fair or Poor Fit

CEGL	# of Plots	IVC FIT	Reason
<i>Quercus alba</i> – <i>Carya glabra</i> – <i>Carya alba</i> / <i>Aesculus pavia</i> Forest (CEGL007225)	2	Fair	Poor understanding of relationship with other eutrophic forests of the Atlantic Coastal Plain
<i>Fagus grandifolia</i> – <i>Quercus alba</i> - (<i>Acer barbatum</i>) / Mixed Herbs Forest (CEGL007206)	2	Fair	Poor understanding of relationship with other eutrophic forests of the Atlantic Coastal Plain
<i>Quercus alba</i> – <i>Carya glabra</i> / Mixed Herbs Coastal Plain (CEGL007226)	1	Poor	Poor understanding of relationship with other mesotrophic forests of the Atlantic Coastal Plain
<i>Quercus rubra</i> – <i>Quercus alba</i> – <i>Carya glabra</i> / <i>Geranium maculatum</i> Forest (CEGL007237)	1	Fair	Poor understanding of relationship with other mesotrophic forests of the Atlantic Coastal Plain
<i>Quercus hemisphaerica</i> – <i>Magnolia grandiflora</i> – <i>Carya (glabra, pallida)</i> / <i>Vaccinium arboreum</i> / <i>Chasmanthium sessiliflorum</i> Forest (CEGL004788)	1	Poor	Poor understanding of relationship with other mesotrophic forests of the Atlantic Coastal Plain
<i>Pinus palustris</i> – (<i>Pinus serotina</i>) / <i>Ilex glabra</i> – <i>Gaylussacia frondosa</i> – (<i>Kalmia carolina</i>) Woodland (CEGL003647)	1	Fair	Poor understanding of broadly defined Wet-Mesic Pine Savannas and Flatwoods
<i>Pinus palustris</i> / <i>Quercus laevis</i> – <i>Quercus (incana, margarettiae)</i> / <i>Gaylussacia dumosa</i> / <i>Aristida stricta</i> Woodland (CEGL003591)	2	Fair	Higher species diversity in these plots than described pine – oak woodland.
<i>Pinus palustris</i> / <i>Quercus incana</i> / <i>Aristida stricta</i> – <i>Sorghastrum nutans</i> – <i>Anthraenantia villosa</i> Woodland (CEGL003578)	1	Fair	Absence of <i>Aristida stricta</i> in the plot.
<i>Quercus laurifolia</i> – <i>Quercus michauxii</i> – <i>Liquidambar styraciflua</i> / <i>Carpinus caroliniana</i> Forest (CEGL004678)	1	Fair	The plot lacks a true bottomland oak component.
<i>Quercus lyrata</i> – <i>Quercus laurifolia</i> – <i>Taxodium distichum</i> / <i>Saururus cernuus</i> Forest (CEGL004735)	1	Fair	Poor understanding of broadly defined Brown-water Swamp Forests
<i>Nyssa biflora</i> – (<i>Acer rubrum</i>) / <i>Ilex opaca</i> / <i>Leucothoe axillaris</i> / <i>Carex atlantica</i> ssp. <i>capillacea</i> Forest (CEGL004427)	2	Poor	Plots exhibited lower species diversity than described community.
<i>Taxodium distichum</i> – <i>Fraxinus pennsylvanica</i> – <i>Quercus laurifolia</i> / <i>Acer rubrum</i> / <i>Saururus cernuus</i> Forest (CEGL007719)	1	Fair	Poor understanding of broadly defined Black-water Fringing Hardwood Forests

<i>Quercus laurifolia</i> – <i>Quercus lyrata</i> / <i>Carpinus caroliniana</i> – <i>Persea palustris</i> / <i>Vaccinium elliotii</i> Forest (CEGL004737)	3	Poor to Fair	Plots exhibited higher species diversity than described community. Also, presence of <i>Pinus taeda</i> was inconsistent with community description.
<i>Quercus alba</i> – <i>Quercus (michauxii, nigra)</i> / <i>Ilex opaca</i> / <i>Chasmanthium laxum</i> Forest (CEGL007845)	1	Fair	Plots exhibited higher species diversity than described community.
<i>Quercus pagoda</i> – <i>Quercus michauxii</i> – <i>Quercus alba</i> / <i>Arundinaria gigantea</i> spp.tecta – <i>Sabal minor</i> / <i>Chasmanthium laxum</i> Forest (CEGL007849)	1	Fair	Plots exhibited higher species diversity than described community. Also, lack of either <i>Arundinaria tecta</i> or <i>Sabal minor</i> was inconsistent with community description.
<i>Taxodium ascendens</i> / (<i>Nyssa biflora</i>) / <i>Leucothoe racemosa</i> – <i>Lyonia lucida</i> – <i>Morella cerifera</i> Depression Forest (CEGL007420)	1	Poor	Absence of <i>Taxodium ascendens</i> separates this plot from community description.
<i>Taxodium distichum</i> – <i>Nyssa biflora</i> / <i>Berchemia scandens</i> – <i>Toxicodendron radicans</i> / <i>Woodwardia areolata</i> Forest (CEGL004429)	1	Fair	The woody vine component was not well developed in this plot.
<i>Gordonia lasianthus</i> – <i>Magnolia virginiana</i> – <i>Persea palustris</i> / <i>Sphagnum</i> ssp. Forest (CEGL007044)	3	Poor to Fair	Poor understanding of broadly defined Bay Forests
<i>Magnolia virginiana</i> – <i>Persea palustris</i> / <i>Lyonia lucida</i> Forest (CEGL007049)	1	Poor	Plots exhibited higher shrub species diversity than described community.
<i>Pinus serotina</i> - <i>Gordonia lasianthus</i> / <i>Lyonia lucida</i> Woodland (CEGL003671)	2	Fair	Poor understanding of broadly defined Pondpine Woodland
No described NVC type	1	n/a	n/a
<i>Taxodium ascendens</i> / <i>Panicum hemitomom</i> – <i>Polygala cymosa</i> Woodland (CEGL003733)	2	Poor	Plots exhibited higher canopy and herbaceous species diversity than described community.
<i>Vaccinium formosum</i> – <i>Vaccinium fuscatum</i> / <i>Sphagnum cuspidatum</i> Shrubland (CEGL003907)	1	Fair	Inclusion of <i>Pinus palustris</i> into a defined shrubland
<i>Panicum hemitomom</i> – <i>Eleocharis equisetoides</i> – <i>Rhynchospora inundata</i> Herbaceous Vegetation (CEGL004127)	1	Poor	The plot lacked <i>Eleocharis equisetoides</i> and <i>Rhynchospora inundata</i> .

Appendix 3: Floristic tables for Association Groups

Floristic table for Group I.A.1: *Quercus alba* – *Carya glabra* – *Carya alba* / *Aesculus pavia* Forest (CEGL007225)

NUMBER of PLOTS	2	
AVERAGE RICHNESS	56	
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Acer floridanum</i>	100	7
<i>Quercus shumardii</i> var. <i>shumardii</i>	100	6
<i>Ulmus alata</i>	100	6
<i>Liquidambar styraciflua</i>	100	6
<i>Carya cordiformis</i>	100	6
<i>Aesculus sylvatica</i>	100	6
<i>Parthenocissus quinquefolia</i>	100	5
<i>Quercus michauxii</i>	100	4
<i>Toxicodendron radicans</i> var. <i>radicans</i>	100	4
<i>Celtis laevigata</i>	100	3
<i>Lonicera japonica</i>	100	3
<i>Carex jamesii</i>	100	3
<i>Acer negundo</i> var. <i>negundo</i>	100	3
<i>Fraxinus americana</i>	100	3
<i>Euonymus americana</i>	100	2
<i>Carex blanda</i>	100	2
<i>Crataegus marshallii</i>	100	2
<i>Galium aparine</i>	100	2
<i>Geranium maculatum</i>	100	2
<i>Ligustrum sinense</i>	100	2
<i>Microstegium vimineum</i>	100	2
<i>Morus rubra</i>	100	2
<i>Nemophila aphylla</i>	100	2
<i>Polystichum acrostichoides</i>	100	2
<i>Stellaria media</i>	100	2
<i>Ulmus rubra</i>	100	2
<i>Vitis cinerea</i> var. <i>baileyana</i>	100	2
<i>Asimina triloba</i>	100	2
<i>Bignonia capreolata</i>	100	2
<i>Lindera benzoin</i> var. <i>pubescens</i>	100	2
<i>Carpinus caroliniana</i> ssp. <i>caroliniana</i>	100	2
<i>Osmorhiza longistylis</i>	100	2
<i>Viburnum prunifolium</i>	100	2

Floristic table for Group I.A.2: *Fagus grandifolia* – *Quercus alba* - (*Acer barbatum*) / Mixed Herbs Forest (CEGL007206)

NUMBER of PLOTS		2
AVERAGE RICHNESS		40
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Aesculus sylvatica</i>	100	7
<i>Carya cordiformis</i>	100	6
<i>Liquidambar styraciflua</i>	100	6
<i>Laportea canadensis</i>	100	6
<i>Acer floridanum</i>	100	6
<i>Lindera benzoin</i> var. <i>pubescens</i>	100	5
<i>Fraxinus americana</i>	100	5
<i>Polystichum acrostichoides</i>	100	4
<i>Staphylea trifolia</i>	100	4
<i>Celtis laevigata</i>	100	4
<i>Menispermum canadense</i>	100	3
<i>Ligustrum sinense</i>	100	3
<i>Lonicera japonica</i>	100	3
<i>Toxicodendron radicans</i> var. <i>radicans</i>	100	3
<i>Smilax rotundifolia</i>	100	2
<i>Euonymus americana</i>	100	2
<i>Prunus caroliniana</i>	100	2
<i>Quercus shumardii</i> var. <i>shumardii</i>	100	2
<i>Bignonia capreolata</i>	100	2
<i>Osmorhiza longistylis</i>	100	2
<i>Smilax walteri</i>	100	2
<i>Podophyllum peltatum</i>	100	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100	2
<i>Quercus pagoda</i>	50	5
<i>Ulmus rubra</i>	50	4
<i>Asimina triloba</i>	50	4
<i>Ulmus americana</i>	50	4
<i>Quercus alba</i>	50	3

Floristic table for Group I.B.1: *Quercus alba* – *Carya glabra* / Mixed Herbs Coastal Plain (CEGL007226)

NUMBER of PLOTS	1
SPECIES RICHNESS	49
SPECIES	COVER CLASS
<i>Acer floridanum</i>	7
<i>Quercus shumardii</i> var. <i>shumardii</i>	6
<i>Carya ovata</i>	5
<i>Liquidambar styraciflua</i>	5
<i>Quercus alba</i>	5
<i>Quercus velutina</i>	5
<i>Asimina triloba</i>	3
<i>Carya alba</i>	3
<i>Cornus florida</i>	3
<i>Agrimonia pubescens</i>	2
<i>Asplenium platyneuron</i>	2
<i>Athyrium asplenioides</i>	2
<i>Bignonia capreolata</i>	2
<i>Callicarpa americana</i>	2
<i>Carex abscondita</i>	2
<i>Carex laxiflora</i>	2
<i>Carpinus caroliniana</i> ssp. <i>caroliniana</i>	2
<i>Carya cordiformis</i>	2
<i>Celtis laevigata</i>	2
<i>Dichanthelium boscii</i>	2
<i>Elephantopus tomentosus</i>	2
<i>Euonymus americana</i>	2
<i>Festuca subverticillata</i>	2
<i>Fraxinus americana</i>	2
<i>Ilex opaca</i> var. <i>opaca</i>	2
<i>Microstegium vimineum</i>	2
<i>Morella cerifera</i>	2
<i>Nyssa sylvatica</i>	2
<i>Oxalis dillenii</i>	2
<i>Parthenocissus quinquefolia</i>	2
<i>Polystichum acrostichoides</i>	2
<i>Prenanthes altissima</i>	2
<i>Smilax bona-nox</i>	2
<i>Smilax glauca</i>	2
<i>Smilax rotundifolia</i>	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	2
<i>Ulmus alata</i>	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	2

Floristic table for Group I.B.2: *Quercus rubra* – *Quercus alba* – *Carya glabra* / *Geranium maculatum*
Forest (CEGL007237)

NUMBER of PLOTS	1		
SPECIES RICHNESS	62		
SPECIES	COVER CLASS	SPECIES	COVER CLASS
<i>Acer floridanum</i>	7	<i>Elymus virginicus</i>	2
<i>Asimina triloba</i>	7	<i>Euonymus americana</i>	2
<i>Quercus alba</i>	7	<i>Galium aparine</i>	2
<i>Carya cordiformis</i>	6	<i>Geranium maculatum</i>	2
<i>Morus rubra</i>	5	<i>Geum canadense</i>	2
<i>Polystichum acrostichoides</i>	5	<i>Ilex opaca</i> var. <i>opaca</i>	2
<i>Aesculus sylvatica</i>	4	<i>Laportea canadensis</i>	2
<i>Carpinus caroliniana</i> ssp. <i>caroliniana</i>	4	<i>Ligustrum sinense</i>	2
<i>Liquidambar styraciflua</i>	4	<i>Lindera benzoin</i> var. <i>pubescens</i>	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	4	<i>Lonicera japonica</i>	2
<i>Bignonia capreolata</i>	3	<i>Melica mutica</i>	2
<i>Cornus florida</i>	3	<i>Nandina domestica</i>	2
<i>Podophyllum peltatum</i>	3	<i>Nyssa sylvatica</i>	2
<i>Ulmus alata</i>	3	<i>Osmanthus americanus</i>	2
<i>Ulmus rubra</i>	3	<i>Osmorhiza longistylis</i>	2
<i>Agrimonia rostellata</i>	2	<i>Parthenocissus quinquefolia</i>	2
<i>Arundinaria gigantea</i>	2	<i>Phegopteris hexagonoptera</i>	2
<i>Athyrium asplenioides</i>	2	<i>Prenanthes altissima</i>	2
<i>Botrychium virginianum</i>	2	<i>Smilax herbacea</i>	2
<i>Brachyelytrum erectum</i>	2	<i>Stellaria pubera</i>	2
<i>Carex amphibola</i>	2	<i>Uvularia sessilifolia</i>	2
<i>Carex grisea</i>	2	<i>Verbesina alternifolia</i>	2
<i>Celtis laevigata</i>	2	<i>Viola pubescens</i> var. <i>scabriuscula</i>	2
<i>Cercis canadensis</i> var. <i>canadensis</i>	2	<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	2
<i>Collinsonia canadensis</i>	2		

Floristic table for Group I.B.3: *Quercus hemisphaerica* – *Magnolia grandiflora* – *Carya (glabra, pallida)* / *Vaccinium arboreum* / *Chasmanthium sessiliflorum* Forest (CEGL004788)

NUMBER of PLOTS	1
SPECIES RICHNESS	57
SPECIES	COVER CLASS
<i>Carya pallida</i>	7
<i>Carpinus caroliniana</i> ssp. <i>caroliniana</i>	6
<i>Quercus laurifolia</i>	6
<i>Quercus velutina</i>	6
<i>Symplocos tinctoria</i>	6
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	6
<i>Acer rubrum</i>	5
<i>Carya alba</i>	5
<i>Ilex opaca</i> var. <i>opaca</i>	5
<i>Liquidambar styraciflua</i>	5
<i>Mitchella repens</i>	5
<i>Quercus stellata</i>	5
<i>Vaccinium arboreum</i>	5
<i>Cornus florida</i>	4
<i>Nyssa sylvatica</i>	4
<i>Quercus alba</i>	4
<i>Quercus phellos</i>	4
<i>Asimina triloba</i>	3
<i>Quercus nigra</i>	3
<i>Smilax rotundifolia</i>	3
<i>Asplenium platyneuron</i>	2
<i>Bignonia capreolata</i>	2
<i>Celtis laevigata</i>	2
<i>Diospyros virginiana</i>	2
<i>Elephantopus tomentosus</i>	2
<i>Euonymus americana</i>	2
<i>Euphorbia corollata</i>	2
<i>Galium circaezans</i> var. <i>circaezans</i>	2
<i>Lonicera japonica</i>	2
<i>Pinus taeda</i>	2
<i>Pleopeltis polypodioides</i> ssp. <i>michauxiana</i>	2
<i>Sassafras albidum</i>	2
<i>Silene stellata</i>	2
<i>Smilax bona-nox</i>	2
<i>Smilax glauca</i>	2
<i>Solidago caesia</i>	2
<i>Tillandsia usneoides</i>	2
<i>Trachelospermum difforme</i>	2

Floristic table for Group II.A.1: *Pinus palustris* – (*Pinus serotina*) / *Ilex glabra* – *Gaylussacia frondosa* – (*Kalmia carolina*) Woodland (CEGL003647)

NUMBER of PLOTS	1
SPECIES RICHNESS	16
SPECIES	COVER CLASS
<i>Gaylussacia frondosa</i>	7
<i>Kalmia angustifolia</i>	7
<i>Gordonia lasianthus</i>	5
<i>Pinus palustris</i>	5
<i>Pinus serotina</i>	5
<i>Chamaecyparis thyoides</i>	4
<i>Clethra alnifolia</i>	4
<i>Lyonia lucida</i>	4
<i>Vaccinium crassifolium</i>	4
<i>Ilex coriacea</i>	3
<i>Lyonia mariana</i>	3
<i>Cyrilla racemiflora</i>	2
<i>Persea palustris</i>	2
<i>Zenobia pulverulenta</i>	2
<i>Gaylussacia dumosa</i>	1
<i>Rhododendron canescens</i>	1

Floristic table for Group II.B.1: *Pinus palustris* / *Quercus laevis* – *Quercus (incana, margarettiae)* / *Gaylussacia dumosa* / *Aristida stricta* Woodland (CEGL003591)

NUMBER of PLOTS	2	
AVERAGE RICHNESS	31	
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Aristida stricta</i>	100	7
<i>Pinus palustris</i>	100	6
<i>Quercus laevis</i>	100	5
<i>Carphephorus bellidifolius</i>	100	2
<i>Cnidoscopus stimulosus</i>	100	2
<i>Eupatorium compositifolium</i>	100	2
<i>Euphorbia ipecacuanhae</i>	100	2
<i>Opuntia humifusa</i> var. <i>humifusa</i>	100	2
<i>Schizachyrium scoparium</i> var. <i>scoparium</i>	100	2
<i>Solidago caesia</i>	100	2
<i>Stipulicida setacea</i> var. <i>setacea</i>	100	2
<i>Quercus nigra</i>	100	2
<i>Gelsemium sempervirens</i>	100	2
<i>Quercus falcata</i>	50	5

Floristic table for Group II.B.2: *Pinus palustris* / *Quercus laevis* / *Aristida stricta* / *Cladonia* spp.
Woodland (CEGL003584)

NUMBER of PLOTS	1
SPECIES RICHNESS	15
SPECIES	COVER CLASS
<i>Quercus laevis</i>	7
<i>Gaylussacia dumosa</i>	6
<i>Arundinaria tecta</i>	5
<i>Chrysopogon pauciflorus</i>	4
<i>Lyonia mariana</i>	4
<i>Pinus serotina</i>	4
<i>Aristida stricta</i>	2
<i>Clethra alnifolia</i>	2
<i>Cnidocolus stimulosus</i>	2
<i>Diospyros virginiana</i>	2
<i>Pinus palustris</i>	2
<i>Schizachyrium scoparium</i> var. <i>scoparium</i>	2
<i>Selaginella acanthonota</i>	2
<i>Stipulicida setacea</i> var. <i>setacea</i>	2
<i>Sassafras albidum</i>	1

Floristic table for Group II.B.3: *Pinus palustris* / *Quercus incana* / *Aristida stricta* – *Sorghastrum nutans* – *Anthaenantia villosa* Woodland (CEGL003578)

NUMBER of PLOTS	1		
SPECIES RICHNESS	68		
SPECIES	COVER CLASS	SPECIES	COVER CLASS
<i>Aristida lanosa</i>	7	<i>Ionactis linariifolius</i>	3
<i>Pinus palustris</i>	7	<i>Paspalum bifidum</i>	3
<i>Brickellia eupatorioides</i> var. <i>eupatorioides</i>	5	<i>Pityopsis aspera</i> var. <i>aspera</i>	3
<i>Eupatorium album</i> var. <i>album</i>	5	<i>Quercus marilandica</i> var. <i>marilandica</i>	3
<i>Helianthus atrorubens</i>	5	<i>Rhus glabra</i>	3
<i>Helianthus divaricatus</i>	5	<i>Sericocarpus tortifolius</i>	3
<i>Muhlenbergia capillaris</i>	5	<i>Viola pedata</i>	3
<i>Quercus margaretta</i>	5	<i>Ceanothus americanus</i> var. <i>intermedius</i>	2
<i>Rhus copallinum</i>	5	<i>Cirsium repandum</i>	2
<i>Rhus michauxii</i>	5	<i>Coreopsis major</i> var. <i>rigida</i>	2
<i>Schizachyrium scoparium</i> var. <i>scoparium</i>	5	<i>Cyperus plukenetii</i>	2
<i>Ageratina aromatica</i>	4	<i>Dichanthelium commutatum</i>	2
<i>Antennaria plantaginifolia</i>	4	<i>Diospyros virginiana</i>	2
<i>Desmodium ciliare</i>	4	<i>Elephantopus tomentosus</i>	2
<i>Desmodium viridiflorum</i>	4	<i>Eragrostis spectabilis</i>	2
<i>Dichanthelium ravenelii</i>	4	<i>Eupatorium compositifolium</i>	2
<i>Quercus incana</i>	4	<i>Euphorbia pubentissima</i>	2
<i>Quercus laevis</i>	4	<i>Galium pilosum</i> var. <i>pilosum</i>	2
<i>Sassafras albidum</i>	4	<i>Gentiana villosa</i>	2
<i>Silphium compositum</i>	4	<i>Lactuca graminifolia</i> var. <i>graminifolia</i>	2
<i>Solidago caesia</i>	4	<i>Lespedeza violacea</i>	2
<i>Sorghastrum elliottii</i>	4	<i>Phlox nivalis</i> ssp. <i>nivalis</i>	2
<i>Sorghastrum nutans</i>	4	<i>Rhynchosia reniformis</i>	2
<i>Tephrosia virginiana</i>	4	<i>Sericocarpus asteroides</i>	2
<i>Vernonia angustifolia</i> ssp. <i>angustifolia</i>	4	<i>Toxicodendron pubescens</i>	2
<i>Carya alba</i>	3	<i>Tridens carolinianus</i>	2
<i>Eupatorium glaucescens</i>	3	<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	2
<i>Gymnopogon ambiguus</i>	3	<i>Yucca filamentosa</i>	2

Floristic table for Group III.A.1: *Celtis laevigata* – *Fraxinus pennsylvanica* – *Acer negundo* – (*Juglans nigra*) / *Asimina triloba* / *Carex grayi* Forest (CEGL004740)

NUMBER of PLOTS	1
SPECIES RICHNESS	41
SPECIES	COVER CLASS
<i>Celtis laevigata</i>	8
<i>Carex jamesii</i>	7
<i>Acer negundo</i> var. <i>negundo</i>	6
<i>Carya cordiformis</i>	6
<i>Laportea canadensis</i>	6
<i>Ligustrum sinense</i>	6
<i>Quercus shumardii</i> var. <i>shumardii</i>	6
<i>Ulmus americana</i>	6
<i>Acer floridanum</i>	5
<i>Carex grayi</i>	5
<i>Aesculus sylvatica</i>	4
<i>Carex amphibola</i>	4
<i>Liriope muscari</i>	4
<i>Microstegium vimineum</i>	4
<i>Toxicodendron radicans</i> var. <i>radicans</i>	4
<i>Bignonia capreolata</i>	3
<i>Campsis radicans</i>	3
<i>Carpinus caroliniana</i> ssp. <i>caroliniana</i>	3
<i>Ulmus alata</i>	3
<i>Asimina triloba</i>	2
<i>Carex abscondita</i>	2
<i>Carex radiata</i>	2
<i>Dicliptera brachiata</i>	2
<i>Elymus virginicus</i> var. <i>virginicus</i>	2
<i>Fraxinus pennsylvanica</i>	2
<i>Galium aparine</i>	2
<i>Juglans nigra</i>	2
<i>Lindera benzoin</i> var. <i>pubescens</i>	2
<i>Lonicera japonica</i>	2
<i>Parthenocissus quinquefolia</i>	2
<i>Smilax bona-nox</i>	2
<i>Stellaria media</i>	2
<i>Ulmus rubra</i>	2
<i>Viola pubescens</i> var. <i>scabriuscula</i>	2
<i>Viola striata</i>	2
<i>Vitis cinerea</i> var. <i>baileyana</i>	2

Floristic table for Group III.A.2: *Populus deltoids* / *Acer negundo* / *Boehmeria cylindrica* Forest (CEGL007731)

NUMBER of PLOTS	1
SPECIES RICHNESS	35
SPECIES	COVER CLASS
<i>Acer negundo</i> var. <i>negundo</i>	8
<i>Carex grayi</i>	6
<i>Fraxinus americana</i>	6
<i>Ligustrum sinense</i>	6
<i>Populus deltoides</i> ssp. <i>deltoides</i>	6
<i>Ulmus americana</i>	6
<i>Celtis laevigata</i>	5
<i>Laportea canadensis</i>	5
<i>Elymus virginicus</i>	3
<i>Smilax hispida</i>	3
<i>Toxicodendron radicans</i> var. <i>radicans</i>	3
<i>Aesculus sylvatica</i>	2
<i>Arisaema dracontium</i>	2
<i>Asimina triloba</i>	2
<i>Bignonia capreolata</i>	2
<i>Campsis radicans</i>	2
<i>Carex blanda</i>	2
<i>Carex scoparia</i> var. <i>scoparia</i>	2
<i>Carex typhina</i>	2
<i>Carya cordiformis</i>	2
<i>Chasmanthium latifolium</i>	2
<i>Corydalis flavula</i>	2
<i>Galium aparine</i>	2
<i>Ilex coriacea</i>	2
<i>Lindera benzoin</i> var. <i>pubescens</i>	2
<i>Liquidambar styraciflua</i>	2
<i>Microstegium vimineum</i>	2
<i>Parthenocissus quinquefolia</i>	2
<i>Pleopeltis polypodioides</i> ssp. <i>michauxiana</i>	2
<i>Sambucus canadensis</i>	2
<i>Saururus cernuus</i>	2
<i>Smilax bona-nox</i>	2
<i>Solidago caesia</i>	2
<i>Stellaria media</i>	2

Floristic table for Group III.A.3: *Platanus occidentalis* – *Celtis laevigata* – *Fraxinus pennsylvanica* / *Lindera benzoin* – *Ilex deciduas* / *Carex retroflexa* Forest (CEGL007730)

NUMBER of PLOTS	1
SPECIES RICHNESS	20
SPECIES	COVER CLASS
<i>Aesculus sylvatica</i>	8
<i>Asimina triloba</i>	7
<i>Celtis laevigata</i>	7
<i>Populus deltoides</i> ssp. <i>deltoides</i>	7
<i>Acer negundo</i> var. <i>negundo</i>	6
<i>Ligustrum sinense</i>	6
<i>Ulmus americana</i>	5
<i>Bignonia capreolata</i>	4
<i>Campsis radicans</i>	4
<i>Parthenocissus quinquefolia</i>	4
<i>Arundinaria gigantea</i>	3
<i>Lindera benzoin</i> var. <i>pubescens</i>	3
<i>Carex grayi</i>	2
<i>Galium aparine</i>	2
<i>Laportea canadensis</i>	2
<i>Lonicera japonica</i>	2
<i>Osmorhiza longistylis</i>	2
<i>Smilax rotundifolia</i>	2
<i>Smilax walteri</i>	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	2

Floristic table for Group III.A.4: *Quercus laurifolia* – *Quercus michauxii* – *Liquidambar styraciflua* / *Carpinus caroliniana* Forest (CEGL004678)

NUMBER of PLOTS		1		
SPECIES RICHNESS		65		
SPECIES		COVER CLASS	SPECIES	COVER CLASS
<i>Carpinus caroliniana</i> ssp. <i>caroliniana</i>		7	<i>Carya pallida</i>	2
<i>Carya alba</i>		7	<i>Chasmanthium latifolium</i>	2
<i>Quercus alba</i>		7	<i>Dichantherium boscii</i>	2
<i>Arundinaria gigantea</i>		6	<i>Diospyros virginiana</i>	2
<i>Carex abscondita</i>		6	<i>Elymus virginicus</i>	2
<i>Carya cordiformis</i>		6	<i>Euonymus americana</i>	2
<i>Ilex opaca</i> var. <i>opaca</i>		6	<i>Festuca subverticillata</i>	2
<i>Liquidambar styraciflua</i>		5	<i>Galium aparine</i>	2
<i>Quercus pagoda</i>		5	<i>Galium circaezans</i> var. <i>circaezans</i>	2
<i>Acer floridanum</i>		4	<i>Lonicera japonica</i>	2
<i>Carya glabra</i>		4	<i>Lonicera sempervirens</i>	2
<i>Ulmus alata</i>		4	<i>Melica mutica</i>	2
<i>Viburnum prunifolium</i>		4	<i>Mitchella repens</i>	2
<i>Cornus florida</i>		3	<i>Ostrya virginiana</i>	2
<i>Nyssa sylvatica</i>		3	<i>Parthenocissus quinquefolia</i>	2
<i>Quercus nigra</i>		3	<i>Polygonatum biflorum</i> var. <i>biflorum</i>	2
<i>Smilax rotundifolia</i>		3	<i>Quercus velutina</i>	2
<i>Vaccinium arboreum</i>		3	<i>Scleria oligantha</i>	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>		3	<i>Smilax bona-nox</i>	2
<i>Acer negundo</i> var. <i>negundo</i>		2	<i>Smilax glauca</i>	2
<i>Arnoglossum atriplicifolium</i>		2	<i>Tillandsia usneoides</i>	2
<i>Asimina triloba</i>		2	<i>Toxicodendron radicans</i> var. <i>radicans</i>	2
<i>Bignonia capreolata</i>		2	<i>Uvularia sessilifolia</i>	2
<i>Callicarpa americana</i>		2	<i>Vicia caroliniana</i>	2
<i>Carex debilis</i>		2	<i>Viola esculenta</i>	2
<i>Carya ovata</i>		2	<i>Viola septemloba</i>	2

Floristic table for Group III.B.1: *Taxodium distichum* – *Nyssa aquatica* / *Fraxinus caroliniana* Forest (CEGL007431)

NUMBER of PLOTS	1
SPECIES RICHNESS	17
SPECIES	COVER CLASS
<i>Taxodium distichum</i>	7
<i>Nyssa aquatica</i>	7
<i>Quercus lyrata</i>	7
<i>Liquidambar styraciflua</i>	6
<i>Acer rubrum</i>	5
<i>Campsis radicans</i>	2
<i>Smilax rotundifolia</i>	2
<i>Tillandsia usneoides</i>	2
<i>Carex crus-corvi</i>	2
<i>Carex grayi</i>	2
<i>Carex scoparia</i> var. <i>scoparia</i>	2
<i>Fraxinus pennsylvanica</i>	2
<i>Quercus laurifolia</i>	1
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	1
<i>Parthenocissus quinquefolia</i>	1
<i>Celtis laevigata</i>	1
<i>Ulmus alata</i>	1

Floristic table for Group III.B.2: *Quercus lyrata* – *Quercus laurifolia* – *Taxodium distichum* / *Saururus cernuus* Forest (CEGL004735)

NUMBER of PLOTS	1
SPECIES RICHNESS	32
SPECIES	COVER CLASS
<i>Acer rubrum</i>	7
<i>Quercus lyrata</i>	7
<i>Fraxinus pennsylvanica</i>	6
<i>Liquidambar styraciflua</i>	6
<i>Nyssa aquatica</i>	6
<i>Quercus laurifolia</i>	6
<i>Taxodium distichum</i>	6
<i>Ulmus rubra</i>	6
<i>Carex grayi</i>	4
<i>Populus deltoides</i> ssp. <i>deltoides</i>	4
<i>Smilax rotundifolia</i>	4
<i>Campsis radicans</i>	3
<i>Carex amphibola</i>	2
<i>Carex bromoides</i> ssp. <i>bromoides</i>	2
<i>Carex crus-corvi</i>	2
<i>Carex louisianica</i>	2
<i>Carex lupulina</i>	2
<i>Carex scoparia</i> var. <i>scoparia</i>	2
<i>Carex typhina</i>	2
<i>Panicum hemitomon</i>	2
<i>Parthenocissus quinquefolia</i>	2
<i>Solidago caesia</i>	2
<i>Tillandsia usneoides</i>	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	2
<i>Acer negundo</i> var. <i>negundo</i>	1
<i>Asimina triloba</i>	1
<i>Cephalanthus occidentalis</i>	1
<i>Erechtites hieraciifolia</i> var. <i>hieraciifolia</i>	1
<i>Myosotis macrosperma</i>	1
<i>Prunus serotina</i> var. <i>serotina</i>	1
<i>Smilax bona-nox</i>	1
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	1

Floristic table for Group III.B.3: *Nyssa biflora* – (*Acer rubrum*) / *Ilex opaca* / *Leucothoe axillaris* / *Carex atlantica* ssp. *capillacea* Forest (CEGL004427)

NUMBER of PLOTS	3	
AVERAGE RICHNESS	44	
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Taxodium distichum</i>	100	8
<i>Acer rubrum</i>	100	7
<i>Liquidambar styraciflua</i>	100	6
<i>Saururus cernuus</i>	100	6
<i>Nyssa biflora</i>	100	6
<i>Fraxinus caroliniana</i>	100	5
<i>Quercus laurifolia</i>	100	5
<i>Carex bromoides</i> ssp. <i>bromoides</i>	100	4
<i>Campsis radicans</i>	100	4
<i>Smilax walteri</i>	100	3
<i>Toxicodendron radicans</i> var. <i>radicans</i>	100	3
<i>Triadenum walteri</i>	100	3
<i>Itea virginica</i>	100	3
<i>Woodwardia areolata</i>	100	2
<i>Boehmeria cylindrica</i>	100	2
<i>Microstegium vimineum</i>	100	2
<i>Smilax rotundifolia</i>	100	2
<i>Mitchella repens</i>	100	2
<i>Parthenocissus quinquefolia</i>	100	2
<i>Osmunda regalis</i> var. <i>spectabilis</i>	100	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100	2
<i>Carex radiata</i>	67	6
<i>Myriophyllum aquaticum</i>	67	5
<i>Carex lupulina</i>	67	5
<i>Carpinus caroliniana</i> ssp. <i>caroliniana</i>	67	4
<i>Peltandra virginica</i>	67	3
<i>Carex comosa</i>	67	2
<i>Cephalanthus occidentalis</i>	67	2
<i>Lycopus virginicus</i>	67	2
<i>Murdannia keisak</i>	67	2
<i>Tillandsia usneoides</i>	67	2
<i>Carex stipata</i> var. <i>maxima</i>	67	2
<i>Carex typhina</i>	67	2
<i>Ilex opaca</i> var. <i>opaca</i>	67	2
<i>Galium tinctorium</i> var. <i>tinctorium</i>	67	2
<i>Celtis laevigata</i>	67	2
<i>Smilax bona-nox</i>	67	2
<i>Ulmus alata</i>	67	2

Floristic table for Group IV.A.1: *Taxodium distichum* – *Nyssa biflora* / *Fraxinus caroliniana* / *Lyonia lucida* Forest (CEGL004733)

NUMBER of PLOTS		2
AVERAGE RICHNESS		17
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Taxodium distichum</i>	100	5
<i>Acer rubrum</i>	100	5
<i>Nyssa biflora</i>	100	5
<i>Liquidambar styraciflua</i>	100	4
<i>Betula nigra</i>	100	4
<i>Mikania scandens</i>	100	2
<i>Lobelia cardinalis</i>	100	2
<i>Quercus laurifolia</i>	50	4
<i>Fraxinus caroliniana</i>	50	4
<i>Quercus lyrata</i>	50	4
<i>Crataegus crus-galli</i>	50	3
<i>Cyrilla racemiflora</i>	50	3
<i>Campsis radicans</i>	50	2
<i>Carex crinita</i>	50	2
<i>Pleopeltis polypodioides</i> ssp. <i>michauxiana</i>	50	2
<i>Smilax hispida</i>	50	2
<i>Smilax walteri</i>	50	2
<i>Tillandsia usneoides</i>	50	2
<i>Boehmeria cylindrica</i>	50	2
<i>Carex lurida</i>	50	2
<i>Chasmanthium laxum</i>	50	2
<i>Elymus virginicus</i>	50	2
<i>Itea virginica</i>	50	2
<i>Ludwigia palustris</i>	50	2
<i>Phytolacca americana</i>	50	2
<i>Proserpinaca palustris</i>	50	2
<i>Smilax rotundifolia</i>	50	2
<i>Trachelospermum difforme</i>	50	1

Floristic table for Group IV.B.1: *Taxodium distichum* – *Fraxinus pennsylvanica* – *Quercus laurifolia* / *Acer rubrum* / *Saururus cernuus* Forest (CEGL007719)

NUMBER of PLOTS	1
SPECIES RICHNESS	22
SPECIES	COVER CLASS
<i>Carpinus caroliniana</i> ssp. <i>caroliniana</i>	6
<i>Betula nigra</i>	6
<i>Quercus lyrata</i>	6
<i>Quercus nigra</i>	6
<i>Liquidambar styraciflua</i>	4
<i>Taxodium distichum</i>	4
<i>Crataegus crus-galli</i>	4
<i>Carex lurida</i>	3
<i>Nyssa biflora</i>	3
<i>Carex crinita</i>	3
<i>Campsis radicans</i>	2
<i>Smilax bona-nox</i>	2
<i>Smilax rotundifolia</i>	2
<i>Hypoxis curtissii</i>	2
<i>Ilex verticillata</i>	2
<i>Mikania scandens</i>	2
<i>Pleopeltis polypodioides</i> ssp. <i>michauxiana</i>	2
<i>Smilax glauca</i>	2
<i>Smilax laurifolia</i>	2
<i>Solidago caesia</i>	2
<i>Trachelospermum difforme</i>	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	1

Floristic table for Group IV.B.2: *Quercus laurifolia* – *Quercus lyrata* / *Carpinus caroliniana* – *Persea palustris* / *Vaccinium elliotii* Forest (CEGL004737)

NUMBER of PLOTS	4	
AVERAGE RICHNESS	31	
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Quercus laurifolia</i>	100	7
<i>Smilax rotundifolia</i>	100	6
<i>Acer rubrum</i>	100	6
<i>Quercus lyrata</i>	100	6
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	100	5
<i>Liquidambar styraciflua</i>	100	5
<i>Nyssa biflora</i>	100	5
<i>Pinus taeda</i>	100	3
<i>Taxodium distichum</i>	100	2
<i>Vaccinium elliotii</i>	75	5
<i>Ilex opaca</i> var. <i>opaca</i>	75	4
<i>Mikania scandens</i>	75	2
<i>Hypericum hypericoides</i>	75	2
<i>Smilax glauca</i>	75	2
<i>Bignonia capreolata</i>	75	2
<i>Mitchella repens</i>	75	2
<i>Tillandsia usneoides</i>	75	2
<i>Hypoxis curtissii</i>	75	2
<i>Betula nigra</i>	50	5
<i>Cyrilla racemiflora</i>	50	4
<i>Fraxinus caroliniana</i>	50	3
<i>Pleopeltis polypodioides</i> ssp. <i>michauxiana</i>	50	2
<i>Itea virginica</i>	50	2
<i>Trachelospermum difforme</i>	50	2
<i>Campsis radicans</i>	50	2
<i>Lobelia cardinalis</i>	50	1
<i>Boehmeria cylindrica</i>	50	1
<i>Parthenocissus quinquefolia</i>	50	1
<i>Carya aquatica</i>	25	3
<i>Quercus nigra</i>	25	3
<i>Carpinus caroliniana</i> ssp. <i>caroliniana</i>	25	3
<i>Commelina virginica</i>	25	2
<i>Ilex verticillata</i>	25	2
<i>Arundinaria gigantea</i>	25	2
<i>Carex oxylepis</i>	25	2
<i>Carex glaucescens</i>	25	2
<i>Crataegus uniflora</i>	25	2
<i>Arundinaria tecta</i>	25	2
<i>Carex crinita</i>	25	2
<i>Carya glabra</i>	25	2

Floristic table for Group IV.C.1: *Nyssa biflora* - *Quercus nigra* - *Quercus laurifolia* - *Pinus taeda* / *Ilex opaca* - *Carpinus caroliniana* Forest (CEGL007350)

NUMBER of PLOTS	1
SPECIES RICHNESS	13
SPECIES	COVER CLASS
<i>Ilex opaca</i> var. <i>opaca</i>	8
<i>Nyssa biflora</i>	7
<i>Acer rubrum</i>	6
<i>Liquidambar styraciflua</i>	6
<i>Persea palustris</i>	6
<i>Gelsemium sempervirens</i>	2
<i>Lyonia lucida</i>	2
<i>Smilax glauca</i>	2
<i>Smilax laurifolia</i>	2
<i>Woodwardia areolata</i>	2
<i>Asplenium platyneuron</i>	1
<i>Pleopeltis polypodioides</i> ssp. <i>michauxiana</i>	1
<i>Prunus serotina</i> var. <i>serotina</i>	1

Floristic table for Group V.A.1: *Quercus alba* – *Quercus (michauxii, nigra)* / *Ilex opaca* / *Chasmanthium laxum* Forest (CEGL007845)

NUMBER of PLOTS		1			
SPECIES RICHNESS		83			
SPECIES		COVER CLASS	SPECIES		COVER CLASS
<i>Quercus shumardii</i> var. <i>shumardii</i>		6	<i>Chrysogonum virginianum</i> var. <i>virginianum</i>	2	
<i>Toxicodendron radicans</i> var. <i>radicans</i>		6	<i>Cornus florida</i>	2	
<i>Acer floridanum</i>		5	<i>Crataegus marshallii</i>	2	
<i>Carpinus caroliniana</i> ssp. <i>caroliniana</i>		5	<i>Desmodium nudiflorum</i>	2	
<i>Liquidambar styraciflua</i>		5	<i>Dichanthelium boscii</i>	2	
<i>Quercus alba</i>		4	<i>Dichanthelium commutatum</i>	2	
<i>Ulmus alata</i>		4	<i>Dichanthelium laxiflorum</i>	2	
<i>Fraxinus americana</i>		3	<i>Elephantopus tomentosus</i>	2	
<i>Nyssa sylvatica</i>		3	<i>Euonymus americana</i>	2	
<i>Oxydendrum arboreum</i>		3	<i>Galium aparine</i>	2	
<i>Parthenocissus quinquefolia</i>		3	<i>Galium circaezans</i> var. <i>circaezans</i>	2	
<i>Polystichum acrostichoides</i>		3	<i>Galium triflorum</i>	2	
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>		3	<i>Galium uniflorum</i>	2	
<i>Acer rubrum</i>		2	<i>Hypericum hypericoides</i>	2	
<i>Ageratina altissima</i> var. <i>altissima</i>		2	<i>Ilex opaca</i> var. <i>opaca</i>	2	
<i>Agrimonia pubescens</i>		2	<i>Juncus coriaceus</i>	2	
<i>Allium canadense</i> var. <i>canadense</i>		2	<i>Ligustrum sinense</i>	2	
<i>Aralia spinosa</i>		2	<i>Liparis liliifolia</i>	2	
<i>Arisaema triphyllum</i>		2	<i>Lonicera japonica</i>	2	
<i>Asimina triloba</i>		2	<i>Mitchella repens</i>	2	
<i>Asplenium platyneuron</i>		2	<i>Morus rubra</i>	2	
<i>Athyrium asplenioides</i>		2	<i>Nandina domestica</i>	2	
<i>Aureolaria virginica</i>		2	<i>Osmorhiza longistylis</i>	2	
<i>Bignonia capreolata</i>		2	<i>Oxalis violacea</i>	2	
<i>Botrychium virginianum</i>		2	<i>Podophyllum peltatum</i>	2	
<i>Brachyelytrum erectum</i>		2	<i>Prenanthes altissima</i>	2	
<i>Campsis radicans</i>		2	<i>Prunus serotina</i> var. <i>serotina</i>	2	
<i>Carex abscondita</i>		2	<i>Quercus michauxii</i>	2	
<i>Carex alata</i>		2	<i>Quercus phellos</i>	2	
<i>Carex amphibola</i>		2	<i>Scleria oligantha</i>	2	
<i>Carex blanda</i>		2	<i>Scutellaria integrifolia</i>	2	
<i>Carex debilis</i>		2	<i>Smilax glauca</i>	2	
<i>Carex jamesii</i>		2	<i>Solidago caesia</i>	2	
<i>Carex pigra</i>		2	<i>Stellaria media</i>	2	
<i>Carex radiata</i>		2	<i>Stellaria pubera</i>	2	
<i>Carya glabra</i>		2	<i>Tipularia discolor</i>	2	
<i>Carya ovata</i>		2	<i>Vaccinium formosum</i>	2	
<i>Celtis laevigata</i>		2	<i>Viburnum prunifolium</i>	2	
<i>Cercis canadensis</i> var. <i>canadensis</i>		2	<i>Viola affinis</i>	2	
<i>Chionanthus virginicus</i>		2	<i>Viola brittoniana</i> var. <i>brittoniana</i>	2	

Floristic table for Group V.A.2: *Quercus pagoda* – *Quercus michauxii* – *Quercus alba* / *Arundinaria gigantea* spp.tecta – *Sabal minor* / *Chasmanthium laxum* Forest (CEGL007849)

NUMBER of PLOTS	1
SPECIES RICHNESS	57
SPECIES	COVER CLASS
<i>Quercus phellos</i>	8
<i>Carpinus caroliniana</i> ssp. <i>caroliniana</i>	7
<i>Quercus alba</i>	6
<i>Quercus pagoda</i>	6
<i>Carya ovata</i>	5
<i>Quercus falcata</i>	5
<i>Toxicodendron radicans</i> var. <i>radicans</i>	5
<i>Ulmus alata</i>	5
<i>Acer rubrum</i>	4
<i>Bignonia capreolata</i>	4
<i>Fraxinus americana</i>	4
<i>Liquidambar styraciflua</i>	4
<i>Lonicera japonica</i>	4
<i>Nyssa sylvatica</i>	4
<i>Smilax rotundifolia</i>	4
<i>Acer floridanum</i>	3
<i>Dichantheium laxiflorum</i>	3
<i>Parthenocissus quinquefolia</i>	3
<i>Arisaema triphyllum</i>	2
<i>Asimina triloba</i>	2
<i>Campsis radicans</i>	2
<i>Carex albolutescens</i>	2
<i>Celtis laevigata</i>	2
<i>Chasmanthium laxum</i>	2
<i>Clematis crispa</i>	2
<i>Crataegus marshallii</i>	2
<i>Euonymus americana</i>	2
<i>Galium uniflorum</i>	2
<i>Ilex opaca</i> var. <i>opaca</i>	2
<i>Juncus coriaceus</i>	2
<i>Ligustrum sinense</i>	2
<i>Mitchella repens</i>	2
<i>Podophyllum peltatum</i>	2
<i>Polystichum acrostichoides</i>	2
<i>Prenanthes altissima</i>	2
<i>Quercus michauxii</i>	2
<i>Smilax glauca</i>	2
<i>Trachelospermum difforme</i>	2
<i>Uvularia sessilifolia</i>	2
<i>Vaccinium fuscatum</i>	2

Floristic table for Group V.B.1: *Taxodium ascendens* / (*Nyssa biflora*) / *Leucothoe racemosa* - *Lyonia lucida* - *Morella cerifera* Depression Forest (CEGL007420) [Taxodium ascendens / \(Nyssa biflora\) / Leucothoe racemosa - Lyonia lucida - Morella cerifera Depression Forest](#)

NUMBER of PLOTS		2
AVERAGE RICHNESS		21
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Nyssa biflora</i>	100	7
<i>Lyonia lucida</i>	100	6
<i>Persea palustris</i>	100	5
<i>Ilex opaca</i> var. <i>opaca</i>	100	2
<i>Smilax laurifolia</i>	100	2
<i>Taxodium ascendens</i>	50	6
<i>Acer rubrum</i>	50	6
<i>Woodwardia virginica</i>	50	5
<i>Itea virginica</i>	50	5
<i>Pinus serotina</i>	50	4
<i>Arundinaria gigantea</i>	50	4
<i>Liquidambar styraciflua</i>	50	3
<i>Smilax rotundifolia</i>	50	3
<i>Clethra alnifolia</i>	50	2
<i>Drosera intermedia</i>	50	2
<i>Eriocaulon compressum</i>	50	2
<i>Gordonia lasianthus</i>	50	2
<i>Lachnanthes caroliana</i>	50	2
<i>Litsea aestivalis</i>	50	2
<i>Lyonia ligustrina</i>	50	2
<i>Thelypteris palustris</i> var. <i>pubescens</i>	50	2
<i>Carex albolutescens</i>	50	2
<i>Carex folliculata</i>	50	2
<i>Mitchella repens</i>	50	2
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	50	2
<i>Quercus laurifolia</i>	50	2
<i>Taxodium distichum</i>	50	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	50	2
<i>Woodwardia areolata</i>	50	2
<i>Morella cerifera</i>	50	2

Floristic table for Group V.B.2: *Taxodium distichum* - *Nyssa biflora* / *Berchemia scandens* - *Toxicodendron radicans* / *Woodwardia areolata* Forest (CEGL004429)

NUMBER of PLOTS	1
SPECIES RICHNESS	21
SPECIES	COVER CLASS
<i>Acer rubrum</i>	8
<i>Nyssa biflora</i>	7
<i>Liquidambar styraciflua</i>	6
<i>Lyonia lucida</i>	6
<i>Smilax rotundifolia</i>	5
<i>Itea virginica</i>	4
<i>Taxodium distichum</i>	4
<i>Arundinaria gigantea</i>	3
<i>Ilex opaca</i> var. <i>opaca</i>	3
<i>Carex albolutescens</i>	2
<i>Carex folliculata</i>	2
<i>Clethra alnifolia</i>	2
<i>Dichanthelium dichotomum</i> var. <i>dichotomum</i>	2
<i>Mitchella repens</i>	2
<i>Persea palustris</i>	2
<i>Quercus laurifolia</i>	2
<i>Smilax laurifolia</i>	2
<i>Triadenum tubulosum</i>	2
<i>Vaccinium fuscatum</i>	2
<i>Woodwardia areolata</i>	2
<i>Woodwardia virginica</i>	2

Floristic table for Group V.B.3: *Taxodium distichum* – *Nyssa biflora* / *Berchemia scandens* – *Toxicodendron radicans* / *Woodwardia areolata* Forest (CEGL004429)

NUMBER of PLOTS	1
SPECIES RICHNESS	21
SPECIES	COVER CLASS
<i>Acer rubrum</i>	8
<i>Nyssa biflora</i>	7
<i>Liquidambar styraciflua</i>	6
<i>Lyonia lucida</i>	6
<i>Smilax rotundifolia</i>	5
<i>Itea virginica</i>	4
<i>Taxodium distichum</i>	4
<i>Arundinaria gigantea</i>	3
<i>Ilex opaca</i> var. <i>opaca</i>	3
<i>Carex albolutescens</i>	2
<i>Carex folliculata</i>	2
<i>Clethra alnifolia</i>	2
<i>Dichanthelium dichotomum</i> var. <i>dichotomum</i>	2
<i>Mitchella repens</i>	2
<i>Persea palustris</i>	2
<i>Quercus laurifolia</i>	2
<i>Smilax laurifolia</i>	2
<i>Triadenum tubulosum</i>	2
<i>Vaccinium fuscatum</i>	2
<i>Woodwardia areolata</i>	2
<i>Woodwardia virginica</i>	2

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

NUMBER of PLOTS		2
AVERAGE RICHNESS		16
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Ilex coriacea</i>	100	8
<i>Gordonia lasianthus</i>	100	7
<i>Chamaecyparis thyoides</i>	100	7
<i>Lyonia lucida</i>	100	5
<i>Pinus serotina</i>	100	4
<i>Acer rubrum</i>	100	4
<i>Persea palustris</i>	100	3
<i>Gaylussacia frondosa</i>	100	3
<i>Vaccinium formosum</i>	100	2
<i>Smilax laurifolia</i>	100	2
<i>Ilex laevigata</i>	50	5
<i>Nyssa biflora</i>	50	4
<i>Clethra alnifolia</i>	50	2
<i>Tillandsia usneoides</i>	50	2
<i>Clethra alnifolia</i>	50	2
<i>Nyssa sylvatica</i>	50	2
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	50	2
<i>Pteridium aquilinum</i> var. <i>pseudocaudatum</i>	50	2
<i>Vaccinium fuscatum</i>	50	2
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	50	2
<i>Woodwardia virginica</i>	50	2
<i>Goodyera pubescens</i>	50	1
<i>Toxicodendron radicans</i> var. <i>radicans</i>	50	1

Floristic table for Group VI.B.1: *Gordonia lasianthus* – *Magnolia virginiana* – *Persea palustris* / *Sphagnum* ssp. Forest (CEGL007044)

	NUMBER of PLOTS AVERAGE RICHNESS	
		2 17
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Lyonia lucida</i>	100	7
<i>Persea palustris</i>	100	7
<i>Gordonia lasianthus</i>	100	7
<i>Smilax laurifolia</i>	100	5
<i>Nyssa biflora</i>	75	7
<i>Acer rubrum</i>	75	6
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	75	5
<i>Toxicodendron radicans</i> var. <i>radicans</i>	75	4
<i>Clethra alnifolia</i>	75	4
<i>Ilex opaca</i> var. <i>opaca</i>	75	2
<i>Itea virginica</i>	75	2
<i>Ilex coriacea</i>	50	6
<i>Gelsemium sempervirens</i>	50	3
<i>Ilex glabra</i>	50	2
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	50	2
<i>Symplocos tinctoria</i>	50	2
<i>Vaccinium fuscum</i>	50	2
<i>Leucothoe axillaris</i>	50	2
<i>Vaccinium formosum</i>	50	2
<i>Cyrilla racemiflora</i>	25	4
<i>Lechea racemulosa</i>	25	2
<i>Smilax walteri</i>	25	2
<i>Smilax glauca</i>	25	2
<i>Gaylussacia frondosa</i>	25	2
<i>Nyssa sylvatica</i>	25	2
<i>Listera australis</i>	25	1
<i>Tillandsia usneoides</i>	25	1
<i>Quercus nigra</i>	25	1
<i>Woodwardia areolata</i>	25	1
<i>Rhododendron viscosum</i>	25	1
<i>Arundinaria gigantea</i>	25	1
<i>Sorbus americana</i>	25	1

Floristic table for Group VI.B.2: *Magnolia virginiana* – *Persea palustris* / *Lyonia lucida* Forest (CEGL007049)

NUMBER of PLOTS	1
SPECIES RICHNESS	14
SPECIES	COVER CLASS
<i>Acer rubrum</i>	7
<i>Arundinaria tecta</i>	7
<i>Ilex coriacea</i>	7
<i>Lyonia lucida</i>	7
<i>Ilex laevigata</i>	6
<i>Clethra alnifolia</i>	5
<i>Aronia arbutifolia</i>	4
<i>Gaylussacia frondosa</i>	4
<i>Itea virginica</i>	4
<i>Rhododendron canescens</i>	4
<i>Smilax laurifolia</i>	4
<i>Vaccinium formosum</i>	4
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	2
<i>Persea palustris</i>	2

Floristic table for Group VI.C.1: *Cyrilla racemiflora* – *Zenobia pulverulenta* Shrubland (CEGL003943)

NUMBER of PLOTS	1
SPECIES RICHNESS	19
SPECIES	COVER CLASS
Zenobia pulverulenta	9
Woodwardia virginica	8
Ilex laevigata	6
Gordonia lasianthus	5
Ilex coriacea	5
Kalmia cuneata	5
Pinus serotina	5
Smilax laurifolia	5
Kalmia carolina	4
Chamaedaphne calyculata	3
Ilex glabra	3
Aronia arbutifolia	2
Itea virginica	2
Persea palustris	2
Sarracenia flava	2
Vaccinium formosum	2
Clethra alnifolia	1
Cyrilla racemiflora	1
Ilex opaca var. opaca	1

Floristic table for Group VI.D.1: *Pinus serotina* – *Gordonia lasianthus* / *Lyonia lucida* Woodland (CEGL003671)

NUMBER of PLOTS	4	
AVERAGE RICHNESS	14	
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Pinus serotina</i>	100	7
<i>Ilex coriacea</i>	100	7
<i>Gordonia lasianthus</i>	100	7
<i>Lyonia lucida</i>	100	7
<i>Smilax laurifolia</i>	100	4
<i>Persea palustris</i>	75	5
<i>Gaylussacia frondosa</i>	75	4
<i>Aronia arbutifolia</i>	75	2
<i>Vaccinium formosum</i>	50	5
<i>Nyssa biflora</i>	50	4
<i>Ilex laevigata</i>	50	4
<i>Acer rubrum</i>	50	4
<i>Kalmia carolina</i>	50	3
<i>Itea virginica</i>	50	2
<i>Clethra alnifolia</i>	50	2
<i>Zenobia pulverulenta</i>	50	2
<i>Ilex glabra</i>	50	1
<i>Symplocos tinctoria</i>	25	2
<i>Lyonia ligustrina</i>	25	2
<i>Morella cerifera</i>	25	2
<i>Vaccinium fuscatum</i>	25	2
<i>Gaylussacia dumosa</i>	25	1
<i>Tillandsia usneoides</i>	25	1
<i>Vaccinium crassifolium</i>	25	1
<i>Rhododendron viscosum</i>	25	1
<i>Cyrilla racemiflora</i>	25	1
<i>Pteridium aquilinum</i> var. <i>pseudocaudatum</i>	25	1
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	25	1

Floristic table for Group VII.A.1: No described community type resembles this plot

NUMBER of PLOTS	1
SPECIES RICHNESS	42
SPECIES	COVER CLASS
<i>Acer rubrum</i>	6
<i>Carpinus caroliniana</i> ssp. <i>caroliniana</i>	6
<i>Ilex opaca</i> var. <i>opaca</i>	6
<i>Persea palustris</i>	6
<i>Arundinaria tecta</i>	5
<i>Betula nigra</i>	5
<i>Clethra alnifolia</i>	5
<i>Liquidambar styraciflua</i>	5
<i>Pinus taeda</i>	5
<i>Gelsemium sempervirens</i>	4
<i>Lyonia lucida</i>	4
<i>Morella cerifera</i>	4
<i>Osmunda regalis</i> var. <i>spectabilis</i>	4
<i>Quercus nigra</i>	4
<i>Smilax rotundifolia</i>	4
<i>Symplocos tinctoria</i>	4
<i>Vaccinium elliotii</i>	4
<i>Vitis rotundifolia</i> var. <i>rotundifolia</i>	4
<i>Mitchella repens</i>	3
<i>Osmunda cinnamomea</i> var. <i>cinnamomea</i>	3
<i>Vaccinium formosum</i>	3
<i>Woodwardia areolata</i>	3
<i>Ampelopsis arborea</i>	2
<i>Bignonia capreolata</i>	2
<i>Boehmeria cylindrica</i>	2
<i>Cornus florida</i>	2
<i>Elephantopus tomentosus</i>	2
<i>Hexastylis arifolia</i> var. <i>arifolia</i>	2
<i>Hypericum hypericoides</i>	2
<i>Itea virginica</i>	2
<i>Nyssa sylvatica</i>	2
<i>Toxicodendron radicans</i> var. <i>radicans</i>	2
<i>Triadenum walteri</i>	2
<i>Vaccinium arboreum</i>	2
<i>Vaccinium crassifolium</i>	2
<i>Viola lanceolata</i>	2
<i>Alternanthera philoxeroides</i>	1
<i>Asplenium montanum</i>	1
<i>Epigaea repens</i>	1
<i>Eupatorium compositifolium</i>	1

Ilex glabra	1
Solidago caesia	1

Floristic table for Group VIII.A.1: *Taxodium ascendens* / *Cyrilla racemiflora* – *Zenobia pulverulenta* Woodland (CEGL003734)

NUMBER of PLOTS	1
SPECIES RICHNESS	12
SPECIES	COVER CLASS
Lyonia lucida	8
Smilax rotundifolia	8
Vaccinium formosum	8
Zenobia pulverulenta	7
Acer rubrum	6
Smilax laurifolia	6
Taxodium ascendens	6
Vaccinium fuscatum	6
Gordonia lasianthus	4
Persea palustris	4
Pinus serotina	4
Ilex glabra	2

Floristic table for Group VIII.A.2: *Taxodium ascendens* / *Panicum hemitomom* – *Polygala cymosa*
Woodland (CEGL003733)

NUMBER of PLOTS	4	
AVERAGE RICHNESS	17	
SPECIES	CONSTANCY	AVERAGE COVER CLASS
<i>Nyssa biflora</i>	100	6
<i>Ilex glabra</i>	100	5
<i>Persea palustris</i>	100	5
<i>Lachnanthes caroliana</i>	100	5
<i>Smilax glauca</i>	100	2
<i>Smilax laurifolia</i>	100	2
<i>Vaccinium pallidum</i>	100	2
<i>Centella erecta</i>	100	2
<i>Rhexia nashii</i>	100	2
<i>Vaccinium fuscatum</i>	100	2
<i>Ilex opaca</i> var. <i>opaca</i>	100	1
<i>Pinus taeda</i>	50	5
<i>Pinus serotina</i>	50	5
<i>Taxodium ascendens</i>	50	5
<i>Lyonia lucida</i>	50	4
<i>Morella cerifera</i>	50	3
<i>Woodwardia virginica</i>	50	3
<i>Acer rubrum</i>	50	2
<i>Eriocaulon compressum</i>	50	2
<i>Drosera brevifolia</i>	50	1
<i>Vaccinium arboreum</i>	50	1
<i>Gaylussacia frondosa</i>	50	1
<i>Smilax walteri</i>	50	1
<i>Triadenum walteri</i>	50	1

Floristic table for Group VIII.B.1: *Vaccinium formosum* – *Vaccinium fuscatum* / *Sphagnum cuspidatum* Shrubland (CEGL003907)

NUMBER of PLOTS	1
SPECIES RICHNESS	13
SPECIES	COVER CLASS
<i>Pinus palustris</i>	7
<i>Vaccinium fuscatum</i>	7
<i>Nyssa biflora</i>	6
<i>Lyonia mariana</i>	4
<i>Ilex glabra</i>	3
<i>Lyonia lucida</i>	3
<i>Vaccinium formosum</i>	3
<i>Gaylussacia frondosa</i>	2
<i>Lyonia ligustrina</i>	2
<i>Persea palustris</i>	2
<i>Vaccinium crassifolium</i>	2
<i>Vaccinium tenellum</i>	2
<i>Aronia arbutifolia</i>	1

Floristic table for Group VIII.B.2: *Panicum hemitomom* – *Eleocharis equisetoides* – *Rhynchospora inundata* Herbaceous Vegetation (CEGL004127)

NUMBER of PLOTS	1
SPECIES RICHNESS	2
SPECIES	COVER CLASS
<i>Panicum hemitomom</i>	8
<i>Xyris iridifolia</i>	8