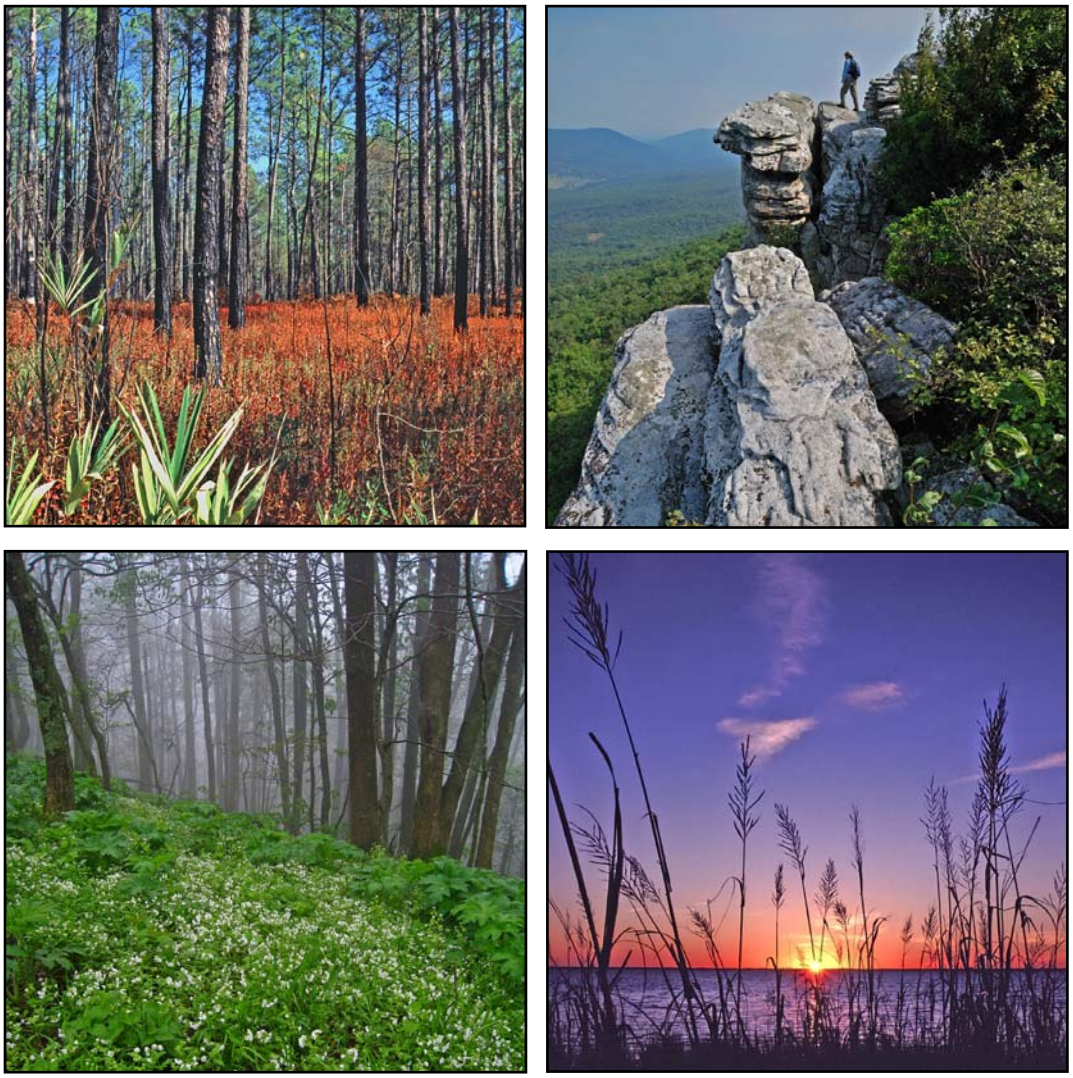
COMMONWEALTH of VIRGINIA

The Natural Communities of Virginia: Ecological Groups and Community Types



Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

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The Natural Communities of Virginia: Ecological Groups and Community Types

a listing with conservation status ranks

April 2011

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INTRODUCTION

The Virginia Department of Conservation and Recreation's Division of Natural Heritage (DCR-DNH) was established to protect Virginia's biological diversity. DCR-DNH is the state's first comprehensive program for conservation of our natural heritage, and includes an intensive statewide biological inventory, field surveys, database management, environmental review, GIS analysis and mapping, and natural area protection and stewardship. Through its actions the Division identifies Natural Heritage Resources that are in need of conservation attention while creating an efficient means of evaluating the impacts of balanced economic growth. Natural Heritage Resources are defined in the Virginia Natural Area Preserves Act of 1989 (Section 10.1-209 through 217, Code of Virginia), as the habitats of rare, threatened, and endangered plant and animal species; exemplary natural communities, habitats, and ecosystems; and other natural features of the Commonwealth.

To help prioritize conservation efforts, DCR-DNH maintains Natural Heritage Resource lists of rare plants and animals. These lists are revised as new data become available, usually every one to two years. Natural communities are described, inventoried, and tracked using a hierarchical classification developed by DCR-DNH Ecologists. The classification provides a framework in which to describe natural communities at a scale that is meaningful for conservation and land protection and management.

This document lists the full classification hierarchy and includes the 96 ecological groups and 311 community types currently defined for Virginia. It is meant to function as a companion to the Division's website, which provides descriptions and illustrations of all Ecological Groups, as well as more detailed information about the methods used to develop the classification. The website can be accessed at the following link:
http://www.dcr.virginia.gov/natural_heritage/ncintro.shtml

Classification Structure
The divisions of the Virginia classification hierarchy, from the top down, are: System, Ecological Class, Ecological Community Group, and Community Type.

The **System** is the upper-most level of the classification hierarchy. The System level is based on gross hydrologic regime and includes five divisions: the **Terrestrial System** includes all upland (non-wetland) habitats, while the **Palustrine System** encompasses all non-tidal wetlands dominated by woody plants and herbaceous emergents. The **Estuarine System** includes emergent and floating / submergent tidal wetlands, extending to the upstream limits of tidal influence. The **Riverine System** and the **Marine System** are each represented by a single ecological group that supports vascular plants. This system-level treatment generally follows Cowardin et al. (1979), except that freshwater tidal wetlands are included in the Estuarine System, and some communities that would be placed in the Lacustrine System of Cowardin et al. (1979) are included in the Palustrine System. Classifications of deepwater Lacustrine, Riverine, Estuarine, and Marine System communities that lack vascular plants, as well as of Subterranean System (cave) communities, are currently under study or development by other groups of specialists.

Ecological Class is a level of the classification that is meant to aid in organizing ecological community groups. We have defined 14 Ecological classes to organize the natural communities of Virginia. These classes are not necessarily mutually exclusive, but serve to group physiographically and topographically related community groups, which often co-occur on the landscape. Each Ecological Class is described below:

Terrestrial Ecological Classes:

- *High-Elevation Mountain Communities* - Ecological community groups with distributions centered above 1,070 m (3,500 ft) elevation and representing structurally and compositionally diverse vegetation rich in northern species.
- *Low-Elevation Mesic Forests* - Ecological community groups with distributions centered below 1,070 m (3,500 ft) elevation and representing mesophytic to submesophytic forest vegetation. A few community types of the Rich Cove and Slope Forests, Acidic Cove Forests, and Eastern Hemlock - Hardwood Forests occasionally extend into the high-elevation zone (> 1,070 m).

- *Low-Elevation Dry and Dry-Mesic Forests and Woodlands* - Ecological community groups with distributions centered below 1,070 m (3,500 ft) elevation and representing xerophytic to submesophytic forest and woodland vegetation. A few community types of the Montane Mixed Oak and Oak-Hickory Forests, Oak / Heath Forests, and Pine - Oak / Heath Woodlands extend significantly into the high-elevation zone (> 1,070 m), but are retained in this Class because of their compositional similarity to other members of these groups.
- *Low-Elevation Rock Outcrops and Barrens* - Ecological community groups with distributions centered below 1,070 m (3,500 ft) elevation and representing edaphically (or in one case, fire-) controlled woodland, scrub, herbaceous, and moss/lichen vegetation.
- *Maritime Zone Communities* - Ecological community groups with distributions and vegetation controlled by oceanic influences (e.g., deep sand deposits, salt spray, maritime microclimates). In Virginia, these are confined to narrow zones along both flanks of the Eastern Shore, the western shore of the Chesapeake Bay, and the Atlantic shore in extreme southeastern Virginia.
- *Sandy Woodlands of the Coastal Plain and Outer Piedmont* - Ecological community groups representing woodland vegetation of oligotrophic, fire-influenced or edaphically stressful, non-marine sandy habitats at very low elevations.

Palustrine Ecological Classes:

- *Alluvial Floodplain Communities* - Ecological community groups of alluvial habits with overland, non-tidal flooding regimes. Structurally and compositionally diverse vegetation is represented.
- *Non-Alluvial Wetlands of the Mountains* - Ecological community groups of groundwater-controlled, non-alluvial wetlands in the mountain region, including seeps, bogs, fens, and ponds. Structurally and compositionally diverse vegetation is represented.
- *Non-Alluvial Wetlands of the Coastal Plain and Piedmont* - Ecological community groups of groundwater-controlled, non-alluvial wetlands in the Coastal Plain and Piedmont. Structurally and compositionally diverse vegetation is represented.
- *Saturated Peatlands of the Coastal Plain* - Ecological community groups of fire-influenced, groundwater controlled, non-alluvial, Coastal Plain wetlands with deep organic soils and a saturated hydrologic regime. This class is represented in Virginia by woodland and forest vegetation, although shrublands are components further south. It is confined to the extreme southeastern portion of the state.
- *Non-Tidal Maritime Wetlands* - Ecological community groups of mostly groundwater-controlled wetlands subject to oceanic influences (e.g., deep sand deposits, salt spray, maritime microclimates). In Virginia, these are confined to narrow zones along both flanks of the Eastern Shore, the western shore of the Chesapeake Bay, and the Atlantic shore in extreme southeastern Virginia.

Riverine Ecological Class:

- *Riverine Vegetation* – Ecological communities of freshwater river channels, including floating and submergent herbaceous vegetation at water depths that exclude emergent species but permit bottom rooting of aquatic species. Vegetation with emergent species is included in the Palustrine Ecological classes.

Estuarine Ecological Class:

- *Tidal Wetlands* - Ecological community groups of regularly or irregularly flooded, lunar tidal wetlands and irregularly flooded, wind-tidal wetlands. Structurally and compositionally diverse vegetation is represented. In the descriptions that follow, the terms "high" and "low" marsh refer to the relative elevation of stands within the intertidal zone.

Marine Ecological Class:

- *Marine Vegetation* – Ecological community groups of sparsely vegetated ocean shores and flats where the substrate is exposed and flooded by ocean tides; includes vegetation of the splash zone.

The **Ecological Community Group** is the level of the classification that organizes community types. Ecological community groups are aggregations of community types with topographic, edaphic, physiognomic, and gross floristic similarities. Community types within an ecological community group are often distributed in different regions of the state and have floristic differences that result from biogeographic influences. Ecological Community Groups define natural communities at a relatively coarse scale that may be more appropriate for large-scale applications such as ecological modeling and vegetation mapping. In addition, they employ concepts and terminology that are communicable, familiar, and useful to a wide range of potential users.

The **Community Type** is the finest level of the classification system that is nested within the Ecological Community Group. Community Types are plant assemblages that exhibit similar total species composition and vegetation structure and that occur under similar habitat conditions, and, for the most part, repeat across the landscape. The Community Type level is equivalent to the Association level of the United States National Vegetation Classification System (USNVC) (Grossman *et al.* 1998, NatureServe 2010) and is a concept that has been used by most of the schools of floristic classification (Whittaker 1962, Braun-Blanquet 1965, Westhoff and van der Maarel 1973, Moravec 1993). The Community Type is the level at which community inventory and conservation action are aimed and, as such, it is the level at which community occurrences are tracked and for which conservation status ranks are assigned.

Relationship to the USNVC and NatureServe's Ecological System Classification

The United States National Vegetation Classification (USNVC) is a subset of the larger International Vegetation Classification of Ecological Communities (IVC). The USNVC is a hierarchical system that classifies vegetation using physiognomic (structural) features at the highest levels of the hierarchy and floristic features at the lower levels (Grossman et al 1997, FGDC 2008, Jennings et al 2009). Over the past twenty years, the USNVC has been developed and implemented by The Nature Conservancy (TNC), the network of Natural Heritage Programs, and, since 2001, NatureServe. NatureServe is the organization that currently maintains and updates the USNVC. Refinements to the floristic levels of the classification occur in the process of application, leading to ongoing proposed revisions that are reviewed both locally and nationally. DCR-DNH Ecologists work in partnership with NatureServe to develop the finest floristic level of the classification, the Association. USNVC Associations are equal in scale to Community Types in The Natural Communities of Virginia classification and, for the most part, have a one-to-one relationship to the Community Type. However, Community Types have Virginia-specific names and concepts, while Associations are named and defined based on the range-wide expression of the vegetation.

In 2003, NatureServe developed a classification of Ecological Systems (Comer et al 2003). Ecological Systems are not part of the USNVC hierarchy, but are vegetation-based, and can be linked to the USNVC at the middle levels of the hierarchy (Groups and Macrogroups) (Gawler et al 2008). Ecological Systems have been used as the basis for several national and regional scale classification and mapping efforts, including the Northeastern Terrestrial Wildlife Habitat Classification (Gawler et al 2008), LANDFIRE (The National Map Landfire 2007), and the Southeast GAP analysis project (USGS. National Gap Analysis Program 2008). Ecological Systems are recurring groups of biological communities (i.e. associations) that are found in similar physical environments and are influenced by similar dynamic ecological processes (Comer et al. 2003). Ecological Systems are defined based on biogeographic region, landscape scale, dominant cover type, and disturbance regime and, as such, are coarser in scale than the Association or Community Type. A single Association may occur in more than one Ecological System depending on the geographic regions in which it is found. In Virginia, a single Community Type may be split among several Ecological Systems that have been defined by geographic regions. The Ecological Group level in The Natural Communities of Virginia classification is similar in concept to Ecological System, but the two classification units differ in geographic scale. Ecological Groups are defined within the constraints of the state of Virginia, while Ecological Systems are regional in scope, with divisions along physiographic provinces. To illustrate this

relationship, a crosswalk of The Natural Communities of Virginia to Ecological Systems is provided on our website at http://www.dcr.virginia.gov/natural_heritage/documents/vaclass_system_xwalk_040610.xls

Changes to Ecological Community Groups since Version 2.2 and Community Types since 2010
Development of the state classification is an iterative process of successive approximations. Since completion of the Second Approximation, version 2.2 (Fleming *et al.* 2006), analysis of several large, regional datasets and ongoing inventory of vegetation across the state have led to a number of changes to the Ecological Group Classification. These changes, as well as changes to Community Types since the publication of the 2010 list, are summarized in Appendix A of this document.

Format of the List

The System and Ecological Class are listed at the top of each page.

Ecological Community Groups are organized into fourteen Ecological Classes.

Community Types are listed in alphabetical order beneath each Ecological Community Group of which they are a member.

For each Community Type, the following information is provided:

Scientific Name - The scientific name (State Name) of the community type based on Latin names of dominant or characteristic plant species. Those species occurring in the same stratum are separated by a hyphen (-); those occurring in different strata are separated by a slash (/). Species found less consistently in all occurrences of a community type, are placed in parentheses. Names preceded by an asterisk are considered "provisional" and should be considered tentative. In most cases, these putative types are based on limited data and analysis, and are subject to reinterpretation or changes in concept as additional data become available.

Common Name – The common or colloquial name (State Common Name) of the community type. The common name is a unique name by which the community type may be more easily recognized or described. Common names are based on the occurrence of the community in Virginia, and may differ from the Global Common Name assigned by NatureServe.

Global Rank **–** Global conservation status ranks characterize the relative rarity or endangerment of the corresponding USNVC association (see below) range-wide and are assigned at NatureServe's Headquarters or by a designated lead office in the Heritage/Conservation Data Center Network. Definitions of global ranks are provided in Appendix B of this document. A table showing the number of classified community types by conservation rank is provided in Appendix C. of this document.

State Rank **–** State conservation status ranks characterize the relative rarity or endangerment of the community within Virginia. State ranks are assigned by the DCR-DNH and apply to a community only as it exists in each state, regardless of its range-wide status. Definitions of state ranks are provided in Appendix B of this document. A table showing the number of classified community types by conservation rank is provided in Appendix C. of this document

USNVC Code **–** Each community type is crosswalked to the equivalent unit (i.e. the "association") in the United States National Vegetation Classification (USNVC). The USNVC code is a unique identifier for the Association from USNVC databases (NatureServe 2010). Associations have a code that begins with the string "CEGL" (Community Element GLobal) followed by a unique 6-digit number. Community Types that are not defined in the USNVC are listed as "no equivalent" in this field. Each USNVC code in the list is hyperlinked to the corresponding association description on NatureServe's Explorer website (NatureServe 2009). These descriptions contain detailed range-wide information for the associations. As of this writing, associations considered provisional in the USNVC

are not served on NatureServe Explorer, thus these USNVC codes are hyperlinked to a provisonal description on the DCR-DNH website.

Future Plans

The list of Ecological Community Groups and Community Types, with conservation status ranks, will be updated annually as new information becomes available. Over time, we will develop detailed descriptions of the Community Types. These descriptions will include information on the community's distribution, conservation status, management considerations, as well as key features that will help identify the community in the field. We plan to provide this information in a format that can be obtained via our website. In the meantime, more detailed information may be obtained by following the links provided in this list, and on the DCR-DNH website to the NatureServe Explorer treatments of the corresponding USNVC associations, many of which were authored by DCR-DNH ecologists.

Feedback

We welcome all comments and suggestions on the classification, particularly information about natural vegetation with which you are familiar that does not fit into this classification. We also appreciate information on high-quality examples of natural communities, as this will further our understanding of the conservation status of these communities, as well as provide data to help refine the classification. Comments and suggestions can be directed to Gary Fleming <gary.fleming@dcr.virginia.gov> or Karen Patterson <karen.patterson@dcr.virginia.gov>.

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The Natural Communities of Virginia: Ecological Groups and Community Types

a listing with conservation status ranks

Terrestrial - *High-Elevation Mountain Communities*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Spruce and Fir Forests				
Abies fraseri / *Dryopteris campyloptera* - *Oxalis montana* Forest	Fraser Fir Forest	G1	S1	CEGL006049
Picea rubens - (*Abies fraseri*) / (*Rhododendron catawbiense, Rhododendron maximum*) Forest	Southern Appalachian Red Spruce Forest (Evergreen Shrub Type)	G1	S1	CEGL007130
Picea rubens / *Acer rubrum* / *Maianthemum canadense* - (*Lycopodium clavatum, Lycopodium dendroideum*) Forest	Central Appalachian Red Spruce Forest	G2	S1	CEGL008501
Picea rubens / *Viburnum lantanoides* - *Vaccinium erythrocarpum* / *Huperzia lucidula* - *Clintonia borealis* Forest	Southern Appalachian Red Spruce Forest (Deciduous Shrub Type)	G2	S1	CEGL007131
Southern Appalachian Shrub and Grass Balds				
Danthonia compressa - *Carex brunnescens* ssp. *sphaerostachya* - *Sibbaldiopsis tridentata* Herbaceous Vegetation	Southern Appalachian Grassy Bald	G1	S1	CEGL004242
Kalmia latifolia - *Rhododendron catawbiense* - *Gaylussacia baccata* Shrubland	Southern Appalachian Mixed Heath Bald	G2G3	S1	CEGL003814
Menziesia pilosa - *Vaccinium* (*erythrocarpum, simulatum, corymbosum*) - *Sorbus americana* Shrubland	Southern Appalachian Deciduous Heath Bald	GNR	S1	CEGL004819
Rhododendron catawbiense Shrubland	Southern Appalachian Catawba Rhododendron Heath Bald	G2	S1	CEGL003818
Northern Hardwood Forests				
Acer saccharum - *Betula alleghaniensis* - *Fagus grandifolia* - *Aesculus flava* / *Ageratina altissima* var. *roanensis* - *Eurybia chlorolepis* Forest	Southern Appalachian Northern Hardwood Forest	G3G4	S3	CEGL007285
Betula alleghaniensis - *Quercus rubra* / *Acer* (*pensylvanicum, spicatum*) / *Dryopteris intermedia* - *Oclemena acuminata* Forest	Central Appalachian Northern Hardwood Forest (Yellow Birch - Northern Red Oak Type)	G3G4	S3	CEGL008502
Fagus grandifolia - *Tsuga canadensis* / *Dryopteris intermedia* Forest	Allegheny Mountain Beech - Hemlock Forest	G4G5	S1	CEGL006088
Prunus serotina - *Acer saccharum* - *Fagus grandifolia* / *Carex digitalis* - (*Dennstaedtia punctilobula*) Forest	Central Appalachian Northern Hardwood Forest (Sugar Maple - Beech - Black Cherry Type)	G4	S2	CEGL006045
High-Elevation Boulderfield Forests and Woodlands				
Betula alleghaniensis / *Acer spicatum* / *Viburnum lantanoides* - *Ribes glandulosum* Forest	Southern Appalachian High-Elevation Boulderfield Forest / Woodland	G2G3	S1	CEGL006124
Betula alleghaniensis / *Sorbus americana* - *Acer spicatum* / *Polypodium appalachianum* Forest	Central Appalachian High-Elevation Boulderfield Forest / Woodland	G2	S2	CEGL008504
High-Elevation Cove Forests				
Acer saccharum - *Aesculus flava* - (*Betula alleghanienensis, Fagus grandifolia*) / *Actaea podocarpa* - *Dryopteris intermedia* Forest	Southern Appalachian High-Elevation Rich Cove Forest	G3	S2	CEGL004973
Acer saccharum - *Tilia americana* - *Fagus grandifolia* / *Caulophyllum thalictroides* - *Viola blanda* - (*Allium tricoccum*) Forest	Northern Appalachian High-Elevation Rich Cove Forest	G4?	S1	CEGL005008
Betula alleghaniensis - *Tsuga canadensis* / *Rhododendron maximum* Forest	High-Elevation Acidic Cove Forest	G3G4	S2	CEGL007861

Terrestrial - *High-Elevation Mountain Communities*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Northern Red Oak Forests				
Quercus rubra - (*Quercus alba*) / *Ilex montana* / *Dennstaedtia punctilobula* - *Lysmiachia quadrifolia* Forest	Central Appalachian Northern Red Oak Forest	G3G4	S3	CEGL008506
Quercus rubra / *Rhododendron* (*catawbiense, maximum*) Forest	Southern Appalachian Northern Red Oak Forest (Evergreen Shrub Type)	G4	S2?	CEGL007299
Quercus rubra / *Rhododendron calendulaceum* - *Vaccinium simulatum* - *Vaccinium erythrocarpum* / *Thelypteris noveboracensis* Forest	Southern Appalachian Northern Red Oak Forest (Deciduous Shrub Type)	G4	S3	CEGL007300
High-Elevation Outcrop Barrens				
Aronia melanocarpa - *Gaylussacia baccata* / *Carex pensylvanica* Shrubland	High-Elevation Outcrop Barren (Black Chokeberry Igneous / Metamorphic Type)	G1?	S1	CEGL008508
Diervilla lonicera - *Solidago randii* - *Deschampsia flexuosa* - *Sedum telephioides* - *Saxifraga michauxii* Herbaceous Vegetation	High-Elevation Greenstone Barren	G1	S1	CEGL008536
Kalmia latifolia - *Gaylussacia baccata* - *Vaccinium* (*angustifolium, pallidum*) - *Menziesia pilosa* Shrubland	Central Appalachian High-Elevation Heath Barren / Pavement	G2	S1	CEGL003939
Minuartia groenlandica - *Paronychia argyrocoma* - *Saxifraga michauxii* Herbaceous Vegetation	High-Elevation Outcrop Barren (Greenland Stitchwort Igneous / Metamorphic Type)	G1	S1	CEGL008509
Salix humilis var. *tristis* / *Schizachyrium scoparium* - *Sibbaldiopsis tridentata* - *Helianthemum bicknellii* - *Rhynchospora globularis* Shrub Herbaceous Vegetation	Southern Blue Ridge High-Elevation Mafic Barren	G1	S1	CEGL004238

Terrestrial - *Low-Elevation Mesic Forests*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Rich Cove and Slope Forests				
Acer saccharum - Tilia americana / *Caulophyllum thalictroides - Laportea canadensis - Osmorhiza claytonii* Forest	Central Appalachian Rich Cove Forest (Sugar Maple - Basswood Type)	G4?	S3	CEGL006237
Acer saccharum - Tilia americana var. *heterophylla - Aesculus flava* / *Caulophyllum thalictroides - Hydrophyllum* (*canadense, macrophyllum*) Forest	Southern Appalachian Rich Cove Forest (Sugar Maple - Buckeye Type)	G3G4	S3	CEGL007695
Liriodendron tulipifera - Fraxinus americana - Tilia americana / *Lindera benzoin* / *Cimicifuga racemosa* Forest	Appalachian Rich Cove Forest (Tuliptree - Mixed Hardwoods Type)	G4	S4	CEGL007710
Tilia americana var. *heterophylla - Aesculus flava - Acer saccharum* / *Staphylea trifolia* / *Cystopteris bulbifera - Asarum canadense* Forest	Southern Appalachian Limestone Rich Cove Forest	G3G4	S3	CEGL006472
Basic Mesic Forests				
Acer (*nigrum, saccharum*) - *Tilia americana* / *Asimina triloba* / *Jeffersonia diphylla - Caulophyllum thalictroides* Forest	Central Appalachian / Piedmont Basic Mesic Forest (Twinleaf - Blue Cohosh Type)	G4G5	S4	CEGL008412
Acer barbatum - Fagus grandifolia - Carya cordiformis / *Aesculus sylvatica* / *Cimicifuga racemosa* Forest	Southern Piedmont Basic Mesic Forest	G3G4	S3	CEGL008466
Fagus grandifolia - Acer barbatum - Quercus muhlenbergii / *Sanguinaria canadensis* Forest	Coastal Plain Calcareous Ravine Forest	G2?	S2	CEGL007181
Fagus grandifolia - Liriodendron tulipifera - Carya cordiformis / *Lindera benzoin* / *Podophyllum peltatum* Forest	Coastal Plain / Outer Piedmont Basic Mesic Forest	G4?	S3	CEGL006055
Liriodendron tulipifera - Quercus rubra - Fraxinus americana / *Asimina triloba* / *Cimicifuga racemosa - Uvularia perfoliata* Forest	Inner Piedmont / Lower Blue Ridge Basic Mesic Forest	G4?	S4	CEGL006186
Acidic Cove Forests				
Liriodendron tulipifera - Betula lenta - Tsuga canadensis / *Rhododendron maximum* Forest	Southern Appalachian Acidic Cove Forest	G5	S4S5	CEGL007543
Liriodendron tulipifera - Pinus strobus - Tsuga canadensis - Quercus (*rubra, alba*) / *Polystichum acrostichoides* Forest	Central Appalachian Acidic Cove Forest (White Pine - Hemlock - Mixed Hardwoods Type)	G4?	S4	CEGL006304
Tsuga canadensis - (*Fagus grandifolia, Tilia americana* var. *heterophylla*) / *Magnolia tripetala* Forest	Cumberland Mountain Acidic Cove Forest	G4	S1?	CEGL008407
Tsuga canadensis - Quercus montana - Liriodendron tulipifera / *Kalmia latifolia* - (*Rhododendron catawbiense*) Forest	Central Appalachian Acidic Cove Forest (Hemlock - Chestnut Oak Type)	G4	S3	CEGL008512
Mesic Mixed Hardwood Forests				
Fagus grandifolia - Quercus (alba, falcata, pagoda) / Symplocos tinctoria - Stewartia malacodendron Forest	Southern Coastal Plain Mesic Mixed Hardwood Forest	G3	S2S3	CEGL007211
Fagus grandifolia - Quercus (*alba, rubra*) - *Liriodendron tulipifera* / (*Ilex opaca* var. *opaca*) / *Polystichum acrostichoides* Forest	Northern Coastal Plain / Piedmont Mesic Mixed Hardwood Forest	G5	S5	CEGL006075
Eastern Hemlock - Hardwood Forests				
Tsuga canadensis - (*Betula alleghaniensis, Quercus rubra*) / *Ilex montana - Rhododendron catawbiense* Forest	Appalachian Hemlock / Catawba Rhododendron Forest	G1?	S1	CEGL008513
Tsuga canadensis - Betula alleghaniensis / *Maianthemum canadense* Forest	Appalachian Hemlock - Northern Hardwood Forest	G4?	S2	CEGL006109
Tsuga canadensis - Fagus grandifolia - Quercus (*montana, alba*) Forest	Piedmont / Coastal Plain Hemlock - Hardwood Forest	G2G3	S1S2	CEGL006474

Terrestrial - *Low-Elevation Mesic Forests*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Northern White-Cedar Slope Forests				
Thuja occidentalis - Pinus strobus - Tsuga canadensis / *Carex eburnea* Forest	Northern White-Cedar Slope Forest	G1G2	S1	CEGL008426

Terrestrial - *Low-Elevation Dry and Dry-Mesic Forests and Woodlands*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Dry-Mesic Calcareous Forests				
Acer saccharum - Quercus rubra - Carya (*glabra, ovata*) / *Ageratina altissima* Forest	Dry-Mesic Calcareous Forest (Sugar Maple - Northern Red Oak Type)	G4	S4	CEGL008517
Quercus (*alba, rubra*) - *Carya ovalis - Liriodendron tulipifera* / *Cercis canadensis* / *Polystichum acrostichoides* Forest	Dry-Mesic Calcareous Forest (Southern Ridge and Valley / Cumberlands Type)	G4	S3?	CEGL007233
Quercus (*muhlenbergii, alba, rubra*) - *Carya cordiformis* / *Lindera benzoin - Viburnum prunifolium* Forest	Dry-Mesic Calcareous Forest (Chinkapin Oak - Mixed Hardwoods Type)	G3G4	S3S4	CEGL004793
Basic Oak - Hickory Forests				
Quercus alba - Carya glabra - Fraxinus americana / *Cercis canadensis* / *Muhlenbergia sobolifera - Elymus hystrix* Forest	Northern Hardpan Basic Oak - Hickory Forest	G3	S3	CEGL006216
Quercus alba - Quercus rubra - Carya (*alba, ovata*) / *Cercis canadensis* Forest	Southern Piedmont Basic Oak - Hickory Forest	G3G4	S3?	CEGL007232
Quercus rubra - Quercus montana - Carya ovalis / (*Cercis canadensis*) / *Solidago* (*caesia, curtisii*) Forest	Inner Piedmont / Lower Blue Ridge Basic Oak - Hickory Forest	G3G4	S3S4	CEGL008514
Acidic Oak - Hickory Forests				
Quercus alba - Quercus montana - Carya glabra / *Cornus florida* / *Vaccinium pallidum* / *Carex pensylvanica* Forest	Central Appalachian Acidic Oak - Hickory Forest	G4	S4	CEGL008515
Quercus alba - Quercus rubra - Carya alba / *Cornus florida* / *Vaccinium stamineum* / *Desmodium nudiflorum* Forest	Piedmont Acidic Oak - Hickory Forest	G4G5	S4S5	CEGL008475
Montane Mixed Oak and Oak - Hickory Forests				
Quercus alba – Quercus (*rubra, montana*) / *Oxydendrum arboreum* / *Rhododendron calendulaceum* / *Zizia trifoliata* Forest	Southern Appalachian Montane Mixed Oak Forest (White Oak Type)	G4G5	S3	CEGL007230
Quercus montana - Quercus rubra / *Hamamelis virginiana* Forest	Central Appalachian Dry-Mesic Chestnut Oak - Northern Red Oak Forest	G5	S4	CEGL006057
Quercus montana - Quercus velutina / *Oxydendrum arboreum - Cornus florida* Forest	Southern Appalachian Montane Mixed Oak Forest (Chestnut Oak - Black Oak Subxeric Type)	G4G5	S3S4	CEGL007267
Quercus rubra - Carya (*ovalis, ovata*) - *Fraxinus americana* / *Cimicifuga racemosa - Hydrophyllum virginianum* Forest	Central Appalachian Montane Oak - Hickory Forest (Rich Type)	G3G4	S3S4	CEGL008518
Quercus rubra - Quercus (*montana, alba*) - *Carya ovalis* / *Carex pensylvanica* - (*Calamagrostis porteri*) Forest	Central Appalachian Montane Oak - Hickory Forest (Acidic Type)	G3G4	S3S4	CEGL008516
Quercus rubra - Quercus montana - Magnolia (*acuminata, fraseri*) / *Acer pensylvanicum* Forest	Southern Appalachian Montane Mixed Oak Forest (Northern Red Oak - Chestnut Oak Submesic Type)	G4?	S3S4	CEGL004817
Oak / Heath Forests				
Quercus alba - Quercus (*coccinea, velutina, montana*) / *Gaylussacia baccata* Forest	Piedmont / Central Appalachian Mixed Oak / Heath Forest	G5	S5	CEGL008521
Quercus alba - Quercus falcata - (*Carya pallida*) / *Gaylussacia frondosa* Forest	Coastal Plain Mixed Oak / Heath Forest	G4G5	S4	CEGL006269
Quercus montana - (*Quercus coccinea, Quercus rubra*) / *Kalmia latifolia* / *Vaccinium pallidum* Forest	Central Appalachian / Inner Piedmont Chestnut Oak Forest	G5	S5	CEGL006299
Quercus montana - Quercus coccinea / *Kalmia latifolia* - (*Leucothoe recurva*) / *Galax urceolata* Forest	Southern Appalachian Chestnut Oak Forest	G5	S4S5	CEGL006271

Terrestrial - *Low-Elevation Dry and Dry-Mesic Forests and Woodlands*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Oak / Heath Forests (continued)				
Quercus montana - Quercus rubra / Kalmia latifolia / Vaccinium angustifolium Forest	Northern Appalachian Chestnut Oak Forest	G5	S3	CEGL006282
Quercus montana - Quercus rubra / Rhododendron maximum / Galax urceolata Forest	Southern Appalachian Chestnut Oak - Northern Red Oak / Great Rhododendron Forest	G4	S3?	CEGL006286
Quercus montana - Quercus rubra / Vaccinium pallidum - (*Rhododendron periclymenoides*) Forest	Central Appalachian Xeric Chestnut Oak - Northern Red Oak / Heath Forest	G3G4	S3S4	CEGL008523
Quercus montana / Deschampsia flexuosa - Solidago bicolor Forest	Coastal Plain River-Bluff Xeric Oak Forest	GNR	S1	CEGL006490
Quercus montana / Rhododendron catawbiense - Kalmia latifolia Forest	Chestnut Oak / Catawba Rhododendron Forest	G3?	S3	CEGL008524
Eastern White Pine - Hardwood Forests				
Pinus strobus - Quercus alba - Quercus montana / Vaccinium stamineum Forest	Central Appalachian / Piedmont White Pine - Xeric Oak Forest	G4	S4	CEGL008539
Piedmont / Coastal Plain Oak - Beech / Heath Forests				
Fagus grandifolia - Quercus (*alba, velutina, montana*) / *Kalmia latifolia* Forest	Northern Coastal Plain / Piedmont Oak - Beech / Heath Forest	G4	S3	CEGL006919
Fagus grandifolia - Quercus alba / Oxydendrum arboreum - Symplocos tinctoria / Kalmia latifolia / (*Galax urceolata*) Forest	Southern Coastal Plain Oak - Beech / Heath Forest	G2G3	S2?	CEGL004539
Carolina Hemlock Forests				
Tsuga caroliniana / Kalmia latifolia - Rhododendron catawbiense Forest	Carolina Hemlock Forest	G2	S1	CEGL007139
Pine - Oak / Heath Woodlands				
Pinus (*pungens, rigida*) - *Quercus montana* / (*Quercus ilicifolia*) / *Gaylussacia baccata* Woodland	Central Appalachian Pine - Oak / Heath Woodland	G4	S4	CEGL004996
Pinus pungens - Pinus rigida - (*Quercus montana*) / *Kalmia latifolia - Vaccinium pallidum* Woodland	Southern Appalachian Pine - Oak / Heath Woodland	G3	S3?	CEGL007097
Mountain / Piedmont Acidic Woodlands				
Pinus echinata - Quercus montana - Carya alba / Sorghastrum nutans - Pityopsis graminifolia var. *latifolia - Solidago odora* Woodland	Cumberland Mountains Shortleaf Pine Woodland	G2?	S1	CEGL004445
Pinus rigida - Quercus montana / Gaylussacia baccata / Carex pensylvanica Woodland	Appalachian Pitch Pine Pavement Woodland	GNR	S2?	CEGL004821
Pinus virginiana - Juniperus virginiana var. *virginiana - Quercus stellata / Amelanchier stolonifera / Danthonia spicata / Leucobryum glaucum* Woodland	Riverside Bedrock Terrace Woodland	G2?	S1	CEGL008449
Quercus montana - Pinus virginiana - (*Pinus pungens*) / *Schizachyrium scoparium - Dichanthelium depauperatum* Woodland	Central Appalachian Xeric Chestnut Oak - Virginia Pine Woodland	G3?	S3	CEGL008540
Mountain / Piedmont Basic Woodlands				
Carya glabra - Fraxinus americana - Quercus montana / Ostrya virginiana / Philadelphus hirsutus Woodland	Southern Blue Ridge Calcareous Shale Woodland	G2	S1	CEGL007720
Fraxinus americana - Carya glabra / Muhlenbergia sobolifera - Helianthus divaricatus - Solidago ulmifolia Woodland	Central Appalachian Basic Ash - Hickory Woodland	G2	S2	CEGL003683

Terrestrial - *Low-Elevation Dry and Dry-Mesic Forests and Woodlands*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Montane Dry Calcareous Forests and Woodlands				
Fraxinus americana - Carya ovata / *Frangula caroliniana* / *Helianthus hirsutus* - (*Polymnia canadensis*) Forest	Cumberland Mountains Dry Calcareous Forest	G1?	S1	CEGL008458
Juniperus virginiana - Quercus muhlenbergii / *Rhus aromatica* / *Pellaea atropurpurea* Woodland	Central Appalachian Chinkapin Oak - Eastern Red Cedar Woodland	G3G4	S2	CEGL006231
Quercus muhlenbergii - Acer (*nigrum, saccharum*) / *Ostrya virginiana* / *Erigeron pulchellus - Packera obovata* Forest	Appalachian Sugar Maple - Chinkapin Oak Dry Calcareous Forest	G4?	S4?	CEGL006017
Quercus muhlenbergii - Juniperus virginiana / *Packera plattensis - Parthenium auriculatum - Schizachyrium scoparium* Woodland	Ridge and Valley Dolomite Woodland	G2	S2	CEGL006030
Quercus shumardii - Quercus muhlenbergii / *Juniperus virginiana - Viburnum rufidulum* / *Sanicula odorata - Bignonia capreolata* Forest	Southern Ridge and Valley Dry Calcareous Forest	G3	S2?	CEGL007699
Coastal Plain Dry Calcareous Forests and Woodlands				
Quercus muhlenbergii / *Cercis canadensis* / *Dichanthelium boscii - Bromus pubescens - Erigeron pulchellus* var. *pulchellus - Aquilegia canadensis* Forest	Coastal Plain Dry Calcareous Forest	G1	S1	CEGL007748
Oak - Hickory Woodlands and Savannas				
Quercus alba - Carya alba / *Schizachyrium scoparium - Chrysogonum virginianum - Ageratina aromatica* - (*Salvia urticifolia*) Woodland	Basic Oak-Hickory Woodland / Savanna	G1?	S1	CEGL003721
Quercus alba - Quercus falcata - Carya alba / *Schizachyrium scoparium - Lespedeza procumbens* Woodland	Acidic Oak-Hickory Woodland / Savanna	G1?	S1	CEGL003722
Piedmont Hardpan Forests				
Carya glabra - Quercus (*rubra, montana*) - *Fraxinus americana* / *Viburnum rafinesquianum* / *Piptochaetium avenaceum* Forest	Potomac River Bedrock Terrace Hardpan Forest	G1G2	S1	CEGL006209
Quercus stellata - Quercus alba - Carya glabra / *Ulmus alata* / *Piptochaetium avenaceum - Scleria oligantha* Forest	Southern Piedmont Hardpan Forest	G2G3	S2	CEGL003714
Low-Elevation Boulderfield Forests and Woodlands				
Acer saccharum - Tilia americana / *Staphylea trifolia* / *Dryopteris marginalis* - (*Impatiens pallida*) Forest	Central Appalachian / Piedmont Low-Elevation Rich Boulderfield Forest	G3G4	S2S3	CEGL006471
Betula lenta - Quercus montana / *Parthenocissus quinquefolia* Woodland	Central Appalachian Acidic Boulderfield Woodland	G3G4	S3S4	CEGL006565
Tilia americana - Fraxinus americana / *Acer pensylvanicum - Ostrya virginiana* / *Parthenocissus quinquefolia - Impatiens pallida* Forest	Central Appalachian Montane Rich Boulderfield Forest	G3	S3	CEGL008528

Terrestrial - *Low-Elevation Rock Outcrops and Barrens*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Low-Elevation Acidic Outcrop Barrens				
Saxifraga michauxii Herbaceous Vegetation	Appalachian Low-Elevation Acidic Outcrop Barren (Michaux's Saxifrage Type)	G3?	S2?	CEGL004524
Low-Elevation Basic Outcrop Barrens				
Fraxinus americana - Juniperus virginiana / (*Rhus aromatica*) / *Schizachyrium scoparium - Carex pensylvanica - Cheilanthes lanosa* Wooded Herbaceous Vegetation	Central Appalachian Mafic / Calcareous Barren (Low-Elevation Type)	G2	S2	CEGL006037
Fraxinus americana - Juniperus virginiana / *Opuntia humifusa - Talinum teretifolium - Polygonum tenue* Wooded Herbaceous Vegetation	Northern Piedmont Mafic Barren	G1	S1	CEGL006294
Fraxinus americana / *Physocarpus opulifolius* / *Carex pensylvanica - Allium cernuum* - (*Phacelia dubia*) Wooded Herbaceous Vegetation	Central Appalachian Mafic / Calcareous Barren (Mid-Elevation Type)	G2	S2	CEGL008529
Juniperus virginiana / *Chionanthus virginicus* / *Cheilanthes lanosa - Sedum glaucophyllum* Woodland	Southern Piedmont Mafic / Calcareous Barren	G2	S1	CEGL004443
Minuartia glabra - Talinum teretifolium - Saxifraga michauxii - Dodecatheon meadia Herbaceous Vegetation	Southern Blue Ridge Low-Elevation Granitic Barren	G2	S1	CEGL004991
Quercus stellata / *Schizachyrium scoparium - Sorghastrum nutans - Pycnanthemum tenuifolium - Packera paupercula* Wooded Herbaceous Vegetation	Southern Blue Ridge Low-Elevation Mafic Barren	G1	S1	CEGL006215
Limestone and Dolomite Barrens				
Juniperus virginiana / *Schizachyrium scoparium - Andropogon gerardii - Carex eburnea* Wooded Herbaceous Vegetation	Limestone / Dolomite Barren (Ridge and Valley Hillslope Type)	G2	S1S2	CEGL004738
Juniperus virginiana / *Schizachyrium scoparium - Bouteloua curtipendula - Sisyrinchium albidum - Packera millefolia* Wooded Herbaceous Vegetation	Limestone / Dolomite Barren (Southern Ridge and Valley Type)	G2G3	S1S2	CEGL005131
Mountain / Piedmont Calcareous Cliffs				
Asplenium ruta-muraria - Pellaea atropurpurea Sparse Vegetation	Appalachian Xeric Calcareous Cliff	G3G4	SU	CEGL004476
Hydrangea arborescens / *Sedum ternatum - Polypodium virginianum* Shrubland	Piedmont / Mountain Mafic / Calcareous Cliff	GNR	S1?	CEGL006479
Thuja occidentalis / *Carex eburnea - Sedum glaucophyllum* Woodland	Northern White-Cedar Cliff Woodland	G2G3	S2	CEGL002596
Mountain / Piedmont Acidic Cliffs				
Asplenium montanum - Heuchera parviflora var. *parviflora - Silene rotundifolia* Sparse Vegetation	Cumberland Mountains Xeric Sandstone Cliff	G3G4	S1?	CEGL004392
Asplenium montanum Sparse Vegetation	Central Appalachian / Piedmont Acidic Cliff	GNR	SU	CEGL004391
Central Appalachian Shale Barrens				
(*Pinus virginiana, Juniperus virginiana*) / *Schizachyrium scoparium - Eriogonum allenii* Wooded Herbaceous Vegetation	Central Appalachian Shale Barren (Shale Ridge Bald / Prairie Type)	G2	S2	CEGL008530
Juniperus virginiana / *Carex pensylvanica - Cheilanthes lanosa - Eriogonum allenii* Woodland	Central Appalachian Calcareous Shale Barren	G2	S2	CEGL006037
Pinus virginiana - Quercus montana - Carya glabra / *Phlox subulata - Packera antennariifolia* Woodland	Central Appalachian Shale Barren (Southern Type)	G3G4	S3S4	CEGL006562

Terrestrial - *Low-Elevation Rock Outcrops and Barrens*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Central Appalachian Shale Barrens (continued)				
Pinus virginiana - Quercus montana - Quercus rubra / *Deschampsia flexuosa - Paronychia montana - Packera antennariifolia* Woodland	Central Appalachian Shale Barren (Northern Type)	G3	S3	CEGL006288
Pinus virginiana - Quercus montana / *Quercus ilicifolia* / (*Hieracium traillii*) Woodland	Central Appalachian Xeric Shale Woodland (Virginia Pine / Sparse Herbs Type)	G3	S3	CEGL008525
Quercus montana / *Quercus ilicifolia* / *Danthonia spicata* Woodland	Central Appalachian Xeric Shale Woodland (Chestnut Oak / Mixed Herbs Type)	G3?	S3	CEGL008526
Granitic Flatrocks				
Talinum teretifolium - Minuartia glabra - Diodia teres - Croton willdenowii Herbaceous Vegetation	Granitic Flatrock	G2G3	S2	CEGL003857
Piedmont Prairies				
Schizachyrium scoparium - Sorghastrum nutans - Solidago juncea - Pycnanthemum tenuifolium Herbaceous Vegetation	Little Bluestem - Indian-Grass Piedmont Prairie	GNR	SU	CEGL006572
Ultramafic Woodlands and Barrens				
Pinus strobus - Pinus rigida - Quercus stellata / *Ceanothus americanus* / *Andropogon gerardii - Packera paupercula* Woodland	Southern Blue Ridge Ultramafic Woodland	G1	S1	CEGL004968
⋆ *Pinus virginiana - Quercus stellata - Quercus marilandica* / *Schizachyrium scoparium* Woodland	Piedmont Ultramafic Woodland	n/a	SU	no equivalent
Schizachyrium scoparium - Packera plattensis - Parthenium auriculatum - Talinum mengesii Herbaceous Vegetation	Southern Piedmont Ultramafic Barren	G1	S1	CEGL006084
Schizachyrium scoparium - Sorghastrum nutans - Aletris farinosa - Packera paupercula Herbaceous Vegetation	Southern Blue Ridge Ultramafic Barren	G1	S1	CEGL004999
Riverside Outcrop Barrens				
(*Hypericum prolificum, Leucothoe racemosa*) / *Schizachyrium scoparium - Solidago racemosa - Ionactis linariifolius* Herbaceous Vegetation	Potomac Gorge Riverside Outcrop Barren	G2	S1	CEGL006491
Lichen / Bryophyte Nonvascular Boulderfields and Outcrops				
Lasallia (*papulosa, pensylvanica*) - *Dimelaena oreina* - (*Melanelia culbersonii*) Nonvascular Vegetation	Central Appalachian Low-Elevation Acidic Lichen / Bryophyte Boulderfield	G4?	S4	CEGL004142
Lasallia papulosa - Stereocaulon glaucescens - Chrysothrix chlorina Nonvascular Vegetation	Central Appalachian Mafic Lichen / Bryophyte Boulderfield	G1?	S1	CEGL004143
Umbilicaria mammulata Nonvascular Vegetation	Mountain / Piedmont Mesic Lichen / Bryophyte Cliff	G4?	S3?	CEGL004387
Umbilicaria muehlenbergii - Lasallia papulosa - (*Melanelia stygia*) Nonvascular Vegetation	Central Appalachian High-Elevation Acidic Lichen / Bryophyte Boulderfield	G2?	S1	CEGL004389

Terrestrial – *Maritime Zone Communities*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Maritime Dune Grasslands				
Ammophila breviligulata - Panicum amarum var. *amarum* Herbaceous Vegetation	North Atlantic Mixed Dune Grassland	G2	S2	CEGL004043
Myrica pensylvanica / *Schizachyrium littorale* Shrub Herbaceous Vegetation	Xeric Backdune Grassland	G2	S2	CEGL004240
Spartina patens - Schoenoplectus pungens - Solidago sempervirens Herbaceous Vegetation	Overwash Dune Grassland	G2G3	S2	CEGL004097
Uniola paniculata - Schizachyrium littorale - Panicum amarum var. *amarum* Herbaceous Vegetation	South Atlantic Mixed Dune Grassland	G3	S2	CEGL004039
Maritime Dune Scrub				
Hudsonia tomentosa / *Panicum amarum* var. *amarulum* Dwarf-Shrubland	Beach Heather Dwarf Dune Scrub	G2G3	S2?	CEGL003950
Myrica pensylvanica / *Diodia teres* Shrubland	Northern Bayberry Dune Scrub	G2	S2?	CEGL003881
Quercus virginiana - (*Ilex vomitoria*) Shrubland	Live Oak Dune Scrub	G3	S1	CEGL003833
Maritime Dune Woodlands				
Juniperus virginiana var. *virginiana* / *Myrica pensylvanica* Woodland	Maritime Eastern Red Cedar Dune Woodland	G2	S1?	CEGL006212
Pinus taeda / *Hudsonia tomentosa* Woodland	Loblolly Pine / Beach Heather Dune Woodland	G1G2	S1S2	CEGL006052
Prunus serotina / *Smilax rotundifolia* / *Schizachyrium littorale* Woodland	Black Cherry Xeric Dune Woodland	G1G2	S1	CEGL006319
Quercus virginiana - Quercus incana Woodland	Live Oak - Bluejack Oak Dune Woodland	G1	S1	CEGL003750
Maritime Upland Forests				
Pinus taeda - (*Quercus falcata, Prunus serotina*) / *Myrica cerifera* / *Vitis rotundifolia* Forest	Maritime Loblolly Pine Forest	G2	S2	CEGL006040
Quercus nigra - Pinus taeda - Carya pallida - (*Fagus grandifolia*) / *Symplocos tinctoria* / *Gelsemium sempervirens* Forest	Maritime Mixed Deciduous Forest	G1	S1	CEGL007540
Quercus virginiana - Pinus taeda Forest	Maritime Live Oak Forest	G2	S1	CEGL007027

Terrestrial – *Sandy Woodlands of the Coastal Plain and Outer Piedmont*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Pine / Scrub Oak Sandhills				
Pinus palustris - (*Pinus serotina*) / *Quercus laevis* / *Gaylussacia frondosa* - *Kalmia angustifolia* - *Vaccinium tenellum* Woodland	Longleaf Pine / Scrub Oak Sandhill Woodland	G1	S1	CEGL003592
Pinus taeda - *Quercus falcata* - *Quercus nigra* / *Quercus margarettiae* / *Cnidoscolus stimulosus* Woodland	Loblolly Pine / Scrub Oak Sandhill Woodland	n/a	SU	no equivalent
Fluvial Terrace Woodlands				
Carya pallida / *Quercus margarettiae* / *Opuntia humifusa* - *Carex umbellata* Woodland	Coastal Plain Xeric Fluvial Terrace Woodland	GNR	S1	CEGL006354
Loblolly Pine Savannas				
Pinus taeda / *Schizachyrium scoparium* - *Eupatorium hyssopifolium* - *Lespedeza stuevei* - *Symphyotrichum concolor* Woodland	Loblolly Pine / Little Bluestem Woodland / Savanna	GNA	SU	CEGL003620

Palustrine – *Alluvial Floodplain Communities*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Bald Cypress - Tupelo Swamps				
Nyssa biflora - (Taxodium distichum) / Itea virginica - Viburnum nudum / Woodwardia areolata Forest	Coastal Plain Swamp Tupelo Blackwater Swamp	n/a	S3?	no equivalent
Taxodium distichum - Nyssa (*biflora, aquatica*) / *Itea virginica* / *Saururus cernuus* Forest	Bald Cypress - Mixed Tupelo Intermediate Swamp	G3G4	S4	CEGL007432
Taxodium distichum - Nyssa aquatica / *Fraxinus caroliniana* Forest	Bald Cypress - Water Tupelo Brownwater Swamp	G5?	S4	CEGL007431
Coastal Plain / Piedmont Bottomland Forests				
Acer rubrum - Fraxinus pennsylvanica / Saururus cernuus Forest	Coastal Plain / Piedmont Floodplain Swamp (Green Ash - Red Maple Type)	GNR	S3S4	CEGL006606
Fagus grandifolia - Carya cordiformis - (Quercus michauxii, Quercus shumardii) / Ilex opaca / Podophyllum peltatum Forest	Northern Coastal Plain Beech - Mixed Hardwood Floodplain Forest	GNR	S1?	CEGL006493
Fraxinus pennsylvanica - Celtis occidentalis - Ulmus (americana, alata) / Carpinus caroliniana / Carex grayi Forest	Coastal Plain Bottomland Forest (Brownwater Low Ridge/Levee Type)	G4?	SU	CEGL007806
Liquidambar styraciflua - Liriodendron tulipifera / Lindera benzoin / Arisaema triphyllum Forest	Coastal Plain / Piedmont Small-Stream Floodplain Forest	G4	S4	CEGL004418
Platanus occidentalis - Liquidambar styraciflua - Celtis occidentalis / Carpinus caroliniana - Asimina triloba / Carex amphibola Forest	Southern Piedmont / Inner Coastal Plain Large-Stream Floodplain Forest	G5	S4?	CEGL007340
Quercus (phellos, palustris, michauxii) - Liquidambar styraciflua / Cinna arundinacea Forest	Northern Coastal Plain / Inner Piedmont Mixed Oak Floodplain Swamp	G3G4	S3?	CEGL006605
Quercus lyrata - Fraxinus pennsylvanica - (Carya aquatica, Quercus laurifolia) / Carex louisianica - Leersia lenticularis Forest	Coastal Plain Bottomland Forest (Brownwater Low Terrace Type)	G4G5	S3?	CEGL007397
Quercus michauxii - Quercus pagoda - Carya ovata / Carpinus caroliniana / Carex abscondita Forest	Coastal Plain Bottomland Forest (Brownwater High Terrace Type)	G3G4	S3?	CEGL004678
Quercus phellos - Quercus (palustris, lyrata) / Ilex decidua / Carex typhina - (Carex grayi) Forest	Southern Piedmont / Inner Coastal Plain Mixed Oak Floodplain Swamp	G3?	S3	CEGL006498
Floodplain Ponds and Pools				
* *Cephalanthus occidentalis* Shrubland	Coastal Plain / Piedmont Oxbow Shrub Swamp	G4	SU	CEGL002191
* *Fraxinus pennsylvanica* / *Cephalanthus occidentalis* / *penthorum sedoides - Bidens discoidea* Woodland	Southern Piedmont Oxbow Woodland	n/a	SU	no equivalent
Nuphar advena - Nymphaea odorata Herbaceous Vegetation	Water-Lily Floodplain Pool / Pond	G4G5	SU	CEGL002386
Peltandra virginica - Hibiscus moscheutos - Polygonum (*punctatum, hydropiperoides*) Herbaceous Vegetation	Coastal Plain / Piedmont Oxbow Marsh	G2G3	S2?	CEGL007696

* *provisional type*

Palustrine – *Alluvial Floodplain Communities*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Semipermanent Impoundments				
Alnus serrulata Swamp Shrubland	Smooth Alder Impoundment Swamp	G4G5	SU	CEGL005082
* *Hottonia inflata - Ludwigia palustris - Callitriche heterophylla* Herbaceous Vegetation	Coastal Plain Featherfoil Impoundment Pond	GNR	SU	CEGL006102
Juncus effusus Herbaceous Vegetation	Common Rush Impoundment Marsh	G5	SU	CEGL004112
Nelumbo lutea Herbaceous Vegetation	American Lotus Aquatic Bed	G4?	SU	CEGL004323
* *Peltandra virginica - Alisma subcordata - Leersia oryzoides* Herbaceous Vegetation	Pickerelweed Impoundment Marsh	GNR	SU	CEGL004291
* *Spirodela polyrrhiza - Spirodela punctata - Wolffia columbiana - Azolla caroliniana* Herbaceous Vegetation	Coastal Plain Impoundment Aquatic Bed	n/a	SU	no equivalent
Piedmont / Mountain Floodplain Forests				
Acer saccharinum - Acer negundo / *Ageratina altissima - Laportea canadensis* - (*Elymus virginicus, Elymus macgregoryi*) Forest	Piedmont / Central Appalachian Silver Maple Forest	G4	S4	CEGL006217
Acer saccharum - Fraxinus americana - Carya cordiformis / *Erythronium americanum* Forest	Piedmont / Central Appalachian High Terrace Floodplain Forest	G3?	S1	CEGL006459
Betula nigra - Platanus occidentalis Forest	Piedmont / Central Appalachian River Birch - Sycamore Forest	G5	SU	CEGL002086
Platanus occidentalis - Acer negundo - Juglans nigra / *Asimina triloba* / *Mertensia virginica* Forest	Piedmont / Central Appalachian Rich Floodplain Forest	G4	S3S4	CEGL004073
Quercus rubra - Quercus shumardii - Fraxinus americana / *Cercis canadensis* Forest	Potomac Gorge Bedrock Floodplain Oak Forest	GNR	SU	CEGL006495
Piedmont / Mountain Swamp Forests				
Acer (*rubrum, saccharinum*) - *Fraxinus pennsylvanica - Ulmus americana* / *Boehmeria cylindrica* Forest	Piedmont / Central Appalachian Floodplain Swamp (Silver Maple - Green Ash Type)	G4	S2?	CEGL006548
* *Quercus palustris - Quercus bicolor* / *Carex tribuloides - Carex radiata* - (*Carex squarrosa*) Forest	Piedmont / Central Appalachian Floodplain Swamp (Pin Oak - Swamp White Oak Type)	G3G4	S3?	CEGL006497
Piedmont / Mountain Small-stream Alluvial Forests				
* *Betula alleghaniensis* / (*Rhododendron maximum*) / *Thelypteris noveboracensis - Viola macloskeyi* ssp. *pallens - Scutellaria lateriflora* Forest	High Allegheny Montane Alluvial Forest	n/a	SU	no equivalent
Liriodendron tulipifera - Acer (*rubrum, negundo*) - (*Platanus occidentalis*) / *Carpinus caroliniana* / *Polygonum virginianum* Forest	Northern Piedmont Small-Stream Floodplain Forest	G4	S3?	CEGL006492
Liriodendron tulipifera - Pinus strobus - (*Tsuga canadensis*) / *Carpinus caroliniana* / *Amphicarpaea bracteata* Forest	Central Appalachian Montane Alluvial Forest (Tuliptree - White Pine Type)	G3	S3	CEGL008405
Liriodendron tulipifera - Platanus occidentalis - Betula lenta / *Lindera benzoin* / *Circaea lutetiana* ssp. *canadensis* Forest	Northern Blue Ridge Montane Alluvial Forest	G3?	S3	CEGL006255

* *provisional type*

Palustrine – *Alluvial Floodplain Communities*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Sand / Gravel / Mud Bars and Shores				
Eragrostis hypnoides - Lindernia dubia - Ludwigia palustris - Cyperus squarrosus Herbaceous Vegetation	Piedmont / Central Appalachian Sand Bar / River Shore (Low Herbs Type)	G3	S3	CEGL006483
Eragrostis hypnoides - Micranthemum umbrosum - Lipocarpha micrantha - (*Juncus repens*) Herbaceous Vegetation	Coastal Plain Sand Bar / River Shore	G2	S1	CEGL004341
Eupatorium serotinum - Polygonum (*lapathifolium, punctatum, pensylvanicum*) Herbaceous Vegetation	Piedmont / Central Appalachian Sand Bar / River Shore (Tall Herbs Type)	GNR	S2S3	CEGL006481
Rocky Bars and Shores				
* *Alnus serrulata* / *Xanthorhiza simplicissima* Shrubland	Alder / Yellowroot Rocky Bar and Shore	G3G4	SU	CEGL003895
Carex torta - Dichanthelium clandestinum - Polygonum sagittatum Herbaceous Vegetation	Twisted Sedge Rocky Bar and Shore	G3G4	S3	CEGL004103
Carpinus caroliniana - Ilex decidua Shrubland	Piedmont River-Scour Shrubland	G1?	S1	CEGL006484
Justicia americana Herbaceous Vegetation	Water-Willow Rocky Bar and Shore	G4G5	S4	CEGL004286
Platanus occidentalis - Acer saccharinum - Betula nigra - Fraxinus pennsylvanica / *Boehmeria cylindrica - Carex emoryi* Woodland	Piedmont / Central Appalachian Bedrock Floodplain Scour Woodland	G2?	S1	CEGL006476
Platanus occidentalis - Betula nigra - Salix (*caroliniana, nigra*) / *Apocynum sibiricum* Woodland	Piedmont / Central Appalachian Sycamore - River Birch Scour Woodland	G4G5	S3	CEGL003896
Riverside Prairies				
* *Carex trichocarpa* Herbaceous Vegetation	Hairy-Fruit Sedge Riverside Prairie	G3	SU	CEGL006447
Fraxinus americana / *Andropogon gerardii - Sorghastrum nutans - Schizachyrium scoparium - Pycnanthemum tenuifolium* Herbaceous Vegetation	Piedmont / Central Appalachian Riverside Outcrop Prairie	G1	S1	CEGL006478
Fraxinus pennsylvanica / *Andropogon gerardii - Panicum virgatum - Baptisia australis Wooded* Herbaceous Vegetation	Piedmont / Central Appalachian Bedrock Floodplain Prairie	G2G3	S2	CEGL006283
Panicum virgatum - Andropogon gerardii Herbaceous Vegetation	Ridge and Valley Gravel-Wash Riverside Prairie	G2G3	S2	CEGL006477

Palustrine – *Non-Alluvial Wetlands of the Mountains*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Mountain / Piedmont Basic Seepage Swamps				
Acer rubrum - Fraxinus americana - Fraxinus nigra - (*Betula alleghaniensis*) / *Veratrum viride - Carex bromoides* Forest	Central Appalachian Basic Seepage Swamp	G3	S3	CEGL008416
Mountain / Piedmont Acidic Seepage Swamps				
Acer rubrum - Nyssa sylvatica / *Ilex verticillata - Vaccinium fuscatum* / *Osmunda cinnamomea* Forest	Central Appalachian Low-Elevation Acidic Seepage Swamp	G3G4	S2S3	CEGL007853
High-Elevation Seepage Swamps				
Acer rubrum - (*Betula alleghaniensis, Tsuga canadensis*) / *Rhododendron maximum* / *Osmunda cinnamomea* Forest	Southern Appalachian High-Elevation Seepage Swamp	G2	S1	CEGL007565
Picea rubens - Tsuga canadensis - Acer rubrum / *Glyceria melicaria* Forest	Central Appalachian High-Elevation Seepage Swamp (Red Spruce Type)	G3	S1	CEGL006556
Tsuga canadensis - Betula alleghaniensis / *Veratrum viride - Carex scabrata - Oclemena acuminata* Forest	Central Appalachian High-Elevation Seepage Swamp (Hemlock - Yellow Birch Type)	G2	S1	CEGL008533
Appalachian Bogs				
Carex echinata - Solidago uliginosa / *Sphagnum spp.* Herbaceous Vegetation	Central Appalachian / High Allegheny Seepage Bog	G2?	S1	CEGL008534
Carex gynandra - Scirpus cyperinus - Eriophorum virginicum - Osmunda cinnamomea Herbaceous Vegetation	Cumberland Mountains Streamside Bog	G2	S1?	CEGL007771
Pinus rigida / *Hypericum densiflorum* / *Osmunda cinnamomea – Carex atlantica spp. atlantica - Eriophorum virginicum – Drosera rotundifolia* Woodland	Central Appalachian Pitch Pine Bog	n/a	S1	no equivalent
Rhododendron (*catawbiense, maximum*) - *Vaccinium simulatum* / *Carex trisperma - Eriophorum virginicum - Juncus subcaudatus* Shrubland	Southern Appalachian High-Elevation Shrub Bog	G1	S1	CEGL003913
Sparganium americanum - (*Sparganium chlorocarpum*) - *Epilobium leptophyllum* Herbaceous Vegetation	Southern Appalachian / High Allegheny Beaver Marsh	G3?	SU	CEGL004510
Vaccinium macrocarpon / *Pogonia ophioglossoides* Dwarf-Shrubland	Large Cranberry Peatland Bog	G2	S1	CEGL007856
Montane Woodland Seeps				
* *Caltha palustris - Impatiens pallida - Viola cucullata* Herbaceous Vegetation	Central Appalachian Woodland Seep	GNR	SU	CEGL006258
Carex scabrata - Viola cucullata / *Plagiomnium ciliare* Herbaceous Vegetation	High Allegheny Woodland Seep	G3	SU	CEGL006597
Diphylleia cymosa - Saxifraga micranthidifolia - Laportea canadensis Herbaceous Vegetation	Southern Appalachian High-Elevation Seep (Umbrella-Leaf - Lettuce Saxifrage Type)	G3	SU	CEGL004296
Impatiens (*capensis, pallida*) - *Monarda didyma - Rudbeckia laciniata* var. *humilis* Herbaceous Vegetation	Southern Appalachian High-Elevation Seep (Jewelweed - Oswego-Tea Type)	G3	SU	CEGL004293

* *provisional type*

Palustrine – *Non-Alluvial Wetlands of the Mountains*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Montane Depression Wetlands				
(*Cephalanthus occidentalis*) / *Dulichium arundinaceum* - (*Polygonum hydropiperoides, Glyceria acutiflora, Proserpinaca palustris*) Shrub Herbaceous Vegetation	Central Appalachian Mountain Pond (Threeway Sedge - Buttonbush Type)	G1	S1	CEGL003746
(*Quercus palustris*) / *Panicum rigidulum - Panicum verrucosum - Eleocharis acicularis* Herbaceous Vegetation	Shenandoah Valley Sinkhole Pond (Typic Type)	G1	S1	CEGL007858
Acer rubrum - Nyssa sylvatica - Quercus palustris / *Woodwardia virginica* Forest	Central Appalachian Depression Forest (Low-Elevation Type)	n/a	S2?	no equivalent
Carex aquatilis - Dulichium arundinaceum Herbaceous Vegetation	Central Appalachian Mountain Pond (Water Sedge Type)	G1?	S1	CEGL008542
Carex barrattii Herbaceous Vegetation	Shenandoah Valley Sinkhole Pond (Barratt's Sedge Type)	G1	S1	CEGL007857
Nyssa sylvatica - Acer rubrum / *Vaccinium erythrocarpum* / *Osmunda cinnamomea* Forest	Central Appalachian Depression Forest (High-Elevation Type)	n/a	S1?	no equivalent
Orontium aquaticum - Schoenoplectus subterminalis - Eriocaulon aquaticum Herbaceous Vegetation	Shenandoah Valley Sinkhole Pond (Golden Club Type)	G1	S1	CEGL007859
* *Quercus alba* / *Polygonum hydropiperoides - Lysimachia lanceolata Wooded* Herbaceous Vegetation	Central Appalachian Mountain Pond (White Oak Type)	GNR	SU	CEGL008473
Calcareous Fens				
Alnus serrulata / *Osmunda regalis* var. *spectabilis - Carex tetanica - Carex leptalea* Shrubland	Central Appalachian Calcareous Shrub Fen / Seep	G1?	S1	CEGL008408
Carex (*tetanica, prairea*) - *Eleocharis erythropoda - Lysimachia quadriflora* Herbaceous Vegetation	Shenandoah Valley Prairie Fen	G1Q	S1	CEGL006170
Packera aurea - Carex interior - Carex hystericina - Parnassia grandifolia Herbaceous Vegetation	Ridge and Valley Calcareous Sedge Fen / Seep	n/a	S1	no equivalent
Mesic and Wet-Mesic Prairies				
Andropogon gerardii - Sorghastrum nutans - Pycnanthemum virginianum Herbaceous Vegetation	Appalachian Wet-Mesic Tall-Grass Prairie	G2?	S2	CEGL006039
Calcareous Spring Marshes and Muck Fens				
Carex utriculata - Sparganium americanum Herbaceous Vegetation	Ridge and Valley Calcareous Spring Marsh (Beaked Sedge - American Bur-Reed Type)	G4G5	S1	CEGL002257
Peltandra virginica - Polygonum amphibium var. *emersum - Carex emoryi - Impatiens capensis* Herbaceous Vegetation	Ridge and Valley Calcareous Spring Marsh (Arrow-Arum - Water Smartweed Type)	G1	S1	CEGL006244
Typha latifolia - Caltha palustris Herbaceous Vegetation	Ridge and Valley Calcareous Spring Marsh (Broad-Leaved Cattail - Marsh Marigold Type)	G1	S1	CEGL006245

***** *provisional type*

Palustrine – *Non-Alluvial Wetlands of the Mountains*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Mafic Fens and Seeps				
Acer rubrum - Pinus strobus / *Alnus serrulata - Physocarpus opulifolius* / *Solidago patula - Parnassia grandifolia* Woodland	Southern Blue Ridge Mafic Woodland Seep	G1	S1	CEGL004994
Alnus serrulata - Lyonia ligustrina - Spiraea tomentosa / *Calamagrostis canadensis - Sanguisorba canadensis - Scirpus expansus* Shrubland	Southern Blue Ridge Mafic Fen (Tall Shrub Type)	G1	S1	CEGL004252
Alnus serrulata / *Sanguisorba canadensis - Helenium brevifolium - Parnassia grandifolia - Eleocharis tenuis* Shrubland	Southern Blue Ridge Mafic Fen (Low Herb Type)	G1	S1	CEGL003917
Spiraea alba var. *latifolia - Cornus racemosa* / *Calamagrostis canadensis - Sanguisorba canadensis - Carex scoparia* Shrub Herbaceous Vegetation	Northern Blue Ridge Mafic Fen	G1	S1	CEGL006249
Inland Salt Marshes				
Juncus gerardii - Schoenoplectus robustus - Hibiscus moscheutos Herbaceous Vegetation	Ridge and Valley Inland Salt Marsh	G1	S1	CEGL006234
Spray Cliffs				
No community types have been defined within this Ecological Community Group				

Palustrine – *Non-Alluvial Wetlands of the Coastal Plain and Piedmont*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Coastal Plain Depression Wetlands				
Cephalanthus occidentalis - (Decodon verticillatus) / Panicum verrucosum - Dulichium arundinaceum - (Torreyochloa pallida) Shrub Herbaceous Vegetation	Coastal Plain Seasonal Buttonbush Pond	G3?	S2	CEGL006242
* *Eragrostis hypnoides - Ludwigia sphaerocarpa - Polygonum hydropiperoides* Herbaceous Vegetation	Coastal Plain Seasonal Pond (Creeping Lovegrass Type)	GNR	SU	CEGL006608
Nyssa biflora - (Quercus lyrata) / Leucothoe racemosa / Carex joorii Forest	Coastal Plain Seasonal Pond (Swamp Tupelo - Overcup Oak Type)	G1G2	S1S2	CEGL006223
* *Polygonum hydropiperoides - Dulichium arundinaceum - Juncus repens* Herbaceous Vegetation	Coastal Plain Seasonal Pond (Mild Water-Pepper - Three-Way Sedge Type)	G3?	SU	CEGL006242
Quercus phellos - Acer rubrum - Liquidambar styraciflua / *Vaccinium formosum, fuscatum*) Forest	Coastal Plain Depression Swamp (Willow Oak – Red Maple - Sweetgum Type)	G4G5	S2	CEGL006110
Saccharum baldwinii - Carex (joorii, glaucescens) - Panicum rigidulum Herbaceous Vegetation	Coastal Plain Seasonal Pond (Slender Plumegrass Type)	G2G3	SU	CEGL007745
* *Saccharum giganteum - Ludwigia sphaerocarpa - Panicum verrucosum* Herbaceous Vegetation	Coastal Plain Seasonal Pond (Giant Plumegrass - Globe-Fruited Seedbox Type)	G2G3	SU	CEGL007744
Taxodium distichum / *Cephalanthus occidentalis* / *Juncus repens* Woodland	Bald Cypress Seasonal Pond / Lake Shore	G1?	S1	CEGL004653
Coastal Plain / Piedmont Seepage Bogs				
Alnus serrulata - Magnolia virginiana / *Andropogon glomeratus - Eupatorium pilosum - Rhynchospora gracilenta - Xyris torta* Shrubland	Coastal Plain / Outer Piedmont Seepage Bog	GNR	S1	CEGL006499
Nyssa sylvatica - Magnolia virginiana - (*Pinus rigida*) / *Rhododendron viscosum - Toxicodendron vernix* / *Smilax pseudochina* Woodland	Northern Coastal Plain Terrace Gravel Bog	G1	S1	CEGL006219
Coastal Plain / Piedmont Acidic Seepage Swamps				
Acer rubrum - Nyssa sylvatica - Magnolia virginiana / *Viburnum nudum* / *Osmunda cinnamomea - Woodwardia areolata* Forest	Coastal Plain / Outer Piedmont Acidic Seepage Swamp	G3?	S3	CEGL006238
Coastal Plain / Piedmont Basic Seepage Swamps				
Acer rubrum - Fraxinus (*pennsylvanica, americana*) / *Lindera benzoin* / *Symplocarpus foetidus* Forest	Piedmont / Northern Coastal Plain Basic Seepage Swamp	G4G5	S2?	CEGL006406
Acer rubrum - Fraxinus pennsylvanica / *Packera aurea - Carex bromoides - Pilea fontana - Bidens laevis* Forest	Coastal Plain Calcareous Seepage Swamp	G2	S2	CEGL006413
Upland Depression Swamps				
Quercus palustris - Acer rubrum - Liquidambar styraciflua / *Vaccinium* (*fuscatum, formosum*) Forest	Outer Piedmont / Inner Coastal Plain Upland Depression Swamp (Pin Oak / Highbush Blueberry Type)	GNR	S1	CEGL006240
Quercus palustris - Quercus bicolor / *Viburnum prunifolium* / *Leersia virginica - Impatiens capensis* Forest	Piedmont Upland Depression Swamp (Pin Oak - Swamp White Oak Type)	G2	S1	CEGL004643
Quercus phellos / *Smilax rotundifolia* / *Carex* (*albolutescens, festucacea*) Forest	Piedmont Upland Depression Swamp (Willow Oak Type)	G2G3	S2	CEGL007403

* *provisional type*

Palustrine – *Non-Alluvial Wetlands of the Coastal Plain and Piedmont*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Non-Riverine Flatwoods and Swamps				
Nyssa biflora - Acer rubrum - Magnolia virginiana - Chamaecyparis thyoides / Lyonia lucida - Clethra alnifolia Forest	Non-Riverine Swamp Forest (Mixed Evergreen Type)	G2G3	S1	CEGL007558
Nyssa biflora - Taxodium distichum - Acer rubrum / (*Persea palustris*) / *Clethra alnifolia / Woodwardia areolata* Forest	Non-Riverine Swamp Forest (Tupelo - Bald Cypress Swamp	G2G3	S1S2	CEGL004429
Quercus (*michauxii, pagoda, laurifolia*) / *Carpinus caroliniana* / (*Leucothoe axillaris*) - *Arundinaria gigantea* ssp. *tecta* Forest	Non-Riverine Wet Hardwood Forest (Southern Coastal Plain Type)	G2	S1	CEGL007449
Quercus (*phellos, pagoda, michauxii*) / *Ilex opaca - Clethra alnifolia* / *Woodwardia areolata* Forest	Non-Riverine Wet Hardwood Forest (Northern Coastal Plain Type)	G2?	S2	CEGL004644

Palustrine – *Non-Tidal Martime Wetlands*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Pond Pine Woodlands and Pocosins				
Pinus serotina / *Smilax laurifolia - Ilex glabra* / *Woodwardia virginica* Woodland	Pond Pine Woodland / Pocosin	G2?	S1	CEGL004652
Peatland Atlantic White Cedar Forests				
Chamaecyparis thyoides / *Lyonia lucida - Ilex coriacea* / *Osmunda cinnamomea* Forest	Peatland Atlantic White-Cedar Forest	G2	S1	CEGL006146
Sea-Level Fens				
Cladium mariscoides - Drosera intermedia - Eleocharis rostellata Herbaceous Vegetation	Sea-Level Fen	G1	S1	CEGL006310
Interdune Ponds				
(*Myrica cerifera*) - *Panicum virgatum - Spartina patens* Herbaceous Vegetation	Interdune Pond (Switchgrass Freshwater Type)	G2G4	S2?	CEGL004129
Bacopa monnieri - Eleocharis albida Herbaceous Vegetation	Interdune Pond (Coastal Water-Hyssop - White Spikerush Oligohaline Type)	G1Q	S1	CEGL006350
* *Typha angustifolia - Hibiscus moscheutos* Herbaceous Vegetation	Interdune Pond (Narrow-Leaved Cattail - Eastern Rose-Mallow Type)	n/a	SU	no equivalent
Maritime Wet Grasslands				
Juncus (*dichotomous, scirpoides*) - *Drosera intermedia* Herbaceous Vegetation	Interdune Swale (Mixed Rush Type)	G2G3	S1?	CEGL004111
Schoenoplectus pungens - *Fimbristylis* (*castanea, caroliniana*) Herbaceous Vegetation	Interdune Swale (Mixed Sedge Type)	G1G2	S1?	CEGL004117
Spartina patens - *Eleocharis parvula* Herbaceous Vegetation	Interdune Swale (Saltmeadow Cordgrass Type)	GNR	S2?	CEGL006342
Maritime Shrub Swamps				
Myrica cerifera / *Hydrocotyle verticillata* Shrubland	Southern Bayberry Maritime Shrub Swamp	G2G3	S2?	CEGL003840
Maritime Swamp Forests				
Acer rubrum - *Nyssa* (*biflora, sylvatica*) / *Myrica cerifera* / *Leersia* (*oryzoides, virginica*) Forest	Maritime Swamp Forest (Red Maple - Tupelo Type)	G2	S2	CEGL004082
Pinus taeda / *Myrica cerifera* / *Osmunda regalis* var. *spectabilis* Forest	Maritime Wet Loblolly Pine Forest	G3	S2?	CEGL006137
Salix nigra Forest	Maritime Swamp Forest (Black Willow Type)	G2G3	SU	CEGL006348
Taxodium distichum / *Cephalanthus occidentalis* / *Boehmeria cylindrica* - *Ceratophyllum muricatum* Forest	Maritime Swamp Forest (Bald Cypress Type)	G1	S1	CEGL004079

* *provisional type*

Riverine – *Riverine Vegetation*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Riverine Aquatic Beds				
Podostemum ceratophyllum Herbaceous Vegetation	Riverine Aquatic Bed (Horn-Leaf Riverweed Type)	G3G5	SU	CEGL004331
Vallisneria americana - *Heteranthera dubia* Riverine Herbaceous Vegetation	Riverine Aquatic Bed (American Eel-Grass Type)	G3G4	S3?	CEGL004333

Estuarine – *Tidal Wetlands*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Tidal Freshwater Marshes				
* *Acorus calamus* Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Sweetflag Type)	GNR	SU	CEGL006833
* *Eleocharis palustris - Orontium aquaticum* Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Common Spikerush - Golden Club Type)	n/a	SU	no equivalent
Impatiens capensis - Polygonum arifolium - Peltandra virginica - (*Typha angustifolia*) Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Mixed High Marsh Type)	GNR	S4?	CEGL006325
Nelumbo lutea Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (American Lotus Mud Flat Type)	GNR	S2?	CEGL006913
Nuphar advena - Peltandra virginica Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Spatterdock - Arrow-Arum Mud Flat Type)	G3G4	S3S4	CEGL004706
Nuphar advena Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Spatterdock Mudflat Type)	G4G5	S3	CEGL004472
Peltandra virginica - (*Pontederia cordata*) Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Arrow-Arum - Pickerelweed Type)	G3G4	S3S4	CEGL004706
Zizania aquatica - Pontederia cordata - Peltandra virginica - Polygonum punctatum Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Wild Rice - Mixed Forbs Type)	G4?	S4?	CEGL004202
Zizaniopsis miliacea Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Southern Wild Rice Type)	G3G5	S3?	CEGL004705
Tidal Oligohaline Marshes				
* *Carex hyalinolepis* Tidal Herbaceous Vegetation	Tidal Oligohaline Marsh (Shoreline Sedge Type)	GNR	SU	CEGL006177
Eleocharis rostellata - Spartina patens Tidal Herbaceous Vegetation	Tidal Oligohaline Marsh (Beaked Spikerush - Saltmeadow Cordgrass Estuarine Fringe Type)	GNR	S1?	CEGL006611
Hibiscus moscheutos - Polygonum punctatum - Peltandra virginica - (*Typha angustifolia, Spartina cynosuroides*) Tidal Herbaceous Vegetation	Tidal Oligohaline Marsh (Mixed Forbs Type)	GNR	S4	CEGL006181
Schoenoplectus americanus - Spartina patens Tidal Herbaceous Vegetation	Tidal Oligohaline Marsh (Saltmeadow Cordgrass - Olney Three-Square Low Interior Marsh Type)	GNR	S3?	CEGL006612
Spartina cynosuroides Tidal Herbaceous Vegetation	Tidal Oligohaline Marsh (Big Cordgrass Type)	G4	S4	CEGL004195
Typha angustifolia - Hibiscus moscheutos Tidal Herbaceous Vegetation	Tidal Oligohaline Marsh (Narrow-Leaved Cattail - Eastern Rose-Mallow Type)	G4G5	S3?	CEGL004201
Wind-Tidal Oligohaline Marshes				
Eleocharis fallax - Sagittaria lancifolia ssp. *media - Polygonum punctatum* Tidal Herbaceous Vegetation	Wind-Tidal Oligohaline Marsh (Creeping Spikerush - Bull-Tongue Arrowhead Type)	G1G2	S1	CEGL004628
Eleocharis rostellata - (*Eleocharis fallax*) Tidal Herbaceous Vegetation	Wind-Tidal Oligohaline Marsh (Beaked Spikerush Type)	G1G2	S1	CEGL004628
Juncus roemerianus - Eleocharis fallax Tidal Herbaceous Vegetation	Wind-Tidal Oligohaline Marsh (Black Needlerush Type)	G2G3	S2S3	CEGL004660
Sagittaria lancifolia ssp. *media - Osmunda regalis* var. *spectabilis - Cladium* (*mariscoides, jamaicense*) Tidal Herbaceous Vegetation	Wind-Tidal Oligohaline Marsh (Mixed Type)	G1G2	S1	CEGL004628
Spartina cynosuroides - Schoenoplectus americanus - Polygonum hydropiperoides Tidal Herbaceous Vegetation	Wind-Tidal Oligohaline Marsh (Big Cordgrass Type)	G2G3	S2	CEGL007741

* *provisional type*

Estuarine – *Tidal Wetlands*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Tidal Mesohaline and Polyhaline Marshes				
Juncus roemerianus Tidal Herbaceous Vegetation	Black Needlerush Salt Marsh	G5	S4	CEGL004186
Schoenoplectus robustus - *Spartina alterniflora* Tidal Herbaceous Vegetation	Riverine Salt Marsh (Saltmarsh Bulrush - Saltmarsh Cordgrass Type)	GNR	S3?	CEGL006416
Spartina alterniflora - *Distichlis spicata* Tidal Herbaceous Vegetation	Low Salt Marsh (Saltmarsh Cordgrass - Salt Grass Type)	GNR	S4?	CEGL006586
Spartina alterniflora - *Spartina cynosuroides* Tidal Herbaceous Vegetation	Riverine Salt Marsh (Saltmarsh Cordgrass - Big Cordgrass Type)	GNR	S3?	CEGL006418
Spartina alterniflora - *Spartina patens* Tidal Herbaceous Vegetation	Low Salt Marsh (Salt Panne Type)	G5	S3?	CEGL004192
Spartina alterniflora Tidal Herbaceous Vegetation	Low Salt Marsh (Saltmarsh Cordgrass Type)	G5	S5	CEGL004192
Spartina patens - *Distichlis spicata* - *Sarcocornia perennis* - *Limonium carolinianum* Tidal Herbaceous Vegetation	Salt Meadow	G4G5	S3?	CEGL004197
Spartina patens - *Distichlis spicata* Tidal Herbaceous Vegetation	High Salt Marsh	G4G5	S4S5	CEGL004197
Tidal Shrub Swamps				
Alnus serrulata - *Salix nigra* / *Pilea* (*fontana, pumila*) Tidal Shrubland	Freshwater Tidal Shrub Swamp	GNR	SU	CEGL006843
Iva frutescens / *Spartina cynosuroides* Tidal Shrubland	Mesohaline Tidal Shrub Swamp (Riverine Type)	GNR	SU	CEGL006847
Iva frutescens / *Spartina patens* - *Distichlis spicata* Tidal Shrubland	Mesohaline Tidal Shrub Swamp (High Salt Marsh Type)	G5	SU	CEGL006848
Myrica cerifera - *Rosa palustris* / *Osmunda regalis* var. *spectabilis* - *Thelypteris palustris* var. *pubescens* Tidal Shrubland	Oligohaline Tidal Shrub Swamp	G4	S3	CEGL004656
Tidal Bald Cypress Forests and Woodlands				
Taxodium distichum - *Nyssa biflora* - (*Pinus taeda*) / *Myrica cerifera* / *Osmunda regalis* var. *spectabilis* Tidal Forest	Wind-Tidal Bald Cypress - Tupelo Swamp	G2?	S2	CEGL004651
Taxodium distichum / *Carex hyalinolepis* Tidal Woodland	Tidal Bald Cypress Woodland (Shoreline Sedge Type)	G2?	S1	CEGL004654
Taxodium distichum / *Pontederia cordata* - *Peltandra virginica* Tidal Woodland	Tidal Bald Cypress Woodland (Mixed Forbs Type)	GNR	S2?	CEGL006059
* *Taxodium distichum* / *Zizania aquatica* - *Carex canescens* ssp. *disjuncta* Tidal Woodland	Wind-Tidal Bald Cypress Woodland	G1Q	SU	CEGL004655
Tidal Hardwood Swamps				
* (*Fraxinus profunda, Nyssa biflora*) / *Agalinis purpurea* - *Rhynchospora macrostachya* var. *colpophila* Tidal Wooded Herbaceous Vegetation	Freshwater Tidal Marsh Woodland (Mixed Forbs Type)	n/a	SU	no equivalent
Fraxinus profunda - *Nyssa biflora* - (*Fraxinus pennsylvanica*) / *Ilex verticillata* / *Polygonum arifolium* Tidal Forest	Freshwater Tidal Hardwood Swamp	G3	S3	CEGL006287
* *Nyssa biflora* / *Alnus serrulata* - *Cephalanthus occidentalis* Tidal Woodland	Freshwater Tidal Marsh Woodland (Mixed Shrubs Type)	n/a	SU	no equivalent

* *provisional type*

Estuarine – *Tidal Wetlands*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Tidal Freshwater and Oligohaline Aquatic Beds				
Ceratophyllum demersum - *Utricularia macrorhiza* - (*Nymphaea odorata*) *Semipermanently Flooded* - Tidal Herbaceous Vegetation	Tidal Freshwater / Oligohaline Aquatic Bed (Common Hornwort Type)	G3?	SU	CEGL004661
Nuphar sagittifolia Permanently Flooded - Tidal Herbaceous Vegetation	Tidal Freshwater / Oligohaline Aquatic Bed (Narrow-Leaved Spatterdock Type)	G1G2	S1	CEGL006094
* *Nymphaea odorata Semipermanently Flooded* - Tidal Herbaceous Vegetation	Tidal Freshwater / Oligohaline Aquatic Bed (American Water-Lily Type)	GNR	SU	CEGL006048
* *Vallisneria americana* - *Myriophyllum spicatum* Semipermanently Flooded - Tidal Herbaceous Vegetation	Tidal Freshwater / Oligohaline Aquatic Bed (American Eel-Grass Type)	GNR	SU	CEGL006048
Tidal Mesohaline and Polyhaline Aquatic Beds				
Ruppia maritima Semipermanently Flooded - Tidal Herbaceous Vegetation	Tidal Mesohaline / Polyhaline Aquatic Bed (Ditch-Grass Type)	GNR	SU	CEGL006167
Zostera marina Semipermanently Flooded - Tidal Herbaceous Vegetation	Tidal Mesohaline / Polyhaline Aquatic Bed (Sea-Wrack Type)	G4G5	SU	CEGL004336
Salt Flats				
(*Salicornia virginica, Salicornia bigelovii, Sarcocornia perennis*) Herbaceous Vegetation	Glasswort Salt Flat	G5	S3	CEGL004308
Salt Scrub				
Iva frutescens - *Baccharis halimifolia* / *Spartina patens* - *Panicum virgatum* Tidal Shrubland	Salt Scrub	G5	S4	CEGL003921
High-Energy Tidal River Shores				
* *Eriocaulon parkeri* - *Polygonum punctatum* Tidal Herbaceous Vegetation	High-Energy Tidal River Shore (Parker's Pipewort Freshwater Type)	G2	SU	CEGL006352
* *Isoetes riparia* Tidal Herbaceous Vegetation	High-Energy Tidal River Shore (River-bank Quillwort Freshwater Type)	GNR	SU	CEGL006058
* *Justicia americana* Tidal Herbaceous Vegetation	High-Energy Tidal River Shore (Water-Willow Type)	GNR	SU	CEGL006579
Peltandra virginica - *Schoenoplectus* (*pungens, tabernaemontani*) Tidal Herbaceous Vegetation	High-Energy Tidal River Shore (Arrow-Arum - Bulrush Mud Flat Type)	GNR	S3?	CEGL006578
Schoenoplectus pungens Tidal Herbaceous Vegetation	High-Energy Tidal River Shore (Common Threesquare / Northern Type)	GNR	S1?	CEGL004188

Estuarine – *Tidal Wetlands*

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
Upper Beaches and Overwash Flats				
Cakile edentula ssp. *edentula* - *Chamaesyce polygonifolia* Sparse Vegetation	North Atlantic Upper Beach / Overwash Flat	G4G5	S3	CEGL004400

APPENDICES

Appendix A. Changes to Ecological Groups and Community Types

Development of the state classification is an iterative process of successive approximations. Since completion of the Second Approximation, version 2.2 (Fleming *et al.* 2006), analysis of several large, regional datasets and ongoing inventory of vegetation across the state have led to a number of changes to the Ecological Group Classification. Changes to Ecological Groups since 2006 are listed below. Changes to Community Types since the publication of the 2010 list are listed in a third table.

Changes to Ecological Community Groups 2006 - 2010

Second Approximation (ver. 2.2)	Second Approximation (ver. 2.3)
SOUTHERN APPALACHIAN NORTHERN HARDWOOD FORESTS	merged with the following group into a new NORTHERN HARDWOOD FORESTS group
CENTRAL APPALACHIAN NORTHERN HARDWOOD FORESTS	merged with the preceding group into a new NORTHERN HARDWOOD FORESTS group
ULTRAMAFIC WOODLANDS	merged with the Ultramafic Barrens group into a new ULTRAMAFIC WOODLANDS AND BARRENS group
ULTRAMAFIC BARRENS	merged with the Ultramafic Woodlands group into a new ULTRAMAFIC WOODLANDS AND BARRENS group
MOSS / LICHEN BOULDERFIELDS	name changed to LICHEN / BRYOPHYTE NONVASCULAR BOULDERFIELDS AND OUTCROPS
CALCAREOUS FENS AND SEEPS	merged with the following group into a new CALCAREOUS FENS group
WET PRAIRIES AND PRAIRIE FENS	merged with the preceding group into a new CALCAREOUS FENS group
NON-RIVERINE PINE-HARDWOOD FORESTS	merged with the following two groups into a new NON-RIVERINE FLATWOODS AND SWAMPS group
NON-RIVERINE WET HARDWOOD FORESTS	merged with the preceding and following groups into a new NON-RIVERINE FLATWOODS AND SWAMPS group
NON-RIVERINE SWAMP FORESTS	merged with the preceding two groups into a new NON-RIVERINE FLATWOODS AND SWAMPS group
MARITIME WET PINE FOREST	moved to new group MARITIME SWAMP FORESTS
INTERDUNE WET PINE WOODLANDS	merged into the MARITIME SWAMP FORESTS group
ESTUARINE FRINGE PINE FORESTS	merged into the MARITIME SWAMP FORESTS group
ESTUARINE FRINGE SWAMP FORESTS	merged into the TIDAL BALDCYPRESS FORESTS AND WOODLANDS group
(not represented)	a new HIGH-ENERGY TIDAL SHORES group was added to represent vegetation previously included in the Tidal Freshwater Marshes group

Changes to Ecological Community Groups 2010 - 2011

Second Approximation (ver. 2.3)	Second Approximation (ver. 2.4)
COASTAL PLAIN / PIEDMONT FLOODPLAIN FOREST	Changed name to COASTAL PLAIN PIEDMONT BOTTOMLAND FOREST
COASTAL PLAIN / PIEDMONT SWAMP FOREST	Merged into COASTAL PLAIN PIEDMONT BOTTOMLAND FOREST
PIEDMONT / MOUNTAIN ALLUVIAL FOREST	Changed name to PIEDMONT / MOUNTAIN SMALL-STREAM ALLUVIAL FOREST
STREAMHEAD POCOSIN	Merged into NON-RIVERINE FLATWOOD / SWAMP

Changes to Community Types 2010 -2011

2010 Community List	2011 Community List
BALD CYPRESS - TUPELO SWAMP: new community type	*Nyssa biflora - (Taxodium distichum) / Itea virginica – Viburnum nudum / Woodwardia areolata* Forest
BALD CYPRESS - TUPELO SWAMP: *Nyssa biflora - Liquidambar styraciflua / Glyceria septentrionalis - Hydrocotyle ranunculoides* Forest	Merged with *Nyssa biflora - (Taxodium distichum) / Itea virginica – Viburnum nudum / Woodwardia areolata* Forest
COASTAL PLAIN / PIEDMONT FLOODPLAIN FOREST: *Fraxinus pennsylvanica - Ulmus americana / Carpinus caroliniana / Boehmeria cylindrica* Forest	Name Changed to: *Fraxinus pennsylvanica - Celtis occidentalis - Ulmus (americana, alata) / Carpinus caroliniana / Carex grayi* Forest; Group changed to COASTAL PLAIN PIEDMONT BOTTOMLAND FOREST
COASTAL PLAIN / PIEDMONT FLOODPLAIN FOREST: *Fraxinus pennsylvanica - Quercus laurifolia - Quercus lyrata - Carya aquatica* Forest	Name changed to*: Quercus lyrata - Fraxinus pennsylvanica - (Carya aquatica, Quercus laurifolia) / Carex louisianica - Leersia lenticularis* Forest; Group changed to COASTAL PLAIN PIEDMONT BOTTOMLAND FOREST
COASTAL PLAIN / PIEDMONT FLOODPLAIN FOREST: *Platanus occidentalis - Liquidambar styraciflua / Carpinus caroliniana - Asimina triloba* Forest	Name changed to: *Platanus occidentalis - Liquidambar styraciflua - Celtis occidentalis / Carpinus caroliniana - Asimina triloba / Carex amphibola* Forest; Group changed to COASTAL PLAIN PIEDMONT BOTTOMLAND FOREST
COASTAL PLAIN / PIEDMONT FLOODPLAIN FOREST: *Quercus laurifolia - Quercus michauxii - Liquidambar styraciflua / Carpinus caroliniana* Forest	Name changed to: *Quercus michauxii - Quercus pagoda - Carya ovata / Carpinus caroliniana / Carex abscondita* Forest; Group changed to COASTAL PLAIN PIEDMONT BOTTOMLAND FOREST
COASTAL PLAIN / PIEDMONT SWAMP FOREST: *Fraxinus pennsylvanica* / *Cornus foemina* / *Carex bromoides* Forest	Merged with *Taxodium distichum - Nyssa (biflora, aquatica) / Itea virginica / Saururus cernuus* Forest; Group Changed to BALD CYPRESS – TUPELO SWAMP
COASTAL PLAIN DEPRESSION WETLAND: *Cephalanthus occidentalis / Torreyochloa pallida - Panicum verrucosum* Shrubland	Name changed to*: Cephalanthus occidentalis - (Decodon verticillatus) / Panicum verrucosum - Dulichium arundinaceum - (Torreyochloa pallida) Shrub* Herbaceous Vegetation
COASTAL PLAIN DEPRESSION WETLAND: *Nyssa biflora - Liquidambar styraciflua / Leucothoe racemosa / (Carex joorii)* Forest	Name changed to: *Nyssa biflora - (Quercus lyrata) / Leucothoe racemosa / Carex joorii* Forest
COASTAL PLAIN DEPRESSION WETLAND: *Quercus phellos - Acer rubrum - Liquidambar styraciflua / Vaccinium (corymbosum, formosum, fuscatum) Forest*	Name changed to: *Quercus phellos - Acer rubrum - Liquidambar styraciflua / Vaccinium (formosum, fuscatum)* Forest
COASTAL PLAIN DEPRESSION WETLAND: *Saccharum giganteum - Saccharum baldwinii - Panicum rigidulum - Carex glaucescens* Herbaceous Vegetation	Name changed to: *Saccharum baldwinii - Carex (joorii, glaucescens) - Panicum rigidulum* Herbaceous Vegetation
COASTAL PLAIN DEPRESSION WETLANDS: *Diospyros virginiana* / *Panicum verrucosum* Woodland	Merged with *Nyssa biflora - (Quercus lyrata) / Leucothoe racemosa / Carex joorii* Forest
COASTAL PLAIN DEPRESSION WETLANDS: *Quercus lyrata* / (*Carex joorii*) Woodland	Merged with *Nyssa biflora - (Quercus lyrata) / Leucothoe racemosa / Carex joorii* Forest
MESIC MIXED HARDWOOD FOREST: *Fagus grandifolia - Quercus (alba, michauxii, pagoda) / Stewartia malacodendron* Forest	Name changed to: *Fagus grandifolia - Quercus (alba, falcata, pagoda) / Symplocos tinctoria - Stewartia malacodendron* Forest
NON-RIVERINE FLATWOOD / SWAMP: *Nyssa biflora - Taxodium distichum - Acer rubrum / Clethra alnifolia / Woodwardia areolata* Forest	Name changed to: *Nyssa biflora - Taxodium distichum - Acer rubrum / (Persea palustris) / Clethra alnifolia / Woodwardia virginica* Forest
STREAMHEAD POCOSIN: *Acer rubrum - Magnolia virginiana* - (*Chamaecyparis thyoides*) / *Lyonia lucida - Clethra alnifolia* Forest	Name changed to: *Nyssa biflora - Acer rubrum - Magnolia virginiana - Chamaecyparis thyoides / Lyonia lucida - Clethra alnifolia* Forest; Group changed to NON-RIVERINE FLATWOOD / SWAMP

Appendix B. Definitions of global and subnational (state) conservation status ranks.

NatureServe and the Network of Natural Heritage Programs and Conservation Data Centers work together to assign conservation status ranks to elements of biodiversity (plants, animals, and ecological communities). These ranks have been developed using range-wide data collected by the Natural Heritage Network for nearly three decades and are critical in setting conservation priorities. Community types are ranked on a global (G), national (N), and subnational (S) scale of 1 to 5, with 1 indicating critical imperilment due to rarity, endemism, and/or threats, and 5 indicating little or no risk of extirpation or elimination.

The primary ranking factors used in assessing the appropriate conservation status rank for an ecological community element are: (1) the total number of occurrences, and (2) the total area (acreage) of the element. Secondary ranking factors, such as the geographic range over which the element occurs, the threats to the occurrences, and the viability of the occurrences, also affect the rank.

Additional factors that have been used in arriving at an assessment of a community's range-wide (global) rank include the geographic range over which the type occurs, the long term decline of the type across this range, the degree of site specificity exhibited by the type, and the rarity across the range based on state ranks assigned by state Natural Heritage Programs.

To learn more about Natural Heritage Methodology, go to:
http://www.natureserve.org/publications/ConsStatusAssess_RankMethodology.jsp

Global Rank Codes and Definitions

Global ranks (i.e. range-wide conservation status ranks) are assigned at NatureServe's Headquarters or by a designated lead office in the Heritage/Conservation Data Center Network.

GX - Extirpated - Eliminated throughout its range, with no restoration potential due to extinction of dominant or characteristic taxa and or elimination of the sites and ecological processes on which the type depends.

GH - Possibly Extinct (Historical) - Presumed eliminated throughout its range, with no, or virtually no, likelihood that it will be rediscovered, but with potential for restoration (e.g., *Castanea dentata* Forest).

G1 - Critically Imperiled - Critically imperiled globally. At very high risk of elimination due to extreme rarity, very steep declines, or other factors.

G2 - Imperiled - Imperiled globally. At high risk of elimination due to very restricted range, very few occurrences, steep declines, or other factors.

G3 - Vulnerable - Rare or uncommon. At moderate risk of extinction or elimination due to a restricted range, relatively few occurrences, recent and widespread declines, or other factors.

G4 - Apparently Secure - Uncommon but not rare. Apparently secure, but with cause for long-term concern. May be quite rare in parts of its range, especially at the periphery; apparently not vulnerable in most of its range

G5 - Secure - Demonstrably widespread, abundant, and secure. Common, widespread, and abundant, although it may be quite rare in parts of its range, especially at the periphery; not vulnerable in most of its range.

GNA - Rank not applicable - Common cultural, ruderal, planted, modified, managed, invasive, and/or non-natural type that is not a suitable target for conservation activities.

GNR - Not Yet Ranked - Status has not yet been assessed.

GU - Unrankable - Status cannot be determined at this time or due to lack of information or due to substantially conflicting information about status or trends.

G#G# - Rank Range - The actual rank of the element is within the range specified by the numbers; however, the exact status of the rarity of the element is uncertain. For example, G2G3 indicates that the rank may be either G2 or G3.

State Rank Codes and Definitions

State ranks are assigned by the Virginia Division of Natural Heritage and apply to an element only as it exists in the state, regardless of its range-wide status.

SX - Extirpated - Presumed extirpated from the state. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

SH - Historical - Possibly extirpated (Historical). Historically known from the state, but not verified for an extended period, usually >15 years; this rank is used primarily when inventory has been attempted recently.

S1 - Critically Imperiled - Critically imperiled in the state because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation from the state; generally with 5 or fewer occurrences state-wide, and/or covering less than 50 ha (124 ac) in aggregate; or covering a larger area but highly threatened with destruction or modification.

S2 - Imperiled - Imperiled in the state because of rarity or because of some factor(s) making it very vulnerable to extirpation from the state. Generally with 6–20 occurrences state-wide, and/or covering less than 250 ha (618 ac) in aggregate; or covering a larger area but threatened with destruction or modification.

S3 - Vulnerable - Vulnerable in the state either because rare and uncommon, or found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extirpation. Generally with 21–100 occurrences state-wide; or with a larger number of occurrences subject to relatively high levels of threat; may be of relatively frequent occurrence in specific localities or geographic parts of the state.

S4 - Apparently Secure - Uncommon but not rare, and usually widespread in the state. Some cause for long-term concern due to declines or other factors.

S5 - Secure - Demonstrably widespread, abundant, and secure in the state, and essentially ineradicable under present conditions.

SNA - Rank not applicable - Common cultural, ruderal, planted, modified, managed, invasive, and/or non-natural type that is not a suitable target for conservation activities.

SNR - Not Ranked - Status has not yet been assessed. As the state classification is further revised by additional information, the SNR will be changed to a numeric rank based on available data.

SU - **Unrankable -** Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

S#S# - Rank Range - The actual rank of the element is within the range specified by the numbers; however, the exact status of the rarity of the element is uncertain. For example, S1S3 indicates that the rank may be either S1, S2, or S3.

Global and State Rank Qualifiers

? - Inexact or Uncertain - A question mark added to a rank expresses an uncertainty about the rank in the range of 1 in either way on the 1-5 scale; for example, a G2? rank indicates that the rank is thought to be G2, but could be G1 or G3

Q - **Questionable taxonomy** - A "Q" added to a rank denotes questionable taxonomy that may reduce conservation priority; it modifies the degree of imperilment and is only used in cases where the type would have

a less imperiled rank if it were not recognized as a valid type (i.e., if it were combined with a more common type); a GUQ rank often indicates that the type is unrankable because of daunting taxonomic questions.

Appendix C. Number of Classified Community Types by Conservation Status Rank.

The following table shows the number of community types that have been assigned various conservation status ranks. Range ranks were rounded up to the highest whole rank. Ranks with modifiers were counted as the base rank. Percentage of types is the percentage of the total number of classified natural community types in The Natural Communities of Virginia classification.

Global Conservation Rank			State Conservation Rank		
	# of types	% of types*		# of types	% of types*
G1 -Critically imperiled	54	17%	S1 - Critically imperiled	107	34%
G2 – Imperiled	69	22%	S2 – Imperiled	54	17%
G3 – Vulnerable	63	20%	S3 – Vulnerable	66	21%
G4 - Apparently secure	54	17%	S4 - Apparently secure	29	9%
G5 – Secure	17	5%	S5 – Secure	4	1%
GNR - not yet ranked	39	12%	SU – currently unrankable	51	16%

* Percentage of the total number of natural community types in the classification.