

COMMONWEALTH of VIRGINIA

The Natural Communities of Virginia: Ecological Groups and Community Types



Virginia Department of Conservation and Recreation
Division of Natural Heritage
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**The Natural Communities of Virginia:
Ecological Groups and Community Types**

a listing with conservation status ranks

April 2017

Virginia Department of Conservation and Recreation
Division of Natural Heritage
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Table of Contents

Page

INTRODUCTION	I
CLASSIFICATION STRUCTURE	i
RELATIONSHIP TO THE USNVC AND OTHER CLASSIFICATION SYSTEM	iii
CHANGES TO CLASSES, ECOLOGICAL COMMUNITY GROUPS AND COMMUNITY TYPES SINCE THE 2013 LISTING	iv
FORMAT OF THE LIST	iv
FUTURE PLANS	v
FEEDBACK	v
REFERENCES	vi
 NATURAL COMMUNITIES OF VIRGINIA: ECOLOGICAL GROUPS AND COMMUNITY TYPES, A LISTING WITH CONSERVATION RANKS	 1
..... ECOLOGICAL GROUPS (listed here alphabetically)	
Acidic Cove Forests	3
Acidic Oak - Hickory Forests	4
Appalachian Bogs	15
Bald Cypress - Tupelo Swamps	11
Basic Mesic Forests	3
Basic Oak - Hickory Forests	4
Calcareous Fens and Spring Marshes	15
Carolina Hemlock Forests	5
Central Appalachian Shale Barrens	6
Coastal Plain / Piedmont Bottomland Forests	11
Coastal Plain / Piedmont Oak - Beech / Heath Forests	5
Coastal Plain / Piedmont Seepage Bogs	16
Coastal Plain / Piedmont Seepage Swamps	16
Coastal Plain Depression Swamps and Ponds	16
Coastal Plain Dry Calcareous Forests	4
Eastern Hemlock - Hardwood Forests	3
Eastern White Pine - Hardwood Forests	5
Floodplain Ponds and Pools	11
High-Elevation Boulderfield Forests and Woodlands	1
High-Elevation Cove Forests	1
High-Elevation Outcrop Barrens	2
High-Energy Tidal River Shores	21
Inland Salt Marshes	15
Interdune Swales and Ponds	18
Lichen / Bryophyte Nonvascular Cliffs and Boulderfields	8
Limestone and Dolomite Woodlands and Barrens	6
Loblolly Pine Savannas	10
Low-Elevation Boulderfield Forests	5
Low-Elevation Outcrop Barrens	7
Mafic Fens and Seeps	15
Maritime Dune Grasslands	9
Maritime Dune Scrub	9
Maritime Dune Woodlands	9
Maritime Swamps	18
Maritime Upland Forests	9
Mesic Mixed Hardwood Forests	3
Montane Depression Swamps and Ponds	14
Montane Dry and Dry-Mesic Calcareous Forests	4
Montane Mixed Oak and Oak - Hickory Forests	4
Montane Woodland Seeps	14
Mountain / Piedmont Acidic Woodlands	6
Mountain / Piedmont Basic Woodlands	6

Table of Contents (continued)

	Page
Mountain / Piedmont Cliffs	8
Mountain / Piedmont Seepage Swamps	14
Non-Riverine Flatwoods and Swamps	14
Northern Hardwood Forests	1
Northern Red Oak Forests	2
Oak - Hickory Woodlands and Savannas	7
Oak / Heath Forests	5
Peatland Atlantic White-Cedar Forests	17
Piedmont / Mountain Floodplain Forests and Swamps	12
Piedmont / Mountain Small-Stream Alluvial Forests	12
Piedmont Granitic Flatrocks	7
Piedmont Hardpan Forests	5
Piedmont Prairies	7
Piedmont Upland Depression Swamps	16
Pond Pine Woodlands and Pocosins	17
Rich Cove Forests	3
Riverine Aquatic Beds	13
Riverside Outcrop Barrens	7
Riverside Prairies	13
Rocky Bars and Shores	12
Salt Flats	21
Salt Scrub	22
Sand / Gravel / Mud Bars and Shores	12
Sandhill and Fluvial Terrace Woodlands	10
Sea-Level Fens	18
Semipermanent Impoundments	11
Southern Appalachian Shrub and Grass Balds	1
Spray Cliffs	15
Spruce and Fir Forests	1
Tidal Freshwater and Oligohaline Aquatic Beds	21
Tidal Freshwater Marshes	20
Tidal Mesohaline and Polyhaline Aquatic Beds	21
Tidal Mesohaline and Polyhaline Marshes	20
Tidal Oligohaline Marshes	20
Tidal Shrub Swamps	21
Tidal Swamp Forests and Woodlands	21
Ultramafic Woodlands and Barrens	7
Upper Beaches and Overwash Flats	23
Wind-Tidal Oligohaline Marshes	20

ECOLOGICAL GROUPS (listed by Classification Hierarchy and alphabetized within classes)

TERRESTRIAL VEGETATION

High-Elevation Forests, Grasslands, and Rock Outcrops

High-Elevation Boulderfield Forests and Woodlands	1
High-Elevation Cove Forests	1
High-Elevation Outcrop Barrens	2
Northern Hardwood Forests	1
Northern Red Oak Forests	2
Southern Appalachian Shrub and Grass Balds	1
Spruce and Fir Forests	1

Low-Elevation Mesic Forests

Acidic Cove Forests	3
Basic Mesic Forests	3
Eastern Hemlock - Hardwood Forests	3
Mesic Mixed Hardwood Forests	3
Rich Cove Forests	3

Low-Elevation Dry and Dry-Mesic Forests

Acidic Oak - Hickory Forests	4
Basic Oak - Hickory Forests	4
Carolina Hemlock Forests	5
Coastal Plain / Piedmont Oak - Beech / Heath Forests	5
Coastal Plain Dry Calcareous Forests	4
Eastern White Pine - Hardwood Forests	5
Low-Elevation Boulderfield Forests	5
Montane Dry And Dry-Mesic Calcareous Forests	4
Montane Mixed Oak and Oak - Hickory Forests	4
Oak / Heath Forests	5
Piedmont Hardpan Forests	5

Low-Elevation Woodlands, Barrens, and Rock Outcrops

Central Appalachian Shale Barrens	6
Lichen / Bryophyte Nonvascular Cliffs and Boulderfields	8
Limestone / Dolomite Woodlands and Barrens	6
Low-Elevation Outcrop Barrens	7
Mountain / Piedmont Acidic Woodlands	6
Mountain / Piedmont Basic Woodlands	6
Mountain / Piedmont Cliffs	8
Oak - Hickory Woodlands and Savannas	7
Piedmont Granitic Flatrocks	7
Piedmont Prairies	7
Pine - Oak / Heath Woodlands	6
Riverside Outcrop Barrens	7
Ultramafic Woodlands and Barrens	7

Maritime Zone Communities

Maritime Dune Grasslands	9
Maritime Dune Scrub	9
Maritime Dune Woodlands	9
Maritime Upland Forests	9

Sandy Woodlands of the Inner Coastal Plain and Outer Piedmont

Loblolly Pine Savannas	10
Sandhill and Fluvial Terrace Woodlands	10

PALUSTRINE VEGETATION

Alluvial Floodplain Communities

Bald Cypress - Tupelo Swamps	11
Coastal Plain / Piedmont Bottomland Forests	11
Floodplain Ponds and Pools	11
Piedmont / Mountain Floodplain Forests and Swamps	12

Piedmont / Mountain Small-Stream Alluvial Forests	12
Riverside Prairies	13
Rocky Bars and Shores	12
Sand / Gravel / Mud Bars and Shores.....	12
Semipermanent Impoundments	11
<i>Non-Alluvial Wetlands of the Mountains</i>	
Appalachian Bogs	15
Calcareous Fens and Spring Marshes	15
Inland Salt Marshes	15
Mafic Fens and Seeps.....	15
Montane Depression Swamps and Ponds.....	14
Montane Woodland Seeps.....	14
Mountain / Piedmont Seepage Swamps	14
Spray Cliffs	15
<i>Non-Alluvial Wetlands of the Coastal Plain and Piedmont</i>	
Coastal Plain / Piedmont Seepage Bogs	16
Coastal Plain / Piedmont Seepage Swamps.....	16
Coastal Plain Depression Swamps and Ponds	16
Non-Riverine Flatwoods and Swamps	16
Piedmont Upland Depression Swamps.....	16
<i>Saturated Peatlands of the Coastal Plain</i>	
Peatland Atlantic White-Cedar Forests	17
Pond Pine Woodlands and Pocosins.....	17
<i>Non-Tidal Maritime Wetlands</i>	
Interdune Swales and Ponds.....	18
Maritime Swamps	18
Sea-Level Fens	18
RIVERINE VEGETATION	
Riverine Aquatic Beds	17
ESTUARINE VEGETATION	
<i>Tidal Wetlands</i>	
High-Energy Tidal River Shores	
Salt Flats.....	21
Salt Scrub	21
Tidal Freshwater and Oligohaline Aquatic Beds	22
Tidal Freshwater Marshes	20
Tidal Mesohaline and Polyhaline Aquatic Beds.....	21
Tidal Mesohaline and Polyhaline Marshes.....	21
Tidal Oligohaline Marshes	20
Tidal Shrub Swamps	20
Tidal Swamp Forests and Woodlands	21
Wind-Tidal Oligohaline Marshes	20
MARINE VEGETATION	
Upper Beaches and Overwash Flats	23
APPENDICES.....	24
APPENDIX A. CHANGES TO CLASSES, ECOLOGICAL GROUPS AND COMMUNITY TYPES	26
Table 1. Changes to Ecological Classes 2013-2017	26
Table 2. Changes to Ecological Community Groups 2013-2017	26
Table 3. Changes to Community Types 2013-2017	27
APPENDIX B. DEFINITIONS OF GLOBAL AND SUBNATIONAL (STATE) CONSERVATION STATUS RANKS	34
APPENDIX C. NUMBER OF CLASSIFIED COMMUNITY TYPES BY CONSERVATION STATUS RANK.	36

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 Virginia's 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 and natural communities. These lists are revised as new data become available, usually every one to three 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 82 ecological groups and 308 community types currently defined for Virginia. It is meant to function as a companion to the Division's [The Natural Communities of Virginia, Third Approximation](#) web pages, which provide descriptions and illustrations of all Ecological Groups, as well as more detailed information about the methods used to develop the classification. The website and classification can be accessed at the following link: <http://www.dcr.virginia.gov/natural-heritage/natural-communities/>

Classification Structure

The divisions of the Virginia classification hierarchy, from the top down, are:

- System
- Ecological Class
- Ecological Community Group
- Community Type

The **System** is the upper-most level of the classification hierarchy. The System level is based on large-scale 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 Forests, Grasslands, and Rock Outcrops* - Ecological community groups with distributions generally centered above 1,070 m (3,500 ft) elevation (above 3200 ft on the Northern Blue Ridge) 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 (below 3200 ft on the Northern Blue Ridge) and representing mesophytic to submesophytic forest vegetation. A few community types of the Rich Cove Forests, Acidic Cove Forests, and Eastern Hemlock - Hardwood Forests occasionally extend into the high-elevation zone (above 1,070 m / 3500 ft).
- *Low-Elevation Dry and Dry-Mesic Forests* - Ecological community groups with distributions centered below 1,070 m (3,500 ft) elevation and representing xerophytic to submesophytic forest vegetation. A few community types of the Montane Mixed Oak and Oak-Hickory Forests, Oak / Heath Forests, and Pine - Oak / Heath Forests extend significantly into the high-elevation zone (above 1,070 m, 3500 ft), but are retained in this Class because of their compositional similarity to other members of these groups.
- *Low-Elevation Woodlands, Barrens, and Rock Outcrops* - Ecological community groups with distributions centered below 1,070 m (3,500 ft) elevation and representing edaphically (or in two cases, fire-) controlled woodland, scrub, herbaceous, and non-vascular moss/lichen vegetation.
- *Maritime Zone Communities* - Ecological community groups occurring at or near sea level, 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 Inner 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 habitats 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. This vegetation 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.

Within the defined community types, 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 differ in their extent on the landscape, some are very broadly defined and have large geographic coverage (e.g., Oak / Heath Forests), while others are very narrow in concept and distribution (e.g., Piedmont Granitic Flatrocks). A few groups (e.g., Inland Salt Marshes) may have only a single occurrence in Virginia but are known to have representatives in other states. However, most 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 and 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, Jennings et al 2009, USNVC 2016) 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 of the Natural Communities of Virginia to the USNVC and other classification systems

Since the middle 1990s, the United States National Vegetation Classification (USNVC) has been developed and implemented first by The Nature Conservancy (TNC), and since 2001 by NatureServe, always working with the network of Natural Heritage Programs and U.S. Federal Agencies, in conjunction with the [Vegetation Panel of the Ecological Society of America](#) and the [Federal Geographic Data Committee](#) (Grossman et al 1998 (PDF), [FGDC 2008](#) (PDF), [Jennings et al. 2009](#) (PDF)). Today, this group of cooperators is known as the [USNVC Partnership](#) (USNVC 2016). The United States National Vegetation Classification (USNVC) is a jurisdictional subset of the larger International Vegetation Classification of Ecological Communities (IVC), which is maintained by NatureServe in an institutional database. The North American units of the IVC are posted online via [NatureServe Explorer](#). The USNVC employs a hierarchical classification scheme that has more recently been termed the '[EcoVeg approach](#)' (Faber-Langendoen et al. 2014, [Faber-Langendoen et al. 2016](#) (PDF), Faber-Langendoen et al 2017). The approach provides an 8-level hierarchy for natural types, with three upper (formation) levels, three mid (physiognomic-biogeographic-floristic) levels and 2 lower (floristic) levels, and a separate 8-level hierarchy for cultural types. The entire hierarchy has been applied to the vegetation of the United States and the types and descriptions are made available on-line through the [USNVC Hierarchy Browser](#). The units of the two finest levels, the Alliance and Association, are maintained through the USNVC review board to ensure consistent definitions. Proposed revisions are reviewed both locally and nationally and changes are published in the [Proceedings of the U.S. National Vegetation Classification](#).

Virginia's 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.

Another related classification is the non-hierarchical classification of [Terrestrial Ecological Systems for the United States](#) (Comer et al. 2003). Like the Ecological Group level of the Natural Communities of Virginia, Ecological Systems are aggregations of Associations. [NatureServe Explorer](#) provides access to the Ecological Systems Classification, which has been used as the map legend for the [USGS's National Gap Analysis Program](#), [LANDFIRE Program](#), and [The Nature Conservancy's Natural Habitats of the Northeastern United States](#) (PDF), all these projects provide ecological models which include Virginia in their geographic coverage. 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/document/vaclass-system-xwalk-updateto3rdapprox.xlsx> (Excel)

Changes to Ecological Community Groups and Community Types since the July 2013 list

Development of the state ecological community classification is an iterative process of successive approximations (Fleming et al. 2001, 2006, 2010, and 2017). Since the publication of the previous list of Ecological Community Groups and Community Types in July 2013, we have continued to collect information on Virginia's natural communities, archive those data in a custom vegetation plots database, and evaluate those data in state-wide and range-wide geographic analyses, resulting in new and refined natural community definitions and a more robust state-wide classification. To date the database includes over 4700 geo-referenced vegetation plot samples from throughout Virginia, most of which are now available through [VegBank](#), a publicly accessible database sponsored by the Ecological Society of America. In addition to conceptual and nomenclatural changes of Ecological Groups and Community Types, we have made refinements to the organization levels of the classification that we hope will improve the user's experience. Changes to Classes, Ecological Groups, and Community types, since the publication of the 2013 list, are outlined in Appendix A.

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.
Each Ecological Group is hyperlinked to a Group description on the DCR Natural Heritage Website

Community Types are listed in the order in which they are displayed on the Natural Communities of Virginia web pages.

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. State Names are based on the occurrence of the community in Virginia, and species nomenclature follows the Flora of Virginia (Weakley, Ludwig, and Townsend 2012), thus state names may differ from the Global scientific name assigned by [NatureServe](#). Additionally, subspecies and varieties of nominal species are not included in the community type names unless they are explicitly diagnostic of the community.

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 range-wide (see below) 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 (or nearest 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 2017). 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 Explorer* website (NatureServe 2017). 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 USNVC.org, or a provisional description on the DCR-DNH website. On this list, each USNVC code is preceded by a symbol indicating the relationship Virginia Community Type to the USNVC Association. The symbols indicate equivalent (=), finer (<), broader (>), or intersects (x). In the infrequent case where a Virginia Community Type can be crosswalked to more than one USNVC Association, the association with the closest relationship to the state concept is listed.

Future Plans

The list of Ecological Community Groups and Community Types, with conservation status ranks, will be updated every one to three years, as new information becomes available. Detailed descriptions of the state Community Types are in progress. 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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Terrestrial - High-Elevation Forests, Grasslands, and Rock Outcrops

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Spruce and Fir Forests</u>				
<i>Abies fraseri</i> / <i>Dryopteris campyloptera</i> - <i>Oxalis montana</i> Forest	Fraser Fir Forest	G1	S1	= CEGL006049
<i>Picea rubens</i> / <i>Viburnum lantanoides</i> - <i>Vaccinium erythrocarpum</i> / <i>Huperzia lucidula</i> - <i>Clintonia borealis</i> Forest	Southern Appalachian Red Spruce Forest (Deciduous Shrub Type)	G2	S1	= CEGL007131
<i>Picea rubens</i> - (<i>Abies fraseri</i>) / (<i>Rhododendron catawbiense</i> , <i>Rhododendron maximum</i>) Forest	Southern Appalachian Red Spruce Forest (Evergreen Shrub Type)	G1	S1	= CEGL007130
<i>Picea rubens</i> - <i>Betula alleghaniensis</i> / <i>Rhododendron (maximum, catawbiense)</i> Forest	Southern Appalachian Red Spruce - Northern Hardwood Forest / <i>Rhododendron</i> Forest	G1?	S1	= CEGL004983
<i>Picea rubens</i> / <i>Acer rubrum</i> / <i>Maianthemum canadense</i> - (<i>Lycopodium clavatum</i> , <i>Dendrolycopodium dendroideum</i>) Forest	Central Appalachian Red Spruce Forest	G2	S1	= CEGL008501
<u>Southern Appalachian Shrub and Grass Balds</u>				
<i>Danthonia compressa</i> - <i>Carex brunnescens</i> - <i>Sibbaldia tridentata</i> Herbaceous Vegetation	Southern Appalachian Grassy Bald	G1	S1	= CEGL004242
<i>Rhododendron catawbiense</i> Shrubland	Southern Appalachian Catawba <i>Rhododendron</i> Heath Bald	G2	S1	= CEGL003818
<i>Menziesia pilosa</i> - <i>Vaccinium (erythrocarpum, simulatum, corymbosum)</i> - <i>Sorbus americana</i> Shrubland	Southern Appalachian Deciduous Heath Bald	G2	S1	= CEGL004819
<i>Kalmia latifolia</i> - <i>Rhododendron catawbiense</i> - <i>Gaylussacia baccata</i> - (<i>Vaccinium corymbosum</i>) Shrubland	Southern Appalachian Mixed Heath Bald	G2G3	S1	= CEGL003814
<u>Northern Hardwood Forests</u>				
<i>Acer saccharum</i> - <i>Betula alleghaniensis</i> - <i>Fagus grandifolia</i> - <i>Aesculus flava</i> / <i>Ageratina altissima</i> var. <i>roanensis</i> - <i>Eurybia chlorolepis</i> Forest	Southern Appalachian Northern Hardwood Forest	G3G4	S3	= CEGL007285
<i>Betula alleghaniensis</i> - <i>Quercus rubra</i> / <i>Acer (pensylvanicum, spicatum)</i> / <i>Dryopteris intermedia</i> - <i>Oclemena acuminata</i> Forest	Central Appalachian Northern Hardwood Forest (Yellow Birch - Northern Red Oak Type)	G3G4	S3	= CEGL008502
<i>Prunus serotina</i> - <i>Acer saccharum</i> - <i>Fagus grandifolia</i> / <i>Carex digitalis</i> - <i>Dennstaedtia punctilobula</i> Forest	Central Appalachian Northern Hardwood Forest (Sugar Maple - Beech - Black Cherry Type)	G4	S2	= CEGL006045
<i>Fagus grandifolia</i> - <i>Tsuga canadensis</i> / <i>Dryopteris intermedia</i> Forest	Northeastern Dry-Mesic Beech - Hemlock Forest	G4G5	S1	= CEGL006088
<u>High-Elevation Boulderfield Forests and Woodlands</u>				
<i>Betula alleghaniensis</i> / <i>Acer spicatum</i> / <i>Viburnum lantanoides</i> - <i>Ribes glandulosum</i> Forest	Southern Appalachian High-Elevation Boulderfield Forest / Woodland	G2G3	S1	= CEGL006124
<i>Betula alleghaniensis</i> / <i>Sorbus americana</i> - <i>Acer spicatum</i> / <i>Polypodium appalachianum</i> Forest	Central Appalachian High-Elevation Boulderfield Forest / Woodland	G2	S2	= CEGL008504
<u>High-Elevation Cove Forests</u>				
<i>Acer saccharum</i> - <i>Aesculus flava</i> - <i>Betula alleghaniensis</i> / <i>Caulophyllum thalictroides</i> - <i>Actaea podocarpa</i> - <i>Dryopteris intermedia</i> Forest	Southern Appalachian High-Elevation Rich Cove Forest	G3	S2	= CEGL004973
<i>Acer saccharum</i> - <i>Tilia americana</i> - <i>Fagus grandifolia</i> / <i>Caulophyllum thalictroides</i> - <i>Viola blanda</i> - (<i>Allium tricoccum</i>) Forest	Northern Appalachian High-Elevation Rich Cove Forest	G4?	S1	= CEGL006637
<i>Betula alleghaniensis</i> - (<i>Tsuga canadensis</i>) / <i>Rhododendron maximum</i> Forest	High-Elevation Acidic Cove Forest	G3	S3?	= CEGL007861

Terrestrial - High-Elevation Forests, Grasslands, and Rock Outcrops

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Northern Red Oak Forests</u>				
<i>Quercus rubra</i> / <i>Rhododendron calendulaceum</i> - <i>Vaccinium simulatum</i> - <i>Vaccinium erythrocarpum</i> / <i>Parathelypteris noveboracensis</i> Forest	Southern Appalachian Northern Red Oak Forest (Deciduous Shrub Type)	G4	S3	= CEGL007300
<i>Quercus rubra</i> / <i>Rhododendron (catawbiense, maximum)</i> Forest	Southern Appalachian Northern Red Oak Forest (Evergreen Shrub Type)	G4	S2?	= CEGL007299
<i>Quercus rubra</i> - (<i>Quercus alba</i>) / <i>Ilex montana</i> / <i>Demnstaedtia punctilobula</i> - <i>Lysimachia quadrifolia</i> Forest	Central Appalachian Northern Red Oak Forest	G3G4	S3	= CEGL008506
<u>High-Elevation Outcrop Barrens</u>				
<i>Kalmia latifolia</i> - <i>Gaylussacia baccata</i> - <i>Vaccinium (angustifolium, pallidum)</i> - <i>Menziesia pilosa</i> Shrubland	Central Appalachian High-Elevation Heath Barren / Pavement	G2	S1	= CEGL003939
<i>Aronia melanocarpa</i> - <i>Gaylussacia baccata</i> / <i>Carex pensylvanica</i> Shrubland	High-Elevation Outcrop Barren (Black Chokeberry Igneous / Metamorphic Type)	G1?	S1	= CEGL008508
<i>Minuartia groenlandica</i> - <i>Paronychia argyrocoma</i> - <i>Hydaticea petiolaris</i> Herbaceous Vegetation	High-Elevation Outcrop Barren (Greenland Sandwort Igneous / Metamorphic Type)	G1	S1	= CEGL008509
<i>Diervilla lonicera</i> - <i>Solidago randii</i> - <i>Avenella flexuosa</i> - <i>Hylotelephium telephioides</i> - (<i>Hydaticea petiolaris</i> , <i>Sibbaldia tridentata</i>) Herbaceous Vegetation	High-Elevation Greenstone Barren	G1	S1	= CEGL008536
<i>Salix occidentalis</i> / <i>Schizachyrium scoparium</i> - <i>Sibbaldia tridentata</i> - <i>Crocianthemum bicknellii</i> - <i>Rhynchospora globularis</i> 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
<u>Rich Cove Forests</u>				
<i>Acer saccharum</i> - <i>Tilia americana</i> var. <i>heterophylla</i> - <i>Aesculus flava</i> / <i>Caulophyllum thalictroides</i> - <i>Hydrophyllum</i> (<i>canadense</i> , <i>macrophyllum</i>) Forest	Southern Appalachian Rich Cove Forest (Sugar Maple - Buckeye Type)	G3G4	S3	= CEGL007695
<i>Tilia americana</i> var. <i>heterophylla</i> - <i>Aesculus flava</i> - <i>Acer saccharum</i> / <i>Saphylea trifolia</i> / <i>Cystopteris bulbifera</i> - <i>Asarum canadense</i> Forest	Southern Appalachian Limestone Rich Cove Forest	G3G4	S3	= CEGL006472
<i>Liriodendron tulipifera</i> - <i>Fraxinus americana</i> - <i>Tilia americana</i> / <i>Lindera benzoin</i> / <i>Actaea racemosa</i> Forest	Appalachian Rich Cove Forest (Tuliptree - Mixed Hardwoods Type)	G4	S4	= CEGL007710
<i>Acer saccharum</i> - <i>Tilia americana</i> / <i>Caulophyllum thalictroides</i> - <i>Laportea canadensis</i> - <i>Osmorhiza claytonii</i> Forest	Central Appalachian Rich Cove Forest (Sugar Maple - Basswood Type)	G4?	S3	= CEGL006237
<u>Basic Mesic Forests</u>				
<i>Fagus grandifolia</i> - <i>Liriodendron tulipifera</i> - <i>Carya cordiformis</i> / <i>Lindera benzoin</i> / <i>Podophyllum peltatum</i> Forest	Coastal Plain / Outer Piedmont Basic Mesic Forest	G4?	S3	= CEGL006055
<i>Liriodendron tulipifera</i> - <i>Quercus rubra</i> - <i>Fraxinus americana</i> / <i>Asimina triloba</i> / <i>Actaea racemosa</i> Forest	Inner Piedmont / Lower Blue Ridge Basic Mesic Forest	G4?	S4	= CEGL006186
<i>Acer</i> (<i>nigrum</i> , <i>saccharum</i>) - <i>Tilia americana</i> / <i>Asimina triloba</i> / <i>Jeffersonia diphylla</i> - <i>Caulophyllum thalictroides</i> Forest	Central Appalachian / Piedmont Basic Mesic Forest (Twinleaf - Blue Cohosh Type)	G4G5	S4	= CEGL008412
<i>Acer floridanum</i> - <i>Fagus grandifolia</i> - <i>Carya cordiformis</i> / <i>Aesculus sylvatica</i> / <i>Actaea racemosa</i> Forest	Southern Piedmont Basic Mesic Forest	G3G4	S3	= CEGL008466
<i>Fagus grandifolia</i> - <i>Acer floridanum</i> - <i>Quercus muehlenbergii</i> / <i>Sanguinaria canadensis</i> Forest	Coastal Plain Calcareous Ravine Forest	G2?	S2	= CEGL007181
<u>Acidic Cove Forests</u>				
<i>Liriodendron tulipifera</i> - <i>Betula lenta</i> - <i>Tsuga canadensis</i> / <i>Rhododendron maximum</i> Forest	Southern Appalachian Acidic Cove Forest	G5	S4S5	= CEGL007543
<i>Tsuga canadensis</i> - <i>Fagus grandifolia</i> / <i>Magnolia tripetala</i> / <i>Rhododendron maximum</i> Forest	Cumberland Mountain Acidic Cove Forest	G4	S2?	= CEGL008407
<i>Liriodendron tulipifera</i> - <i>Pinus strobus</i> - <i>Quercus</i> (<i>rubra</i> , <i>alba</i>) - (<i>Tsuga canadensis</i>) / <i>Polystichum acrostichoides</i> Forest	Central Appalachian Acidic Cove Forest (White Pine - Hemlock - Mixed Hardwoods Type)	G4?	S4	= CEGL006304
<i>Liriodendron tulipifera</i> - <i>Quercus montana</i> - (<i>Tsuga canadensis</i>) / <i>Kalmia latifolia</i> - (<i>Rhododendron catawbiense</i>) Forest	Central Appalachian Acidic Cove Forest (Hemlock - Chestnut Oak Type)	G4	S3	= CEGL008512
<u>Mesic Mixed Hardwood Forests</u>				
<i>Fagus grandifolia</i> - <i>Quercus</i> (<i>alba</i> , <i>rubra</i>) - <i>Liriodendron tulipifera</i> / (<i>Ilex opaca</i>) / <i>Polystichum acrostichoides</i> Forest	Northern Coastal Plain / Piedmont Mesic Mixed Hardwood Forest	G5	S5	= CEGL006075
<i>Fagus grandifolia</i> - <i>Quercus</i> (<i>alba</i> , <i>nigra</i> , <i>michauxii</i>) / <i>Symplocos tinctoria</i> - (<i>Stewartia malacodendron</i>) Forest	Southern Coastal Plain Mesic Mixed Hardwood Forest	G3	S2S3	x CEGL007211
<u>Eastern Hemlock - Hardwood Forests</u>				
<i>Tsuga canadensis</i> - <i>Betula alleghaniensis</i> / <i>Maianthemum canadense</i> Forest	Appalachian Hemlock - Northern Hardwood Forest	G3G4	S1	= CEGL006639
<i>Tsuga canadensis</i> - <i>Betula alleghaniensis</i> / <i>Ilex montana</i> / <i>Rhododendron catawbiense</i> Forest	Central Appalachian Hemlock / Catawba Rhododendron Forest	G1?	S1	= CEGL008513
<i>Tsuga canadensis</i> - <i>Fagus grandifolia</i> - <i>Quercus</i> (<i>montana</i> , <i>alba</i>) Forest	Piedmont / Coastal Plain Hemlock - Hardwood Forest	G2G3	S1	= CEGL006474

Terrestrial - Low-Elevation Dry and Dry-Mesic Forests

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Montane Dry And Dry-Mesic Calcareous Forests</u>				
<i>Quercus muehlenbergii</i> - <i>Acer saccharum</i> / <i>Ostrya virginiana</i> - <i>Cercis canadensis</i> / <i>Erigeron pulchellus</i> - <i>Packera obovata</i> Forest	Appalachian Sugar Maple - Chinquapin Oak Dry Calcareous Forest	G4?	S3?	= CEGL006017
<i>Quercus muehlenbergii</i> - <i>Quercus (shumardii, stellata)</i> / <i>Juniperus virginiana</i> - <i>Viburnum rufidulum</i> / <i>Bignonia capreolata</i> Forest	Southern Ridge and Valley Dry Calcareous Forest	G3	S2	= CEGL007699
<i>Fraxinus americana</i> - <i>Carya ovata</i> - <i>Quercus rubra</i> / <i>Frangula caroliniana</i> / <i>Helianthus hirsutus</i> Forest	Cumberland Mountains Dry Calcareous Forest	G1?	S1	= CEGL008458
<i>Quercus muhlenbergii</i> - <i>Quercus (alba, rubra)</i> - <i>Carya cordiformis</i> - <i>Acer saccharum</i> / <i>Lindera benzoin</i> Forest	Dry-Mesic Calcareous Forest (Chinquapin Oak - Mixed Hardwoods Type)	G3G4	S3S4	= CEGL004793
<i>Acer saccharum</i> - <i>Quercus rubra</i> - <i>Carya (glabra, ovata)</i> / <i>Ageratina altissima</i> Forest	Dry-Mesic Calcareous Forest (Sugar Maple - Northern Red Oak Type)	G4	S4	= CEGL008517
<i>Quercus (alba, rubra)</i> - <i>Carya ovalis</i> - <i>Liriodendron tulipifera</i> / <i>Cercis canadensis</i> / <i>Polystichum acrostichoides</i> Forest	Dry-Mesic Calcareous Forest (Southern Ridge and Valley / Cumberlands Type)	G4	S3?	= CEGL007233
<i>Thuja occidentalis</i> - <i>Pinus strobus</i> - <i>Tsuga canadensis</i> / <i>Carex eburnea</i> Forest	Northern White-Cedar Slope Forest	G1G2	S1	= CEGL008426
<u>Coastal Plain Dry Calcareous Forests</u>				
<i>Quercus muehlenbergii</i> - <i>Carya cordiformis</i> / <i>Cercis canadensis</i> / <i>Dichanthelium boscii</i> - <i>Erigeron pulchellus</i> Forest	Coastal Plain Dry Calcareous Forest	G1	S1	= CEGL007748
<u>Basic Oak - Hickory Forests</u>				
<i>Quercus rubra</i> - <i>Quercus montana</i> - <i>Carya ovalis</i> / (<i>Cercis canadensis</i>) / <i>Solidago (caesia, curtisii)</i> Forest	Inner Piedmont / Lower Blue Ridge Basic Oak - Hickory Forest	G3G4	S3S4	= CEGL008514
<i>Quercus alba</i> - <i>Quercus rubra</i> - <i>Carya (tomentosa, ovata)</i> / <i>Cercis canadensis</i> Forest	Southern Piedmont Basic Oak - Hickory Forest	G3G4	S3?	= CEGL007232
<i>Quercus alba</i> - <i>Carya glabra</i> - <i>Fraxinus americana</i> / <i>Cercis canadensis</i> / <i>Muhlenbergia sobolifera</i> - <i>Elymus hystrix</i> Forest	Northern Hardpan Basic Oak - Hickory Forest	G3	S3	= CEGL006216
<u>Acidic Oak - Hickory Forests</u>				
<i>Quercus alba</i> - <i>Quercus rubra</i> - <i>Carya tomentosa</i> / <i>Cornus florida</i> / <i>Vaccinium stamineum</i> / <i>Hylodesmum nudiflorum</i> Forest	Piedmont Acidic Oak - Hickory Forest	G4G5	S4S5	= CEGL008475
<i>Quercus alba</i> - <i>Quercus montana</i> - <i>Carya glabra</i> / <i>Cornus florida</i> / <i>Vaccinium pallidum</i> / <i>Carex pensylvanica</i> Forest	Central Appalachian Acidic Oak - Hickory Forest	G4	S4	= CEGL008515
<u>Montane Mixed Oak and Oak - Hickory Forests</u>				
<i>Quercus montana</i> - <i>Quercus rubra</i> / <i>Hamamelis virginiana</i> Forest	Central Appalachian Dry-Mesic Chestnut Oak - Northern Red Oak Forest	G5	S4	= CEGL006057
<i>Quercus rubra</i> - <i>Quercus montana</i> - <i>Magnolia (acuminata, fraseri)</i> / <i>Acer pensylvanicum</i> Forest	Southern Appalachian Montane Mixed Oak Forest (Northern Red Oak - Chestnut Oak Submesic Type)	G4?	S3S4	= CEGL004817
<i>Quercus montana</i> - <i>Quercus velutina</i> / <i>Oxydendrum arboreum</i> - <i>Cornus florida</i> Forest	Southern Appalachian Montane Mixed Oak Forest (Chestnut Oak - Black Oak Subseric Type)	G4G5	S3S4	= CEGL007267
<i>Quercus alba</i> - <i>Quercus (rubra, montana)</i> / <i>Oxydendrum arboreum</i> / <i>Rhododendron calendulaceum</i> / <i>Zizia trifoliata</i> Forest	Southern Appalachian Montane Mixed Oak Forest (White Oak Type)	G4G5	S3	= CEGL007230
<i>Quercus rubra</i> - <i>Quercus (montana, alba)</i> - <i>Carya ovalis</i> / <i>Carex pensylvanica</i> - (<i>Calamagrostis porteri</i>) Forest	Central Appalachian Montane Oak - Hickory Forest (Acidic Type)	G3G4	S3S4	= CEGL008516
<i>Quercus rubra</i> - <i>Carya (ovalis, ovata)</i> - <i>Fraxinus americana</i> / <i>Actaea racemosa</i> - <i>Hydrophyllum virginianum</i> Forest	Central Appalachian Montane Oak - Hickory Forest (Rich Type)	G3G4	S3S4	= CEGL008518

Terrestrial - Low-Elevation Dry and Dry-Mesic Forests

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Oak / Heath Forests</u>				
<i>Quercus montana</i> - (<i>Quercus coccinea</i> , <i>Quercus rubra</i>) / <i>Kalmia latifolia</i> / <i>Vaccinium pallidum</i> Forest	Central Appalachian / Inner Piedmont Chestnut Oak Forest	G5	S5	= CEGL006299
<i>Quercus montana</i> - <i>Quercus rubra</i> / <i>Vaccinium pallidum</i> - (<i>Rhododendron periclymenoides</i>) Forest	Central Appalachian Xeric Chestnut Oak - Northern Red Oak / Heath Forest	G3G4	S3S4	= CEGL008523
<i>Quercus montana</i> - <i>Quercus rubra</i> / <i>Kalmia latifolia</i> / <i>Vaccinium angustifolium</i> Forest	Northern Appalachian Chestnut Oak Forest	G5	S3	= CEGL006282
<i>Quercus montana</i> - <i>Quercus coccinea</i> / <i>Kalmia latifolia</i> - (<i>Eubotrys recurva</i>) / <i>Galax urceolata</i> Forest	Southern Appalachian Chestnut Oak Forest	G5	S4S5	= CEGL006271
<i>Quercus montana</i> - <i>Quercus rubra</i> / <i>Rhododendron maximum</i> / <i>Galax urceolata</i> Forest	Southern Appalachian Chestnut Oak - Northern Red Oak / Great Rhododendron Forest	G4	S3?	= CEGL006286
<i>Quercus montana</i> / <i>Rhododendron catawbiense</i> - <i>Kalmia latifolia</i> Forest	Chestnut Oak / Catawba Rhododendron Forest	G4	S3	= CEGL008524
<i>Quercus alba</i> - <i>Quercus (coccinea, velutina, montana)</i> / <i>Gaylussacia baccata</i> Forest	Piedmont / Central Appalachian Mixed Oak / Heath Forest	G5	S5	= CEGL008521
<i>Quercus alba</i> - <i>Quercus falcata</i> - (<i>Carya pallida</i>) / <i>Gaylussacia frondosa</i> Forest	Coastal Plain Mixed Oak / Heath Forest	G4G5	S4	= CEGL006269
<i>Quercus (montana, alba)</i> / <i>Avenella flexuosa</i> - <i>Solidago bicolor</i> Forest	Coastal Plain River-Bluff Xeric Oak Forest	G3	S1	= CEGL006490
<u>Eastern White Pine - Hardwood Forests</u>				
<i>Pinus strobus</i> - <i>Quercus alba</i> - <i>Quercus montana</i> / <i>Vaccinium stamineum</i> Forest	Central Appalachian / Piedmont White Pine - Oak Forest	G4	S4	= CEGL008539
<u>Coastal Plain / Piedmont Oak - Beech / Heath Forests</u>				
<i>Fagus grandifolia</i> - <i>Quercus (alba, montana, rubra)</i> / <i>Kalmia latifolia</i> Forest	Northern Coastal Plain / Piedmont Oak - Beech / Heath Forest	G4	S3	= CEGL006919
<i>Fagus grandifolia</i> - <i>Quercus alba</i> / <i>Oxydendrum arboreum</i> - <i>Symplocos tinctoria</i> / <i>Kalmia latifolia</i> / (<i>Galax urceolata</i>) Forest	Southern Coastal Plain Oak - Beech / Heath Forest	G2G3	S2?	= CEGL004539
<u>Carolina Hemlock Forests</u>				
<i>Tsuga caroliniana</i> / <i>Kalmia latifolia</i> - <i>Rhododendron catawbiense</i> Forest	Carolina Hemlock Forest	G2	S1	= CEGL007139
<u>Piedmont Hardpan Forests</u>				
<i>Quercus stellata</i> - <i>Quercus alba</i> - <i>Carya glabra</i> / <i>Ulmus alata</i> / <i>Piptochaetium avenaceum</i> - <i>Scleria oligantha</i> Forest	Southern Piedmont Hardpan Forest	G2G3	S2	= CEGL003714
<i>Quercus phellos</i> - <i>Quercus stellata</i> / <i>Ilex decidua</i> / <i>Danthonia spicata</i> Forest	Southern Piedmont Mixed Moisture Hardpan Forest	G2?	S1	= CEGL004037
<i>Carya glabra</i> - <i>Quercus (rubra, montana)</i> - <i>Fraxinus americana</i> / <i>Viburnum rafinesqueanum</i> / <i>Piptochaetium avenaceum</i> Forest	Potomac River Bedrock Terrace Hardpan Forest	G1G2	S1	= CEGL006209
<u>Low-Elevation Boulderfield Forests</u>				
<i>Betula lenta</i> - <i>Quercus montana</i> / <i>Parthenocissus quinquefolia</i> Woodland	Central Appalachian Acidic Boulderfield Woodland	G4	S4	= CEGL006565
<i>Acer (saccharum, nigrum)</i> - <i>Tilia americana</i> / <i>Staphylea trifolia</i> / <i>Dryopteris marginalis</i> - (<i>Impatiens pallida</i>) Forest	Central Appalachian / Piedmont Low-Elevation Rich Boulderfield Forest	G3G4	S2S3	= CEGL006471
<i>Tilia americana</i> - <i>Fraxinus americana</i> / <i>Acer pensylvanicum</i> - <i>Ostrya virginiana</i> / <i>Parthenocissus quinquefolia</i> - <i>Impatiens pallida</i> Forest	Central Appalachian Montane Rich Boulderfield Forest	G3	S3	= CEGL008528

Terrestrial - Low-Elevation Woodlands, Barrens, and Rock Outcrops

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Pine - Oak / Heath Woodlands</u>				
<i>Pinus (pungens, rigida) - Quercus montana / (Quercus ilicifolia) / Gaylussacia baccata</i> Woodland	Central Appalachian Pine - Oak / Heath Woodland	G4	S4	= CEGL004996
<i>Pinus pungens - Pinus rigida - (Quercus montana) / Kalmia latifolia - Vaccinium pallidum</i> Woodland	Southern Appalachian Pine - Oak / Heath Woodland	G3	S3?	= CEGL007097
<u>Mountain / Piedmont Acidic Woodlands</u>				
<i>Quercus montana - Pinus virginiana - (Pinus pungens) / Schizachyrium scoparium - Dichanthelium depauperatum</i> Woodland	Central Appalachian Xeric Chestnut Oak - Virginia Pine Woodland	G3?	S3	= CEGL008540
<i>Pinus (rigida, virginiana) / Gaylussacia baccata / (Carex pensylvanica, Danthonia spicata)</i> Woodland	Appalachian Xeric Pine Outcrop Woodland	G3	S2?	= CEGL004821
<i>Pinus virginiana - Juniperus virginiana - Quercus stellata / Amelanchier spicata / Danthonia spicata / Leucobryum glaucum</i> Woodland	Riverside Bedrock Terrace Woodland	G1	S1	= CEGL008449
<i>Pinus echinata - Quercus (montana, stellata) / Vaccinium pallidum / Sorghastrum nutans - Pityopsis graminifolia var. latifolia</i> Woodland	Cumberland Mountains Shortleaf Pine Woodland	G2?	S1	= CEGL004445
<u>Mountain / Piedmont Basic Woodlands</u>				
<i>Fraxinus americana - Carya glabra / Muhlenbergia sobolifera - Helianthus divaricatus - Solidago ulmifolia</i> Woodland	Central Appalachian Basic Ash - Hickory Woodland	G2	S2	= CEGL003683
<i>Carya glabra - Fraxinus americana - Quercus montana / Ostrya virginiana / Philadelphus hirsutus</i> Woodland	Southern Blue Ridge Calcareous Shale Woodland	G2	S1	= CEGL007720
<u>Central Appalachian Shale Barrens</u>				
<i>Pinus virginiana - Quercus montana - Carya glabra / Phlox subulata - Packera antennariifolia</i> Woodland	Central Appalachian Shale Barren (Southern Type)	G3G4	S3S4	= CEGL006562
<i>Pinus virginiana - Quercus montana - Quercus rubra / Avenella flexuosa - Paronychia montana - Packera antennariifolia</i> Woodland	Central Appalachian Shale Barren (Northern Type)	G3	S3	= CEGL006288
<i>(Pinus virginiana) / Schizachyrium scoparium - Eriogonum allenii</i> Wooded Herbaceous Vegetation	Central Appalachian Shale Barren (Shale Ridge Bald / Prairie Type)	G2	S2	= CEGL008530
<i>Juniperus virginiana / Carex pensylvanica - Cheilanthes lanosa - Eriogonum allenii</i> Woodland	Central Appalachian Calcareous Shale Barren	G2	S2	< CEGL006037
<i>Quercus montana - (Pinus virginiana) / Quercus ilicifolia / Danthonia spicata - Carex pensylvanica</i> Woodland	Central Appalachian Xeric Shale Woodland (Chestnut Oak / Mixed Herbs Type)	G3?	S3	= CEGL008526
<i>Pinus virginiana - Quercus montana / Quercus ilicifolia / (Hieracium traillii)</i> Woodland	Central Appalachian Xeric Shale Woodland (Virginia Pine / Sparse Herbs Type)	G3	S3	= CEGL008525
<u>Limestone / Dolomite Woodlands and Barrens</u>				
<i>Juniperus virginiana - Quercus muehlenbergii / Rhus aromatica / Pellaea atropurpurea</i> Woodland	Central Appalachian Chinquapin Oak - Eastern Red Cedar Woodland	G3G4	S2	= CEGL006231
<i>Juniperus virginiana / Schizachyrium scoparium - Andropogon gerardii - Carex eburnea</i> Wooded Herbaceous Vegetation	Limestone / Dolomite Barren (Ridge and Valley Hillslope Type)	G2	S1S2	= CEGL004738
<i>Juniperus virginiana / Schizachyrium scoparium - Bouteloua curtipendula - Sisyinchium albidum - Packera millefolium</i> Wooded Herbaceous Vegetation	Limestone / Dolomite Barren (Southern Ridge and Valley Type)	G2G3	S1S2	= CEGL005131
<i>Quercus muehlenbergii - Juniperus virginiana / Packera pauperula var. appalachiana - Parthenium auriculatum - Schizachyrium scoparium</i> Woodland	Ridge and Valley Dolomite Woodland	G2	S2	= CEGL006030
<i>(Juniperus virginiana) / Sporobolus vaginiflorus - Panicum flexile - Allium cernuum - Minuartia patula</i> Herbaceous Vegetation	Limestone Annual Flatrock Barren	G1?	S1	= CEGL007073

Terrestrial - Low-Elevation Woodlands, Barrens, and Rock Outcrops

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Ultramafic Woodlands and Barrens</u>				
<i>Pinus strobus</i> - <i>Pinus rigida</i> - <i>Quercus stellata</i> / <i>Ceanothus americanus</i> / <i>Andropogon gerardii</i> - <i>Packera paupercula</i> var. <i>paupercula</i> Woodland	Southern Blue Ridge Ultramafic Woodland	G1	S1	= CEGL004968
<i>Schizachyrium scoparium</i> - <i>Sorghastrum nutans</i> - <i>Aletris farinosa</i> - <i>Packera paupercula</i> var. <i>paupercula</i> Herbaceous Vegetation	Southern Blue Ridge Ultramafic Barren	G1	S1	= CEGL004999
* <i>Pinus virginiana</i> - <i>Quercus stellata</i> - <i>Quercus marilandica</i> / <i>Schizachyrium scoparium</i> Woodland	Piedmont Ultramafic Woodland	n/a	S1Q	no equivalent
<i>Schizachyrium scoparium</i> - <i>Packera paupercula</i> var. <i>appalachiana</i> - <i>Parthenium auriculatum</i> - <i>PheMERanthus piedmontanus</i> Herbaceous Vegetation	Southern Piedmont Ultramafic Barren	G1	S1	= CEGL006084
<u>Low-Elevation Outcrop Barrens</u>				
<i>Hydaticea petiolaris</i> Herbaceous Vegetation	Appalachian Low-Elevation Acidic Outcrop Barren (Cliff Saxifrage Type)	G3?	S2?	= CEGL004524
<i>Fraxinus americana</i> - <i>Juniperus virginiana</i> / (<i>Rhus aromatica</i>) / <i>Schizachyrium scoparium</i> - <i>Carex pensylvanica</i> - <i>Cheilanthes lanosa</i> Wooded Herbaceous Vegetation	Central Appalachian Mafic / Calcareous Barren (Low-Elevation Type)	G2	S2	< CEGL006037
<i>Fraxinus americana</i> / <i>Physocarpus opulifolius</i> / <i>Carex pensylvanica</i> - <i>Allium cernuum</i> - (<i>Phacelia dubia</i>) Wooded Herbaceous Vegetation	Central Appalachian Mafic / Calcareous Barren (Mid-Elevation Type)	G2	S2	= CEGL008529
<i>Quercus stellata</i> / <i>Schizachyrium scoparium</i> - <i>Andropogon gerardii</i> - <i>Pycnanthemum tenuifolium</i> - <i>Packera paupercula</i> var. <i>paupercula</i> Wooded Herbaceous Vegetation	Southern Blue Ridge Low-Elevation Mafic Barren	G1	S1	= CEGL006215
<i>Minuartia glabra</i> - <i>PheMERanthus teretifolius</i> - <i>Hydaticea petiolaris</i> - <i>Primula meadia</i> Herbaceous Vegetation	Southern Blue Ridge Low-Elevation Granitic Barren	G2	S1	= CEGL004991
<i>Fraxinus americana</i> - <i>Juniperus virginiana</i> / <i>Opuntia humifusa</i> - <i>PheMERanthus (teretifolius, piedmontanus)</i> Wooded Herbaceous Vegetation	Piedmont Mafic Barren	G1	S1	= CEGL006294
<i>Juniperus virginiana</i> / <i>Chionanthus virginicus</i> / <i>Cheilanthes lanosa</i> - <i>Sedum glaucophyllum</i> Woodland	Southern Piedmont Mafic / Calcareous Barren	G2	S1	= CEGL004443
<u>Piedmont Granitic Flatrocks</u>				
<i>PheMERanthus teretifolius</i> - <i>Minuartia glabra</i> - <i>Diodia teres</i> - <i>Croton willdenowii</i> Herbaceous Vegetation	Piedmont Granitic Flatrock	G2	S2	= CEGL003857
<u>Oak - Hickory Woodlands and Savannas</u>				
<i>Quercus alba</i> - <i>Quercus falcata</i> - <i>Carya tomentosa</i> / <i>Schizachyrium scoparium</i> - <i>Lespedeza procumbens</i> Woodland	Acidic Oak-Hickory Woodland / Savanna	G1?	S1	= CEGL003722
<i>Quercus alba</i> - <i>Carya tomentosa</i> / <i>Schizachyrium scoparium</i> - <i>Chrysogonum virginianum</i> - <i>Ageratina aromatica</i> - (<i>Salvia urticifolia</i>) Woodland	Basic Oak-Hickory Woodland / Savanna	G1?	S1	= CEGL003721
<u>Piedmont Prairies</u>				
<i>Schizachyrium scoparium</i> - <i>Sorghastrum nutans</i> - <i>Solidago juncea</i> - <i>Pycnanthemum tenuifolium</i> Herbaceous Vegetation	Little Bluestem - Indian-Grass Piedmont Prairie	G3	SU	= CEGL006572
<u>Riverside Outcrop Barrens</u>				
(<i>Hypericum prolificum</i> , <i>Eubotrys racemosa</i>) / <i>Schizachyrium scoparium</i> - <i>Solidago racemosa</i> - <i>Ionactis linariifolia</i> Herbaceous Vegetation	Potomac Gorge Riverside Outcrop Barren	G2	S1	= CEGL006491

* provisional type

Terrestrial - Low-Elevation Woodlands, Barrens, and Rock Outcrops

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Mountain / Piedmont Cliffs</u>				
<i>Thuja occidentalis</i> / <i>Carex eburnea</i> - <i>Pellaea atropurpurea</i> Woodland	Northern White-Cedar Cliff Woodland	G2G3	S2	= CEGL002596
<i>Asplenium ruta-muraria</i> - <i>Pellaea atropurpurea</i> Sparse Vegetation	Appalachian Xeric Calcareous Cliff	G3G4	S2?	= CEGL004476
<i>Hydrangea arborescens</i> / <i>Sedum ternatum</i> - <i>Polypodium virginianum</i> Shrubland	Piedmont / Central Appalachian Mafic / Calcareous Cliff	G3	S1?	= CEGL006479
(<i>Hydrangea arborescens</i> , <i>Physocarpus opulifolius</i>) / <i>Heuchera villosa</i> - <i>Micranthes caroliniana</i> Shrub Herbaceous Vegetation	Southern Appalachian Mesic Calcareous Cliff	G2	S1S2	= CEGL008435
<i>Asplenium montanum</i> Sparse Vegetation	Central Appalachian / Piedmont Acidic Cliff	GNR	SU	= CEGL004391
<i>Asplenium montanum</i> - <i>Heuchera parviflora</i> - <i>Silene rotundifolia</i> Sparse Vegetation	Cumberland Mountains Xeric Sandstone Cliff	G3G4	S1?	= CEGL004392
<u>Lichen / Bryophyte Nonvascular Cliffs and Boulderfields</u>				
<i>Lasallia (papulosa, pensylvanica)</i> - <i>Dimelaena oreina</i> - (<i>Melanelia culbersonii</i>) Nonvascular Vegetation	Central Appalachian Low-Elevation Acidic Nonvascular Cliff / Boulderfield	G5	S4	= CEGL004142
<i>Lasallia papulosa</i> - <i>Stereocaulon glaucescens</i> - <i>Chrysothrix chlorina</i> Nonvascular Vegetation	Central Appalachian Mafic Nonvascular Cliff / Boulderfield	G1?	S1	= CEGL004143
<i>Umbilicaria mammulata</i> Nonvascular Vegetation	Mountain / Piedmont Mesic Nonvascular Cliff	G4?	S3?	= CEGL004387
<i>Umbilicaria muehlenbergii</i> - <i>Lasallia papulosa</i> - (<i>Melanelia stygia</i>) Nonvascular Vegetation	Central Appalachian High-Elevation Acidic Nonvascular Boulderfield	G2?	S1	= CEGL004389

Terrestrial - Maritime Zone Communities

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Maritime Dune Grasslands</u>				
<i>Ammophila breviligulata</i> - <i>Panicum amarum</i> var. <i>amarum</i> Herbaceous Vegetation	North Atlantic Mixed Dune Grassland	G2	S2	= CEGLO04043
<i>(Morella pensylvanica) / Schizachyrium littorale</i> Shrub Herbaceous Vegetation	Xeric Backdune Grassland	G2	S2	= CEGLO04240
<i>Spartina patens</i> - <i>Panicum amarum</i> - <i>Solidago sempervirens</i> Herbaceous Vegetation	Overwash Dune Grassland	G2G3	S2	= CEGLO04097
<i>Uniola paniculata</i> - <i>Ammophila breviligulata</i> Herbaceous Vegetation	South Atlantic Mixed Dune Grassland	G3	S2	= CEGLO04039
<u>Maritime Dune Scrub</u>				
<i>Hudsonia tomentosa / Cyperus grayi</i> Dwarf-Shrubland	Sand Heather Dwarf Dune Scrub	G2G3	S2?	= CEGLO03950
<i>Morella pensylvanica</i> - (<i>Prunus serotina</i> , <i>Diospyros virginiana</i>) / <i>Solidago sempervirens</i> Shrubland	Northern Bayberry Dune Scrub	G2	S2?	= CEGLO03881
<i>Quercus virginiana</i> - (<i>Morella pensylvanica</i>) Shrubland	Live Oak Dune Scrub	G3	S1	= CEGLO03833
<u>Maritime Dune Woodlands</u>				
<i>Pinus taeda / Hudsonia tomentosa</i> Woodland	Loblolly Pine / Sand Heather Dune Woodland	G1G2	S1S2	= CEGLO06052
<i>Prunus serotina / Smilax rotundifolia / Schizachyrium littorale</i> Woodland	Black Cherry Xeric Dune Woodland	G1G2	S1	< CEGLO06319
<i>Juniperus virginiana / Morella pensylvanica</i> Woodland	Maritime Eastern Red Cedar Dune Woodland	G2	S1?	= CEGLO06212
<i>Quercus virginiana - Quercus incana</i> Woodland	Live Oak - Bluejack Oak Dune Woodland	G1	S1	= CEGLO03750
<u>Maritime Upland Forests</u>				
<i>Pinus taeda</i> - (<i>Quercus falcata</i> , <i>Prunus serotina</i>) / <i>Morella cerifera / Vitis rotundifolia</i> Forest	Maritime Loblolly Pine - Hardwood Forest	G2	S2	= CEGLO06040
<i>Quercus nigra</i> - <i>Pinus taeda</i> - <i>Carya pallida / Persea palustris / Symlocos tinctoria / Gelsemium sempervirens</i> Forest	Maritime Mixed Deciduous Forest	G1	S1	= CEGLO07540
<i>Quercus virginiana - Pinus taeda</i> Forest	Maritime Live Oak Forest	G2	S1	= CEGLO07027

Terrestrial - Sandy Woodlands of the Inner Coastal Plain and Outer Piedmont

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Sandhill and Fluvial Terrace Woodlands</u>				
<i>Pinus palustris</i> - (<i>Pinus serotina</i>) / <i>Quercus laevis</i> / <i>Gaylussacia frondosa</i> - <i>Kalmia angustifolia</i> - <i>Vaccinium tenellum</i> Woodland	Longleaf Pine / Scrub Oak Sandhill Woodland	G1	S1	= C EGL003592
<i>Pinus taeda</i> - <i>Quercus falcata</i> - <i>Quercus nigra</i> / <i>Quercus margarettae</i> / <i>Cnidocolus stimulosus</i> Woodland	Loblolly Pine / Scrub Oak Sandhill Woodland	n/a	SU	no equivalent
<i>Carya pallida</i> / <i>Quercus margarettae</i> / <i>Vaccinium arboreum</i> / <i>Piptochaetium avenaceum</i> Woodland	Coastal Plain Xeric Fluvial Terrace Woodland	GNR	S1	x C EGL006354
<u>Loblolly Pine Savannas</u>				
<i>Pinus taeda</i> / <i>Schizachyrium scoparium</i> Woodland	Loblolly Pine / Little Bluestem Woodland / Savanna	GNA	SU	= C EGL003620

Palustrine - Alluvial Floodplain Communities

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Bald Cypress - Tupelo Swamps</u>				
<i>Taxodium distichum</i> - <i>Nyssa aquatica</i> / <i>Fraxinus caroliniana</i> Forest	Bald Cypress - Water Tupelo Brownwater Swamp	G5?	S4	= CEGL007431
<i>Taxodium distichum</i> - <i>Nyssa (biflora, aquatica)</i> / <i>Itea virginica</i> / <i>Saururus cernuus</i> Forest	Bald Cypress - Mixed Tupelo Intermediate Swamp	G3G4	S3S4	= CEGL007432
<i>Nyssa biflora</i> - (<i>Taxodium distichum</i>) / <i>Clethra alnifolia</i> - <i>Viburnum nudum</i> / <i>Woodwardia areolata</i> Forest	Coastal Plain Swamp Tupelo Blackwater Swamp	G3	S3?	= CEGL007054
<u>Coastal Plain / Piedmont Bottomland Forests</u>				
<i>Quercus lyrata</i> - <i>Fraxinus pennsylvanica</i> - (<i>Carya aquatica</i> , <i>Quercus laurifolia</i>) / <i>Carex louisianica</i> - <i>Leersia lenticularis</i> Forest	Coastal Plain Bottomland Forest (Brownwater Low Terrace Type)	G4G5	S3?	< CEGL007397
<i>Quercus michauxii</i> - <i>Quercus pagoda</i> - <i>Carya ovata</i> / <i>Carpinus caroliniana</i> / <i>Carex abscondita</i> Forest	Coastal Plain Bottomland Forest (Brownwater High Terrace Type)	G3G4	S3?	= CEGL004678
<i>Acer rubrum</i> - <i>Fraxinus pennsylvanica</i> / <i>Saururus cernuus</i> Forest	Coastal Plain / Piedmont Floodplain Swamp (Green Ash - Red Maple Type)	G3G4	S3S4	= CEGL006606
<i>Quercus (phellos, palustris, michauxii)</i> - <i>Liquidambar styraciflua</i> / <i>Cinna arundinacea</i> Forest	Northern Coastal Plain / Inner Piedmont Mixed Oak Floodplain Swamp	G3G4	S3?	= CEGL006605
<i>Quercus phellos</i> - <i>Quercus (palustris, lyrata)</i> / <i>Ilex decidua</i> / <i>Carex typhina</i> - (<i>Carex grayi</i>) Forest	Southern Piedmont / Inner Coastal Plain Mixed Oak Floodplain Swamp	G3?	S3	= CEGL006498
<i>Liquidambar styraciflua</i> - <i>Quercus (michauxii, shumardii)</i> - <i>Carya cordiformis</i> / <i>Ilex decidua</i> / <i>Carex amphibola</i> Forest	Southern Piedmont / Inner Coastal Plain Floodplain Terrace Forest	G3G4	S3	= CEGL007006
<i>Fagus grandifolia</i> - <i>Carya cordiformis</i> - (<i>Quercus michauxii</i> , <i>Quercus shumardii</i>) / <i>Ilex opaca</i> / <i>Podophyllum peltatum</i> Forest	Northern Coastal Plain Beech - Mixed Hardwood Floodplain Forest	GNR	S1?	= CEGL006493
<i>Platanus occidentalis</i> - <i>Celtis occidentalis</i> - <i>Ulmus americana</i> - <i>Fraxinus pennsylvanica</i> / <i>Acer negundo</i> / <i>Chasmanthium latifolium</i> Forest	Piedmont / Inner Coastal Plain Floodplain Levee Forest	G3G4	S3	= CEGL007013
<i>Liquidambar styraciflua</i> - <i>Liriodendron tulipifera</i> / <i>Lindera benzoin</i> / <i>Arisaema triphyllum</i> Forest	Coastal Plain / Piedmont Small-Stream Floodplain Forest	G4	S4	= CEGL004418
<u>Floodplain Ponds and Pools</u>				
<i>Nuphar advena</i> - <i>Nymphaea odorata</i> Herbaceous Vegetation	Water-Lily Floodplain Pool / Pond	G4G5	SU	= CEGL002386
<i>Peltandra virginica</i> - <i>Hibiscus moscheutos</i> - <i>Persicaria (punctata, hydropiperoides)</i> Herbaceous Vegetation	Coastal Plain / Piedmont Oxbow Marsh	G3	S2?	= CEGL007696
<i>Cephalanthus occidentalis</i> - <i>Decodon verticillatus</i> Shrubland	Coastal Plain / Piedmont Oxbow Shrub Swamp	G4G5	SU	< CEGL006069
<u>Semipermanent Impoundments</u>				
* <i>Spirodela polyrrhiza</i> - <i>Landoltia punctata</i> - <i>Wolffia columbiana</i> - <i>Azolla caroliniana</i> Herbaceous Vegetation	Coastal Plain Impoundment Aquatic Bed	G5	SU	< CEGL005451
* <i>Hottonia inflata</i> - <i>Ludwigia palustris</i> - <i>Callitriche heterophylla</i> Herbaceous Vegetation	Coastal Plain Featherfoil Impoundment Pond	GNR	SU	= CEGL006102
<i>Nelumbo lutea</i> Herbaceous Vegetation	American Lotus Aquatic Bed	G4?	SU	= CEGL004323
* <i>Peltandra virginica</i> - <i>Alisma subcordatum</i> - <i>Leersia oryzoides</i> Herbaceous Vegetation	Arrow-Arum Impoundment Marsh	G4?	SU	< CEGL004291
<i>Juncus effusus</i> Herbaceous Vegetation	Common Rush Impoundment Marsh	G5	SU	= CEGL004112
<i>Alnus serrulata</i> Swamp Shrubland	Smooth Alder Impoundment Swamp	G4G5	S4	= CEGL005082
<i>Taxodium distichum</i> / <i>Lemna minor</i> Forest	Bald Cypress Semi-permanent Impoundment	G4G5	SU	< CEGL002420

* provisional type

Palustrine - Alluvial Floodplain Communities

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Piedmont / Mountain Floodplain Forests and Swamps</u>				
<i>Betula nigra</i> - <i>Platanus occidentalis</i> Forest	Piedmont / Central Appalachian River Birch - Sycamore Forest	G3Q	SU	= CEGL006184
<i>Acer saccharinum</i> - <i>Acer negundo</i> / <i>Ageratina altissima</i> - <i>Laportea canadensis</i> - (<i>Elymus virginicus</i> , <i>Elymus macgregorii</i>) Forest	Piedmont / Central Appalachian Silver Maple Forest	G4	S4	= CEGL006217
<i>Platanus occidentalis</i> - <i>Acer negundo</i> - <i>Juglans nigra</i> / <i>Asimina triloba</i> / <i>Mertensia virginica</i> Forest	Piedmont / Central Appalachian Rich Floodplain Forest	G4	S3S4	= CEGL004073
<i>Acer saccharum</i> - <i>Fraxinus americana</i> - <i>Liriodendron tulipifera</i> / <i>Acer negundo</i> / <i>Asarum canadense</i> Forest	Piedmont / Central Appalachian High Terrace Floodplain Forest	G3?	S1	= CEGL006459
* <i>Quercus rubra</i> - <i>Quercus shumardii</i> - <i>Fraxinus americana</i> / <i>Cercis canadensis</i> Forest	Potomac Gorge Bedrock Floodplain Oak Forest	GNR	SUQ	= CEGL006495
<i>Quercus palustris</i> - <i>Quercus bicolor</i> / <i>Carex tribuloides</i> - <i>Carex radiata</i> - (<i>Carex squarrosa</i>) Forest	Piedmont / Central Appalachian Floodplain Swamp (Pin Oak - Swamp White Oak Type)	G3G4	S3	= CEGL006497
<i>Acer (rubrum, saccharinum)</i> - <i>Fraxinus pennsylvanica</i> - <i>Ulmus americana</i> / <i>Boehmeria cylindrica</i> Forest	Piedmont / Central Appalachian Floodplain Swamp (Silver Maple - Green Ash Type)	G4	S2?	= CEGL006548
<u>Piedmont / Mountain Small-Stream Alluvial Forests</u>				
<i>Liriodendron tulipifera</i> - <i>Acer negundo</i> - (<i>Platanus occidentalis</i>) / <i>Carpinus caroliniana</i> / <i>Persicaria virginiana</i> Forest	Northern Piedmont Small-Stream Floodplain Forest	G4	S3?	= CEGL006492
<i>Liriodendron tulipifera</i> - <i>Platanus occidentalis</i> - <i>Betula lenta</i> / <i>Lindera benzoin</i> / <i>Circaea canadensis</i> Forest	Northern Blue Ridge Montane Alluvial Forest	G3?	S3	= CEGL006255
<i>Liriodendron tulipifera</i> - <i>Pinus strobus</i> - <i>Quercus alba</i> - (<i>Tsuga canadensis</i>) / <i>Carpinus caroliniana</i> / <i>Amphicarpaea bracteata</i> Forest	Central Appalachian Montane Alluvial Forest (Tuliptree - White Pine Type)	G3	S3	= CEGL008405
* <i>Betula alleghaniensis</i> / <i>Rhododendron maximum</i> / <i>Parathelypteris noveboracensis</i> - <i>Viola macloskeyi</i> var. <i>pallens</i> Forest	High Allegheny Montane Alluvial Forest	n/a	S1	no equivalent
<u>Sand / Gravel / Mud Bars and Shores</u>				
<i>Eragrostis hypnoides</i> - <i>Micranthemum umbrosum</i> - <i>Lipocarpha micrantha</i> - (<i>Juncus repens</i>) Herbaceous Vegetation	Coastal Plain Sand Bar / River Shore	G2	S1	= CEGL004341
<i>Eragrostis hypnoides</i> - <i>Lindernia dubia</i> - <i>Ludwigia palustris</i> - <i>Cyperus squarrosus</i> Herbaceous Vegetation	Piedmont / Central Appalachian Sand Bar / River Shore (Low Herbs Type)	G3	S2S3	= CEGL006483
<i>Eupatorium serotinum</i> - <i>Persicaria (lapathifolia, punctata, pennsylvanica)</i> Herbaceous Vegetation	Piedmont / Central Appalachian Sand Bar / River Shore (Tall Herbs Type)	GNR	S2S3	= CEGL006481
<u>Rocky Bars and Shores</u>				
<i>Justicia americana</i> Herbaceous Vegetation	Water-Willow Rocky Bar and Shore	G4G5	S4	= CEGL004286
<i>Carex torta</i> - <i>Dichanthelium clandestinum</i> - <i>Persicaria sagittata</i> Herbaceous Vegetation	Twisted Sedge Rocky Bar and Shore	G3G4	S3	= CEGL004103
<i>Platanus occidentalis</i> - <i>Betula nigra</i> - <i>Salix (caroliniana, nigra)</i> / <i>Apocynum sibiricum</i> Woodland	Piedmont / Central Appalachian Sycamore - River Birch Scour Woodland	G4G5	S3	= CEGL003896
<i>Platanus occidentalis</i> - <i>Acer saccharinum</i> - <i>Ulmus americana</i> - <i>Fraxinus pennsylvanica</i> / <i>Boehmeria cylindrica</i> - <i>Carex emoryi</i> Woodland	Piedmont / Central Appalachian Bedrock Floodplain Scour Woodland	G2?	S1	= CEGL006476
<i>Carpinus caroliniana</i> - <i>Ilex decidua</i> Shrubland	Piedmont River-Scour Shrubland	G1?	S1	= CEGL006484
* <i>Alnus serrulata</i> / <i>Xanthorhiza simplicissima</i> Shrubland	Alder / Yellowroot Rocky Bar and Shore	G3G4	SU	= CEGL003895

* provisional type

Palustrine - Alluvial Floodplain Communities

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Riverside Prairies</u>				
<i>Fraxinus pennsylvanica</i> / <i>Andropogon gerardii</i> - <i>Panicum virgatum</i> - <i>Baptisia australis</i> Wooded Herbaceous Vegetation	Piedmont / Central Appalachian Bedrock Floodplain Prairie	G3	S2	= CEGL006283
<i>Panicum virgatum</i> - <i>Andropogon gerardii</i> Herbaceous Vegetation	Ridge and Valley Gravel-Wash Riverside Prairie	G2G3	S2	= CEGL006477
<i>Fraxinus americana</i> / <i>Andropogon gerardii</i> - <i>Sorghastrum nutans</i> - <i>Schizachyrium scoparium</i> - <i>Pycnanthemum tenuifolium</i> Herbaceous Vegetation	Piedmont / Central Appalachian Riverside Outcrop Prairie	G1	S1	= CEGL006478
* <i>Carex trichocarpa</i> Herbaceous Vegetation	Hairy-Fruited Sedge Riverside Prairie	G4?	SU	x CEGL006447

* provisional type

Palustrine - Non-Alluvial Wetlands of the Mountains

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Montane Depression Swamps and Ponds</u>				
<i>(Quercus palustris) / Coleataenia rigidula - Panicum verrucosum - Eleocharis acicularis</i> Herbaceous Vegetation	Shenandoah Valley Sinkhole Pond (Typic Type)	G1	S1	= CEGL007858
<i>Carex barrattii</i> Herbaceous Vegetation	Shenandoah Valley Sinkhole Pond (Barratt's Sedge Type)	G1	S1	= CEGL007857
<i>Orontium aquaticum - Schoenoplectus subterminalis - Eriocaulon aquaticum</i> Herbaceous Vegetation	Shenandoah Valley Sinkhole Pond (Golden Club Type)	G1	S1	= CEGL007859
<i>Cephalanthus occidentalis / Dulichium arundinaceum - (Persicaria hydropiperoides, Glyceria acutiflora, Proserpinaca palustris)</i> Shrub Herbaceous Vegetation	Central Appalachian Mountain Pond (Buttonbush - Threeway Sedge Type)	G1	S1	= CEGL003746
<i>Carex aquatilis - Dulichium arundinaceum</i> Herbaceous Vegetation	Central Appalachian Mountain Pond (Water Sedge Type)	G1?	S1	= CEGL008542
* <i>Quercus alba - Nyssa sylvatica / Persicaria hydropiperoides - Lysimachia lanceolata</i> Wooded Herbaceous Vegetation	Central Appalachian Mountain Pond (White Oak Type)	G3	SU	= CEGL008473
<i>Acer rubrum - Nyssa sylvatica - Quercus palustris / Woodwardia virginica</i> Forest	Central Appalachian Depression Forest (Low-Elevation Type)	n/a	S2?	no equivalent
<i>Nyssa sylvatica - Acer rubrum / Rubus hispidus - Osmundastrum cinnamomeum</i> Forest	Central Appalachian Depression Forest (High-Elevation Type)	G2	S1?	= CEGL006132
<u>Mountain / Piedmont Seepage Swamps</u>				
<i>Acer rubrum - Fraxinus americana - Fraxinus nigra - (Betula alleghaniensis) / Veratrum viride - Carex bromoides</i> Forest	Central Appalachian Basic Seepage Swamp	G3	S3	= CEGL008416
<i>Acer rubrum - Nyssa sylvatica / Ilex verticillata - Vaccinium fuscatum / Osmundastrum cinnamomeum</i> Forest	Central Appalachian Low-Elevation Acidic Seepage Swamp	G2	S2	= CEGL007853
<i>Acer rubrum - Pinus strobus - (Nyssa sylvatica, Tsuga canadensis) / Osmundastrum cinnamomeum</i> Forest	Southern Appalachian Acidic Seepage Swamp	G2	S1	= CEGL007565
<i>Betula alleghaniensis - (Tsuga canadensis) / Veratrum viride - Carex scabrata - Oclemea acuminata</i> Forest	Central Appalachian High-Elevation Seepage Swamp (Hemlock - Yellow Birch Type)	G2	S1	= CEGL008533
<i>Picea rubens - Tsuga canadensis - Acer rubrum / Glyceria melicaria</i> Forest	Central Appalachian High-Elevation Seepage Swamp (Red Spruce Type)	G3	S1	= CEGL006556
<i>Picea rubens - (Tsuga canadensis) / Rhododendron maximum</i> Saturated Forest	Southern Appalachian High-Elevation Seepage Swamp	G2?	S1	= CEGL006277
<u>Montane Woodland Seeps</u>				
<i>Impatiens (capensis, pallida) - Monarda didyma - Rudbeckia laciniata var. humilis</i> Herbaceous Vegetation	Southern Appalachian High-Elevation Seep (Jewelweed - Scarlet Beebalm Type)	G3	S2?	= CEGL004293
<i>Diphylleia cymosa - Micranthes micranthidifolia - Laportea canadensis</i> Herbaceous Vegetation	Southern Appalachian High-Elevation Seep (Umbrella-Leaf - Lettuce Saxifrage Type)	G3	S1?	= CEGL004296
* <i>Caltha palustris - Impatiens pallida - Viola cucullata</i> Herbaceous Vegetation	Central Appalachian Woodland Seep	GNR	SU	= CEGL006258
<i>Carex scabrata - Viola cucullata / Plagiomnium ciliare</i> Herbaceous Vegetation	High Allegheny Woodland Seep	G3	S1?	= CEGL006597

* provisional type

Palustrine - Non-Alluvial Wetlands of the Mountains

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Appalachian Bogs</u>				
<i>Rhododendron (catawbiense, maximum) - Vaccinium simulatum / Carex trisperma - Eriophorum virginicum - Juncus subcaudatus</i> Shrub Herbaceous Vegetation	Southern Appalachian High-Elevation Shrub Bog	G1	S1	= CEGL003913
<i>Sparganium americanum - (Sparganium emersum) - Epilobium leptophyllum</i> Herbaceous Vegetation	Southern Appalachian / High Allegheny Beaver Marsh	G3?	SU	= CEGL004510
<i>Carex echinata - Solidago uliginosa / Sphagnum spp.</i> Herbaceous Vegetation	Central Appalachian / High Allegheny Seepage Bog	G2?	S1	= CEGL008534
<i>Pinus rigida / Osmundastrum cinnamomeum - Carex stricta - Eriophorum virginicum / Sphagnum spp.</i> Wooded Herbaceous Vegetation	Central Appalachian Pitch Pine Bog	G1	S1	= CEGL007056
<i>Carex gynandra - Scirpus cyperinus - Eriophorum virginicum - Osmundastrum cinnamomeum</i> Herbaceous Vegetation	Cumberland Mountains Streamside Bog	G2	S1?	= CEGL007771
<i>Vaccinium macrocarpon / Pogonia ophioglossoides</i> Dwarf-Shrubland	Cranberry Peatland Bog	G2	SX	= CEGL007856
<u>Calcareous Fens and Spring Marshes</u>				
<i>Andropogon gerardii - Sorghastrum nutans - Pycnanthemum virginianum</i> Herbaceous Vegetation	Appalachian Wet-Mesic Tall-Grass Prairie	G2?	S1	= CEGL006039
<i>Salix sericea / Packera aurea - Carex interior - Parnassia grandifolia</i> Shrub Herbaceous Vegetation	Ridge and Valley Calcareous Fen / Seep	n/a	S1	no equivalent
<i>Carex (tetanica, prairea) - Eleocharis erythropoda - Lysimachia quadriflora</i> Herbaceous Vegetation	Shenandoah Valley Prairie Fen	G1Q	S1	= CEGL006170
<i>Alnus serrulata / Osmunda spectabilis - Carex tetanica - Carex leptalea</i> Shrubland	Central Appalachian Calcareous Shrub Fen / Seep	G1?	S1	= CEGL008408
<i>Caltha palustris - Impatiens capensis - Typha latifolia</i> Herbaceous Vegetation	Ridge and Valley Calcareous Spring Marsh (Marsh Marigold Type)	G1	S1	= CEGL006245
<i>Peltandra virginica - Persicaria amphibia - Carex stricta - Impatiens capensis</i> Herbaceous Vegetation	Ridge and Valley Calcareous Spring Marsh (Arrow-Arum - Water Smartweed Type)	G1	S1	= CEGL006244
<i>Carex utriculata - Sparganium americanum</i> Herbaceous Vegetation	Ridge and Valley Calcareous Spring Marsh (Beaked Sedge - American Bur-Reed Type)	G4G5	S1	< CEGL002257
<u>Mafic Fens and Seeps</u>				
<i>(Alnus serrulata) / Sanguisorba canadensis - Helenium brevifolium - Parnassia grandifolia - Eleocharis tenuis</i> Shrub Herbaceous Vegetation	Southern Blue Ridge Mafic Fen (Low Herb Type)	G1	S1	= CEGL003917
<i>(Alnus serrulata) / Sanguisorba canadensis - Scirpus expansus</i> Shrub Herbaceous Vegetation	Southern Blue Ridge Mafic Fen (Woodland Bulrush Type)	G1	S1	= CEGL004252
<i>Acer rubrum - Pinus strobus / Alnus serrulata - Physocarpus opulifolius / Solidago patula - Parnassia grandifolia</i> Woodland	Southern Blue Ridge Mafic Woodland Seep	G1	S1	= CEGL004994
<i>(Spiraea latifolia, Cornus racemosa) / Calamagrostis canadensis - Sanguisorba canadensis - Carex scoparia</i> Shrub Herbaceous Vegetation	Northern Blue Ridge Mafic Fen	G1	S1	= CEGL006249
<u>Spray Cliffs</u>				
* Appalachian Spray Cliff Herbaceous Vegetation	Appalachian Spray Cliff	n/a	S1?	no equivalent
<u>Inland Salt Marshes</u>				
<i>Juncus gerardii - Bolboschoenus robustus - Hibiscus moscheutos</i> Herbaceous Vegetation	Ridge and Valley Inland Salt Marsh	G1	S1	= CEGL006234

* provisional type

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

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Coastal Plain Depression Swamps and Ponds</u>				
<i>Quercus phellos</i> - <i>Acer rubrum</i> - <i>Liquidambar styraciflua</i> / <i>Vaccinium (formosum, fuscatum)</i> Forest	Coastal Plain Depression Swamp (Willow Oak - Red Maple - Sweetgum Type)	G3	S2	= CEGL006110
<i>Nyssa biflora</i> - (<i>Quercus lyrata</i>) / <i>Eubotrys racemosa</i> / <i>Carex jorii</i> Forest	Coastal Plain Seasonal Pond (Swamp Tupelo - Overcup Oak Type)	G1G2	S1S2	= CEGL006223
<i>Taxodium distichum</i> / <i>Cephalanthus occidentalis</i> / <i>Juncus repens</i> Woodland	Bald Cypress Seasonal Pond / Lake Shore	G1?	S1	= CEGL004653
<i>Cephalanthus occidentalis</i> - (<i>Decodon verticillatus</i>) / <i>Panicum verrucosum</i> - <i>Dulichium arundinaceum</i> - <i>Persicaria hydropiperoides</i> - (<i>Juncus repens</i>) Shrub Herbaceous Vegetation	Coastal Plain Seasonal Buttonbush Pond	G3?	S2	= CEGL006242
<i>Saccharum baldwinii</i> - <i>Carex (jorii, glaucescens)</i> - <i>Coleataenia rigidula</i> Herbaceous Vegetation	Coastal Plain Seasonal Pond (Narrow Plumegrass Type)	G2G3	SU	= CEGL007745
* <i>Saccharum giganteum</i> - <i>Ludwigia sphaerocarpa</i> - <i>Panicum verrucosum</i> Herbaceous Vegetation	Coastal Plain Seasonal Pond (Giant Plumegrass - Globe-Fruited Seedbox Type)	G2G3	SU	= CEGL007744
<u>Non-Riverine Flatwoods and Swamps</u>				
<i>Quercus (phellos, pagoda, michauxii)</i> / <i>Ilex opaca</i> - <i>Clethra alnifolia</i> / <i>Woodwardia areolata</i> Forest	Non-Riverine Wet Hardwood Forest (Northern Coastal Plain Type)	G2?	S2	= CEGL004644
<i>Quercus (michauxii, pagoda, laurifolia)</i> / <i>Carpinus caroliniana</i> / (<i>Leucothoe axillaris</i>) - <i>Arundinaria tecta</i> Forest	Non-Riverine Wet Hardwood Forest (Southern Coastal Plain Type)	G2	S1	= CEGL007449
<i>Nyssa biflora</i> - <i>Taxodium distichum</i> - <i>Acer rubrum</i> / (<i>Persea palustris</i>) / <i>Clethra alnifolia</i> / <i>Woodwardia virginica</i> Forest	Non-Riverine Swamp Forest (Tupelo - Bald Cypress Type)	G2G3	S1S2	= CEGL004429
<i>Nyssa biflora</i> - <i>Acer rubrum</i> - <i>Magnolia virginiana</i> - <i>Chamaecyparis thyooides</i> / <i>Lyonia lucida</i> - <i>Clethra alnifolia</i> Forest	Non-Riverine Swamp Forest (Mixed Evergreen Type)	G2G3	S1	= CEGL007558
<u>Coastal Plain / Piedmont Seepage Swamps</u>				
<i>Acer rubrum</i> - <i>Nyssa sylvatica</i> - <i>Magnolia virginiana</i> / <i>Viburnum nudum</i> / <i>Osmundastrum cinnamomeum</i> - <i>Woodwardia areolata</i> Forest	Coastal Plain / Outer Piedmont Acidic Seepage Swamp	G3?	S3	= CEGL006238
<i>Acer rubrum</i> - <i>Fraxinus (pennsylvanica, americana)</i> / <i>Lindera benzoin</i> / <i>Symplocarpus foetidus</i> Forest	Piedmont / Northern Coastal Plain Basic Seepage Swamp	G4G5	S2?	= CEGL006406
<i>Acer rubrum</i> - <i>Fraxinus pennsylvanica</i> / <i>Packeria aurea</i> - <i>Pilea fontana</i> - (<i>Carex bromoides</i> , <i>Bidens laevis</i>) Forest	Coastal Plain Calcareous Seepage Swamp	G2	S2	= CEGL006413
<u>Coastal Plain / Piedmont Seepage Bogs</u>				
<i>Alnus serrulata</i> - <i>Magnolia virginiana</i> / <i>Andropogon glomeratus</i> - <i>Eupatorium pilosum</i> - <i>Rhynchospora gracilentia</i> - <i>Xyris torta</i> Shrub Herbaceous Vegetation	Coastal Plain / Outer Piedmont Seepage Bog	G1	S1	= CEGL006499
<i>Nyssa sylvatica</i> - <i>Magnolia virginiana</i> - (<i>Pinus rigida</i>) / <i>Rhododendron viscosum</i> - <i>Toxicodendron vernix</i> / <i>Smilax pseudochina</i> Wooded Herbaceous Vegetation	Northern Coastal Plain Terrace Gravel Bog	G1	S1	= CEGL006219
<u>Piedmont Upland Depression Swamps</u>				
<i>Quercus palustris</i> - <i>Quercus bicolor</i> / <i>Viburnum prunifolium</i> / <i>Cinna arundinacea</i> - <i>Leersia virginica</i> Forest	Piedmont Upland Depression Swamp (Pin Oak - Swamp White Oak Type)	G2	S1	= CEGL004643
<i>Quercus phellos</i> / <i>Smilax rotundifolia</i> / <i>Carex (albolutescens, festucacea)</i> Forest	Piedmont Upland Depression Swamp (Willow Oak Type)	G2G3	S2	= CEGL007403
<i>Quercus palustris</i> - <i>Acer rubrum</i> - <i>Liquidambar styraciflua</i> / <i>Vaccinium (fuscatum, formosum)</i> Forest	Northern Piedmont Acidic Upland Depression Swamp	G3	S1	= CEGL006240

* provisional type

Palustrine - Saturated Peatlands of the Coastal Plain

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Pond Pine Woodlands and Pocosins</u>				
<i>Pinus serotina</i> / <i>Smilax laurifolia</i> - <i>Ilex glabra</i> / <i>Woodwardia virginica</i> Woodland	Pond Pine Woodland / Pocosin	G2?	S1	= CEGL004652
<i>Pinus serotina</i> / <i>Arundinaria tecta</i> Woodland	Canebrake Woodland	G1	SX	= CEGL004433
<u>Peatland Atlantic White-Cedar Forests</u>				
<i>Chamaecyparis thyoides</i> / <i>Persea palustris</i> / <i>Lyonia lucida</i> - <i>Ilex coriacea</i> / <i>Osmundastrum cinnamomeum</i> Forest	Peatland Atlantic White-Cedar Forest	G2	S1	= CEGL006146

Palustrine - Non-Tidal Maritime Wetlands

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Sea-Level Fens</u>				
<i>Cladium mariscoides</i> - <i>Drosera intermedia</i> - <i>Rhynchospora alba</i> Herbaceous Vegetation	Sea-Level Fen	G1	S1	= CEGL006310
<u>Interdune Swales and Ponds</u>				
<i>Bacopa monnieri</i> - <i>Eleocharis albida</i> Herbaceous Vegetation	Interdune Pond (Coastal Water-Hyssop - White Spikerush Oligohaline Type)	G1Q	S1	= CEGL006350
<i>Spartina patens</i> - (<i>Bolboschoenus robustus</i>) Herbaceous Vegetation	Interdune Swale (Saltmeadow Cordgrass Brackish Type)	G2G4	S2?	= CEGL006342
<i>Spartina patens</i> - <i>Fimbristylis (castanea, caroliniana)</i> - <i>Cyperus filicinus</i> - <i>Pluchea odorata</i> - (<i>Schoenoplectus pungens</i>) Herbaceous Vegetation	Interdune Swale (Northern Mixed Grassland Type)	G1G2	S1?	= CEGL004117
<i>Spartina patens</i> - <i>Schoenoplectus pungens</i> - <i>Thelypteris palustris</i> - <i>Centella erecta</i> Herbaceous Vegetation	Interdune Swale (Southern Mixed Grassland Type)	G2	S2	= CEGL006840
<i>Panicum virgatum</i> - <i>Schoenoplectus pungens</i> Herbaceous Vegetation	Interdune Swale / Pond (Switchgrass Type)	G2G4	S2?	= CEGL004129
* <i>Typha angustifolia</i> - <i>Hibiscus moscheutos</i> Herbaceous Vegetation	Interdune Pond (Narrow-Leaf Cattail - Swamp Rose-Mallow Type)	n/a	SU	no equivalent
<i>Juncus scirpoides</i> - <i>Eupatorium hyssopifolium</i> - <i>Euthamia caroliniana</i> - <i>Xyris jupicai</i> Herbaceous Vegetation	Interdune Swale (Mixed Rush Type)	G2G3	S1?	= CEGL004111
<i>Morella cerifera</i> - <i>Baccharis halimifolia</i> / <i>Spartina patens</i> Shrubland	Wax Myrtle Interdune Shrubland	G3G4	S2S3	= CEGL003839
<u>Maritime Swamps</u>				
<i>Morella cerifera</i> - <i>Toxicodendron radicans</i> / <i>Hydrocotyle verticillata</i> Shrubland	Wax Myrtle Maritime Shrub Swamp	G2G3	S2?	= CEGL003840
<i>Salix nigra</i> / <i>Persicaria punctata</i> - <i>Boehmeria cylindrica</i> Forest	Maritime Swamp Forest (Black Willow Type)	G2G3	SU	= CEGL006348
<i>Pinus taeda</i> / <i>Morella cerifera</i> / <i>Osmunda spectabilis</i> Forest	Maritime Wet Loblolly Pine Forest	G3	S2?	= CEGL006137
<i>Acer rubrum</i> - <i>Nyssa (biflora, sylvatica)</i> / <i>Morella cerifera</i> / <i>Woodwardia areolata</i> Forest	Maritime Swamp Forest (Red Maple - Tupelo Type)	G2	S2	= CEGL004082
<i>Taxodium distichum</i> / <i>Cephalanthus occidentalis</i> / <i>Boehmeria cylindrica</i> - <i>Ceratophyllum echinatum</i> 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
<u>Riverine Aquatic Beds</u>				
<i>Podostemum ceratophyllum</i> Herbaceous Vegetation	Riverine Aquatic Bed (Horn-Leaf Riverweed Type)	G3G5	S3?	=CEGL004331
<i>Vallisneria americana</i> - <i>Heteranthera dubia</i> Riverine Herbaceous Vegetation	Riverine Aquatic Bed (Tapegrass Type)	G3G4	S3?	=CEGL004333

Estuarine - Tidal Wetlands

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Tidal Freshwater Marshes</u>				
<i>Nuphar advena</i> Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Common Spatterdock Mudflat Type)	G4G5	S3	= CEGL004472
<i>Peltandra virginica</i> - <i>Pontederia cordata</i> Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Arrow-Arum - Pickerelweed Type)	G3G4	S3S4	= CEGL004706
<i>Zizania aquatica</i> - <i>Pontederia cordata</i> - <i>Peltandra virginica</i> - <i>Persicaria punctata</i> Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Wild Rice - Mixed Forbs Type)	G4?	S4?	= CEGL004202
<i>Impatiens capensis</i> - <i>Persicaria arifolia</i> - <i>Peltandra virginica</i> - (<i>Typha angustifolia</i>) Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Mixed High Marsh Type)	G3	S3	= CEGL006325
<i>Zizaniopsis miliacea</i> Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Southern Wild Rice Type)	G3G5	S3?	= CEGL004705
* <i>Acorus calamus</i> Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (Sweetflag Type)	GNR	SU	= CEGL006833
<i>Nelumbo lutea</i> Tidal Herbaceous Vegetation	Tidal Freshwater Marsh (American Lotus Mud Flat Type)	GNR	S2?	= CEGL006913
<u>Tidal Oligohaline Marshes</u>				
<i>Spartina cynosuroides</i> Tidal Herbaceous Vegetation	Tidal Oligohaline Marsh (Big Cordgrass Type)	G4	S4	= CEGL004195
<i>Hibiscus moscheutos</i> - <i>Persicaria punctata</i> - <i>Peltandra virginica</i> - (<i>Typha angustifolia</i> , <i>Spartina cynosuroides</i>) Tidal Herbaceous Vegetation	Tidal Oligohaline Marsh (Mixed Forbs Type)	G4	S4	= CEGL006181
<i>Typha angustifolia</i> - <i>Hibiscus moscheutos</i> Tidal Herbaceous Vegetation	Tidal Oligohaline Marsh (Narrow-Leaf Cattail - Swamp Rose-Mallow Type)	G4G5	S3?	= CEGL004201
<i>Schoenoplectus americanus</i> - <i>Spartina patens</i> Tidal Herbaceous Vegetation	Tidal Oligohaline Marsh (Saltmeadow Cordgrass - Olney Threesquare Low Interior Marsh Type)	G3	S3?	= CEGL006612
<i>Eleocharis rostellata</i> - <i>Spartina patens</i> Tidal Herbaceous Vegetation	Tidal Oligohaline Marsh (Beaked Spikerush - Saltmeadow Cordgrass Estuarine Fringe Type)	G3	S1?	= CEGL006611
* <i>Carex hyalinolepis</i> Tidal Herbaceous Vegetation	Tidal Oligohaline Marsh (Shoreline Sedge Type)	GNR	SU	= CEGL006177
<u>Wind-Tidal Oligohaline Marshes</u>				
<i>Eleocharis fallax</i> - <i>Sagittaria lancifolia</i> - <i>Hibiscus moscheutos</i> - (<i>Schoenoplectus americanus</i> , <i>Eleocharis rostellata</i>) Tidal Herbaceous Vegetation	Wind-Tidal Oligohaline Marsh (Creeping Spikerush - Bull-Tongue Arrowhead Type)	G1G2	S1	= CEGL004628
<i>Juncus roemerianus</i> - <i>Eleocharis fallax</i> Tidal Herbaceous Vegetation	Wind-Tidal Oligohaline Marsh (Black Needlerush Type)	G2G3	S2S3	= CEGL004660
<i>Spartina cynosuroides</i> - <i>Schoenoplectus americanus</i> - <i>Sagittaria lancifolia</i> Tidal Herbaceous Vegetation	Wind-Tidal Oligohaline Marsh (Big Cordgrass Type)	G2G3	S2	= CEGL007741
<u>Tidal Mesohaline and Polyhaline Marshes</u>				
<i>Spartina alterniflora</i> Tidal Herbaceous Vegetation	Low Salt Marsh (Saltmarsh Cordgrass Type)	G5	S5	= CEGL004192
<i>Juncus roemerianus</i> Tidal Herbaceous Vegetation	Black Needlerush Salt Marsh	G5	S4	= CEGL004186
<i>Spartina alterniflora</i> - <i>Distichlis spicata</i> - (<i>Spartina patens</i>) Tidal Herbaceous Vegetation	Low Salt Marsh (Salt Panne Type)	GNR	S3?	= CEGL006586
<i>Spartina patens</i> - <i>Distichlis spicata</i> Tidal Herbaceous Vegetation	High Salt Marsh	G4G5	S4S5	= CEGL004197
<i>Spartina alterniflora</i> - <i>Spartina cynosuroides</i> - <i>Bolboschoenus robustus</i> Tidal Herbaceous Vegetation	Riverine Salt Marsh (Saltmarsh Cordgrass - Saltmarsh Bulrush Type)	GNR	S3?	= CEGL006416

* provisional type

Estuarine - Tidal Wetlands

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Tidal Shrub Swamps</u>				
<i>Alnus serrulata</i> - <i>Salix nigra</i> / <i>Pilea (fontana, pumila)</i> Tidal Shrubland	Freshwater Tidal Shrub Swamp	GNR	SU	= CEGL006843
<i>Morella cerifera</i> - <i>Rosa palustris</i> / <i>Osmunda spectabilis</i> - <i>Thelypteris palustris</i> Tidal Shrubland	Oligohaline Tidal Shrub Swamp	G4	S3	= CEGL004656
<i>Iva frutescens</i> / <i>Spartina cynosuroides</i> Tidal Shrubland	Mesohaline Tidal Shrub Swamp (Riverine Type)	G4	SU	= CEGL006847
<i>Iva frutescens</i> / <i>Spartina patens</i> - <i>Distichlis spicata</i> Tidal Shrubland	Mesohaline Tidal Shrub Swamp (High Salt Marsh Type)	G5	SU	= CEGL006848
<u>Tidal Swamp Forests and Woodlands</u>				
<i>Nyssa biflora</i> - <i>Fraxinus profunda</i> - (<i>Fraxinus pennsylvanica</i>) / <i>Ilex verticillata</i> / <i>Pericaria arifolia</i> Tidal Forest	Freshwater Tidal Hardwood Swamp	G3	S3	= CEGL006287
<i>Taxodium distichum</i> - (<i>Nyssa biflora</i> , <i>Fraxinus pennsylvanica</i>) / <i>Pontederia cordata</i> Tidal Forest	Northern Coastal Plain Tidal Bald Cypress Forest	G3	S2	= CEGL006850
<i>Taxodium distichum</i> / <i>Carex hyalinolepis</i> Tidal Woodland	Tidal Bald Cypress Woodland (Shoreline Sedge Type)	G2?	S1	= CEGL004654
<i>Nyssa biflora</i> - (<i>Taxodium distichum</i> , <i>Pinus taeda</i>) / <i>Morella cerifera</i> / <i>Osmunda spectabilis</i> Tidal Forest	Wind-Tidal Tupelo - Bald Cypress Swamp	G2?	S2	= CEGL004651
* <i>Taxodium distichum</i> / <i>Zizania aquatica</i> - <i>Carex canescens</i> Tidal Woodland	Wind-Tidal Bald Cypress Woodland	G1Q	SU	= CEGL004655
<u>Tidal Freshwater and Oligohaline Aquatic Beds</u>				
<i>Ceratophyllum demersum</i> - <i>Utricularia macrorhiza</i> - (<i>Nymphaea odorata</i>) Semipermanently Flooded Tidal Herbaceous Vegetation	Tidal Freshwater / Oligohaline Aquatic Bed (Common Hornwort Type)	G3?	SU	= CEGL004661
* <i>Vallisneria americana</i> - <i>Myriophyllum spicatum</i> Semipermanently Flooded Tidal Herbaceous Vegetation	Tidal Freshwater / Oligohaline Aquatic Bed (Tapegrass Type)	GNR	SU	< CEGL006048
* <i>Nymphaea odorata</i> Semipermanently Flooded Tidal Herbaceous Vegetation	Tidal Freshwater / Oligohaline Aquatic Bed (White Water-Lily Type)	GNR	SU	< CEGL006048
<i>Nuphar sagittifolia</i> Permanently Flooded Tidal Herbaceous Vegetation	Tidal Freshwater / Oligohaline Aquatic Bed (Narrow-Leaved Spatterdock Type)	G1G2	S1	= CEGL006094
<u>Tidal Mesohaline and Polyhaline Aquatic Beds</u>				
<i>Zostera marina</i> Semipermanently Flooded Tidal Herbaceous Vegetation	Tidal Mesohaline / Polyhaline Aquatic Bed (Eelgrass Type)	G4G5	SU	= CEGL004336
<i>Ruppia maritima</i> Semipermanently Flooded Tidal Herbaceous Vegetation	Tidal Mesohaline / Polyhaline Aquatic Bed (Wigeon-Grass Type)	GNR	SU	= CEGL006167
<u>High-Energy Tidal River Shores</u>				
<i>Peltandra virginica</i> - <i>Schoenoplectus (pungens, tabernaemontani)</i> Tidal Herbaceous Vegetation	High-Energy Tidal River Shore (Arrow-Arums - Bulrush Mud Flat Type)	GNR	S3?	= CEGL006578
* <i>Justicia americana</i> Tidal Herbaceous Vegetation	High-Energy Tidal River Shore (Water-Willow Type)	GNR	SU	= CEGL006579
* <i>Eriocaulon parkeri</i> - <i>Pericaria punctata</i> Tidal Herbaceous Vegetation	High-Energy Tidal River Shore (Parker's Pipewort Freshwater Type)	G2	SU	= CEGL006352
* <i>Isoetes riparia</i> Tidal Herbaceous Vegetation	High-Energy Tidal River Shore (Shore Quillwort Freshwater Type)	GNR	SU	= CEGL006058
<u>Salt Flats</u>				
(<i>Salicornia virginica</i> , <i>Salicornia bigelovii</i> , <i>Sarcocornia pacifica</i>) - <i>Spartina alterniflora</i> Herbaceous Vegetation	Glasswort Salt Flat	G5	S3	= CEGL004308

* provisional type

Estuarine - Tidal Wetlands

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Salt Scrub</u> <i>Baccharis halimifolia</i> - <i>Iva frutescens</i> / <i>Spartina patens</i> Shrubland	Salt Scrub	G5	S4	= <u>CEGL003921</u>

Marine - [Marine Vegetation]

Scientific Name	Common Name	Global Rank	State Rank	USNVC Code
<u>Upper Beaches and Overwash Flats</u>				
<i>Cakile edentula</i> - <i>Salsola kali</i> Herbaceous Vegetation	North Atlantic Upper Beach / Overwash Flat	G4G5	S3	= CEGL004400

APPENDICES

Appendix A. Changes to Classes, Ecological Groups and Community Types since the 2013 listing

Development of the state ecological community classification is an iterative process of successive approximations (Fleming et al. 2001, 2006, 2010, and 2017). Since the publication of the previous list of Ecological Community Groups and Community Types in July 2013, we have continued to collect information on Virginia’s natural communities, archiving those data in a custom vegetation plots database. Recent state-wide and range-wide geographic analyses have resulted in new and refined natural community definitions and a more robust state-wide classification. A recent re-evaluation of species constancy and homogeneity by community type resulted in changes to nominal species of many community types, changing state scientific names (SName) and state common names (SComName). In addition to conceptual and nomenclatural changes of Ecological Groups and Community Types, we have made refinements to the organization levels of the classification that we hope will improve the user’s experience. Changes to Classes, Ecological Groups, and Community types, since the publication of the 2013 list, are listed in Tables 1-3 below.

Table 1. Changes to Ecological Classes 2013 - 2017

Second Approximation, ver. 2.5 (2013 list)	Third Approximation ver. 3.0 (2017 list)
HIGH-ELEVATION MOUNTAIN COMMUNITIES	Class name changed to: HIGH-ELEVATION FORESTS, GRASSLANDS, AND ROCK OUTCROPS
LOW-ELEVATION DRY AND DRY-MESIC FORESTS AND WOODLANDS	Class name and concept changed to: LOW-ELEVATION DRY AND DRY-MESIC FORESTS
LOW-ELEVATION ROCK OUTCROPS AND BARRENS	Class name and concept changed to: LOW-ELEVATION WOODLANDS, BARRENS, AND ROCK OUTCROPS
SANDY WOODLANDS OF THE COASTAL PLAIN AND OUTER PIEDMONT	Class name changed to: SANDY WOODLANDS OF THE INNER COASTAL PLAIN AND OUTER PIEDMONT

Table 2. Changes to Ecological Community Groups 2013 - 2017

Second Approximation, ver. 2.5 (2013 list)	Third Approximation ver. 3.0 (2017 list)
CALCAREOUS FENS	Merged into a new CALCAREOUS FENS AND SPRING MARSHES group
CALCAREOUS SPRING MARSHES AND MUCK FENS	Merged into a new CALCAREOUS FENS AND SPRING MARSHES group
COASTAL PLAIN / PIEDMONT ACIDIC SEEPAGE SWAMPS	Merged into a new COASTAL PLAIN / PIEDMONT SEEPAGE SWAMPS group
COASTAL PLAIN / PIEDMONT BASIC SEEPAGE SWAMPS	Merged into a new COASTAL PLAIN / PIEDMONT SEEPAGE SWAMPS group
COASTAL PLAIN DEPRESSION WETLANDS	Name changed to: COASTAL PLAIN DEPRESSION SWAMPS AND PONDS
COASTAL PLAIN DRY CALCAREOUS FORESTS AND WOODLANDS	Name changed to: COASTAL PLAIN DRY CALCAREOUS FORESTS
DRY-MESIC CALCAREOUS FORESTS	Merged into a new MONTANE DRY AND DRY-MESIC CALCAREOUS FORESTS group
FLUVIAL TERRACE WOODLANDS	Merged into a new SANDHILL AND FLUVIAL TERRACE WOODLANDS group
GRANITIC FLATROCKS	Name changed to: PIEDMONT GRANITIC FLATROCKS
HIGH-ELEVATION SEEPAGE SWAMPS	Merged into a new MOUNTAIN / PIEDMONT SEEPAGE SWAMPS group
LICHEN / BRYOPHYTE NONVASCULAR BOULDERFIELDS AND OUTCROPS	Name changed to: LICHEN / BRYOPHYTE NONVASCULAR CLIFFS AND BOULDERFIELDS
LIMESTONE AND DOLOMITE BARRENS	Name and concept changed: LIMESTONE / DOLOMITE WOODLANDS AND BARRENS
LOW-ELEVATION ACIDIC OUTCROP BARRENS	Merged into a new Low-elevation Outcrop Barrens group
LOW-ELEVATION BASIC OUTCROP BARRENS	Merged into a new Low-elevation Outcrop Barrens group
LOW-ELEVATION BOULDERFIELD FORESTS AND WOODLANDS	Name changed to: LOW-ELEVATION BOULDERFIELD FORESTS
MESIC AND WET-MESIC PRAIRIES	Merged into a new CALCAREOUS FENS AND SPRING MARSHES group
MONTANE DEPRESSION WETLANDS	Merged into a new group MONTANE DEPRESSION SWAMPS AND PONDS

Table 2 Changes to Ecological Community Groups 2013 – 2017 (continued)

Second Approximation ver. 2.5 (2013 list)	Third Approximation ver. 3.0 (2017 list)
MONTANE DRY CALCAREOUS FORESTS AND WOODLANDS	Merged into a new MONTANE DRY AND DRY-MESIC CALCAREOUS FORESTS group
MOUNTAIN / PIEDMONT ACIDIC CLIFFS	Merged into a new MOUNTAIN / PIEDMONT CLIFFS group
MOUNTAIN / PIEDMONT ACIDIC SEEPAGE SWAMPS	Merged into a new MOUNTAIN / PIEDMONT SEEPAGE SWAMPS group
MOUNTAIN / PIEDMONT BASIC SEEPAGE SWAMPS	Merged into a new MOUNTAIN / PIEDMONT SEEPAGE SWAMPS group
MOUNTAIN / PIEDMONT CALCAREOUS CLIFFS	Merged into a new MOUNTAIN / PIEDMONT CLIFFS group
NORTHERN WHITE-CEDAR SLOPE FORESTS	Merged into a new MONTANE DRY AND DRY-MESIC CALCAREOUS FORESTS group
PEATLAND ATLANTIC WHITE CEDAR FORESTS	Name changed to: PEATLAND ATLANTIC WHITE-CEDAR FORESTS
PIEDMONT / COASTAL PLAIN OAK - BEECH / HEATH FORESTS	Name changed to: COASTAL PLAIN / PIEDMONT OAK - BEECH / HEATH FORESTS
PIEDMONT / MOUNTAIN FLOODPLAIN FORESTS	Merged into a new PIEDMONT / MOUNTAIN FLOODPLAIN FORESTS AND SWAMPS group
PIEDMONT / MOUNTAIN SWAMP FORESTS	Merged into a new PIEDMONT / MOUNTAIN FLOODPLAIN FORESTS AND SWAMPS group
PINE / SCRUB OAK SANDHILLS	Merged into a new SANDHILL AND FLUVIAL TERRACE WOODLANDS group
RICH COVE AND SLOPE FORESTS	Name changed to: RICH COVE FORESTS
TIDAL BALD CYPRESS FORESTS AND WOODLANDS	Merged into a new TIDAL SWAMP FORESTS AND WOODLANDS group
TIDAL HARDWOOD SWAMPS	Merged into a new TIDAL SWAMP FORESTS AND WOODLANDS group
UPLAND DEPRESSION SWAMPS	Name changed to: PIEDMONT UPLAND DEPRESSION SWAMPS

Table 3. Changes to Community Types 2013 – 2017

Second Approximation ver. 2.5 (2013 list)	Third Approximation ver. 3.0 (2017 list)
(not represented)	NEW COMMUNITY TYPE: (<i>Juniperus virginiana</i>) / <i>Sporobolus vaginiflorus</i> - <i>Panicum flexile</i> - <i>Allium cernuum</i> - <i>Minuartia patula</i> Herbaceous Vegetation [Limestone Annual Flatrock Barren] in the Group: Limestone / Dolomite Woodlands and Barrens
(not represented)	NEW COMMUNITY TYPE: <i>Picea rubens</i> - (<i>Tsuga canadensis</i>) / <i>Rhododendron maximum</i> Saturated Forest [Southern Appalachian High-Elevation Seepage Swamp] in the Group: Mountain / Piedmont Seepage Swamps
(not represented)	NEW COMMUNITY TYPE: <i>Spartina patens</i> - <i>Schoenoplectus pungens</i> - <i>Thelypteris palustris</i> - <i>Centella erecta</i> Herbaceous Vegetation [Interdune Swale (Southern Mixed Grassland Type)] in the Group: Interdune Swales and Ponds
ACIDIC COVE FORESTS: <i>Liriodendron tulipifera</i> - <i>Pinus strobus</i> - <i>Tsuga canadensis</i> - <i>Quercus (rubra, alba)</i> / <i>Polystichum acrostichoides</i> Forest	Sname changed to: <i>Liriodendron tulipifera</i> - <i>Pinus strobus</i> - <i>Quercus (rubra, alba)</i> - (<i>Tsuga canadensis</i>) / <i>Polystichum acrostichoides</i> Forest
ACIDIC COVE FORESTS: <i>Tsuga canadensis</i> - (<i>Fagus grandifolia</i> , <i>Tilia americana</i> var. <i>heterophylla</i>) / <i>Magnolia tripetala</i> Forest	Sname changed to: <i>Tsuga canadensis</i> - <i>Fagus grandifolia</i> / <i>Magnolia tripetala</i> / <i>Rhododendron maximum</i> Forest
ACIDIC COVE FORESTS: <i>Tsuga canadensis</i> - <i>Quercus montana</i> - <i>Liriodendron tulipifera</i> / <i>Kalmia latifolia</i> - (<i>Rhododendron catawbiense</i>) Forest	Sname changed to: <i>Liriodendron tulipifera</i> - <i>Quercus montana</i> - (<i>Tsuga canadensis</i>) / <i>Kalmia latifolia</i> - (<i>Rhododendron catawbiense</i>) Forest
APPALACHIAN BOGS: <i>Pinus rigida</i> / <i>Osmundastrum cinnamomeum</i> - <i>Carex stricta</i> - <i>Eriophorum virginicum</i> / <i>Sphagnum spp.</i> Woodland	Sname changed to: <i>Pinus rigida</i> / <i>Osmundastrum cinnamomeum</i> - <i>Carex stricta</i> - <i>Eriophorum virginicum</i> / <i>Sphagnum spp.</i> Wooded Herbaceous Vegetation
APPALACHIAN BOGS: <i>Rhododendron (catawbiense, maximum)</i> - <i>Vaccinium simulatum</i> / <i>Carex trisperma</i> - <i>Eriophorum virginicum</i> - <i>Juncus subcaudatus</i> Shrubland	Sname changed to: <i>Rhododendron (catawbiense, maximum)</i> - <i>Vaccinium simulatum</i> / <i>Carex trisperma</i> - <i>Eriophorum virginicum</i> - <i>Juncus subcaudatus</i> Shrub Herbaceous Vegetation
BASIC MESIC FORESTS: <i>Liriodendron tulipifera</i> - <i>Quercus rubra</i> - <i>Fraxinus americana</i> / <i>Asimina triloba</i> / <i>Actaea racemosa</i> - <i>Uvularia perfoliata</i> Forest	Sname changed to: <i>Liriodendron tulipifera</i> - <i>Quercus rubra</i> - <i>Fraxinus americana</i> / <i>Asimina triloba</i> / <i>Actaea racemosa</i> Forest

Table 3. Changes to Community Types 2013 – 2017 (continued)

Second Approximation ver. 2.5 (2013 list)	Third Approximation ver. 3.0 (2017 list)
CALCAREOUS FENS: <i>Packera aurea</i> - <i>Carex interior</i> - <i>Carex hystericina</i> - <i>Parnassia grandifolia</i> Herbaceous Vegetation [Ridge and Valley Calcareous Sedge Fen / Seep]	Sname and SComName changed to: <i>Salix sericea</i> / <i>Packera aurea</i> - <i>Carex interior</i> - <i>Parnassia grandifolia</i> Shrub Herbaceous Vegetation [Ridge and Valley Calcareous Fen / Seep] in the Group: CALCAREOUS FENS AND SPRING MARSHES
CALCAREOUS SPRING MARSHES AND MUCK FENS: <i>Typha latifolia</i> - <i>Caltha palustris</i> Herbaceous Vegetation [Ridge and Valley Calcareous Spring Marsh (Broad-Leaved Cattail - Marsh Marigold Type)]	Sname and SComName changed to: <i>Caltha palustris</i> - <i>Impatiens capensis</i> - <i>Typha latifolia</i> Herbaceous Vegetation [Ridge and Valley Calcareous Spring Marsh (Marsh Marigold Type)] in the Group: CALCAREOUS FENS AND SPRING MARSHES
CENTRAL APPALACHIAN SHALE BARRENS: (<i>Pinus virginiana</i> , <i>Juniperus virginiana</i>) / <i>Schizachyrium scoparium</i> - <i>Eriogonum allenii</i> Wooded Herbaceous Vegetation	Sname changed to: (<i>Pinus virginiana</i>) / <i>Schizachyrium scoparium</i> - <i>Eriogonum allenii</i> Wooded Herbaceous Vegetation
CENTRAL APPALACHIAN SHALE BARRENS: <i>Quercus montana</i> / <i>Quercus ilicifolia</i> / <i>Danthonia spicata</i> Woodland	Sname changed to: <i>Quercus montana</i> - (<i>Pinus virginiana</i>) / <i>Quercus ilicifolia</i> / <i>Danthonia spicata</i> - <i>Carex pensylvanica</i> Woodland
COASTAL PLAIN / PIEDMONT BASIC SEEPAGE SWAMPS: <i>Acer rubrum</i> - <i>Fraxinus pennsylvanica</i> / <i>Packera aurea</i> - <i>Carex bromoides</i> - <i>Pilea fontana</i> - <i>Bidens laevis</i> Forest	Sname changed to: <i>Acer rubrum</i> - <i>Fraxinus pennsylvanica</i> / <i>Packera aurea</i> - <i>Pilea fontana</i> - (<i>Carex bromoides</i> , <i>Bidens laevis</i>) Forest in the Group: COASTAL PLAIN / PIEDMONT SEEPAGE SWAMPS
COASTAL PLAIN / PIEDMONT SEEPAGE BOGS: <i>Alnus serrulata</i> - <i>Magnolia virginiana</i> / <i>Andropogon glomeratus</i> - <i>Eupatorium pilosum</i> - <i>Rhynchospora gracilentia</i> - <i>Xyris torta</i> Shrubland	Sname changed to: <i>Alnus serrulata</i> - <i>Magnolia virginiana</i> / <i>Andropogon glomeratus</i> - <i>Eupatorium pilosum</i> - <i>Rhynchospora gracilentia</i> - <i>Xyris torta</i> Shrub Herbaceous Vegetation
COASTAL PLAIN / PIEDMONT SEEPAGE BOGS: <i>Nyssa sylvatica</i> - <i>Magnolia virginiana</i> - (<i>Pinus rigida</i>) / <i>Rhododendron viscosum</i> - <i>Toxicodendron vernix</i> / <i>Smilax pseudochina</i> Woodland	Sname changed to: <i>Nyssa sylvatica</i> - <i>Magnolia virginiana</i> - (<i>Pinus rigida</i>) / <i>Rhododendron viscosum</i> - <i>Toxicodendron vernix</i> / <i>Smilax pseudochina</i> Wooded Herbaceous Vegetation
COASTAL PLAIN DEPRESSION WETLANDS: <i>Cephalanthus occidentalis</i> - (<i>Decodon verticillatus</i>) / <i>Panicum verrucosum</i> - <i>Dulichium arundinaceum</i> - (<i>Torreyochloa pallida</i>) Shrub Herbaceous Vegetation [Coastal Plain Seasonal Buttonbush Pond]	Sname and SComName changed to: <i>Cephalanthus occidentalis</i> - (<i>Decodon verticillatus</i>) / <i>Panicum verrucosum</i> - <i>Dulichium arundinaceum</i> - <i>Persicaria hydropiperoides</i> - (<i>Juncus repens</i>) Shrub Herbaceous Vegetation [Central Appalachian Mountain Pond (Buttonbush - Threeway Sedge Type)] in the Group: COASTAL PLAIN DEPRESSION SWAMPS AND PONDS
COASTAL PLAIN DEPRESSION WETLANDS: <i>Eragrostis hypnoides</i> - <i>Ludwigia sphaerocarpa</i> - <i>Persicaria hydropiperoides</i> Herbaceous Vegetation	merged into: <i>Cephalanthus occidentalis</i> - (<i>Decodon verticillatus</i>) / <i>Panicum verrucosum</i> - <i>Dulichium arundinaceum</i> - <i>Persicaria hydropiperoides</i> - (<i>Juncus repens</i>) Shrub Herbaceous Vegetation in the Group: COASTAL PLAIN DEPRESSION SWAMPS AND PONDS
COASTAL PLAIN DEPRESSION WETLANDS: <i>Persicaria hydropiperoides</i> - <i>Dulichium arundinaceum</i> - <i>Juncus repens</i> Herbaceous Vegetation	merged into: <i>Cephalanthus occidentalis</i> - (<i>Decodon verticillatus</i>) / <i>Panicum verrucosum</i> - <i>Dulichium arundinaceum</i> - <i>Persicaria hydropiperoides</i> - (<i>Juncus repens</i>) Shrub Herbaceous Vegetation in the Group: COASTAL PLAIN DEPRESSION SWAMPS AND PONDS
COASTAL PLAIN DRY CALCAREOUS FORESTS AND WOODLANDS: <i>Quercus muehlenbergii</i> / <i>Cercis canadensis</i> / <i>Dichanthelium boscii</i> - <i>Bromus pubescens</i> - <i>Erigeron pulchellus</i> - <i>Aquilegia canadensis</i> Forest	Sname changed to: <i>Quercus muehlenbergii</i> - <i>Carya cordiformis</i> / <i>Cercis canadensis</i> / <i>Dichanthelium boscii</i> - <i>Erigeron pulchellus</i> Forest in the Group: COASTAL PLAIN DRY CALCAREOUS FORESTS
DRY-MESIC CALCAREOUS FORESTS: <i>Quercus (muehlenbergii, alba, rubra)</i> - <i>Carya cordiformis</i> / <i>Lindera benzoin</i> - <i>Viburnum prunifolium</i> Forest	Sname changed to: <i>Quercus muehlenbergii</i> - <i>Quercus (alba, rubra)</i> - <i>Carya cordiformis</i> - <i>Acer saccharum</i> / <i>Lindera benzoin</i> Forest in the Group: MONTANE DRY AND DRY-MESIC CALCAREOUS FORESTS
EASTERN HEMLOCK - HARDWOOD FORESTS: <i>Tsuga canadensis</i> - (<i>Betula alleghaniensis</i> , <i>Quercus rubra</i>) / <i>Ilex montana</i> - <i>Rhododendron catawbiense</i> Forest	Sname changed to: <i>Tsuga canadensis</i> - <i>Betula alleghaniensis</i> / <i>Ilex montana</i> / <i>Rhododendron catawbiense</i> Forest
FLUVIAL TERRACE WOODLANDS: <i>Carya pallida</i> / <i>Quercus margarettae</i> / <i>Opuntia humifusa</i> - <i>Carex umbellata</i> Woodland	Sname changed to: <i>Carya pallida</i> / <i>Quercus margarettae</i> / <i>Vaccinium arboreum</i> / <i>Piptochaetium avenaceum</i> Woodland in the Group: SANDHILL AND FLUVIAL TERRACE WOODLANDS
GRANITIC FLATROCKS: <i>Phemeranthus teretifolius</i> - <i>Minuartia glabra</i> - <i>Diodia teres</i> - <i>Croton willdenowii</i> Herbaceous Vegetation [Granitic Flatrock]	SComName changed to: [Piedmont Granitic Flatrock] in the Group: PIEDMONT GRANITIC FLATROCKS
HIGH-ELEVATION COVE FORESTS: <i>Acer saccharum</i> - <i>Aesculus flava</i> - (<i>Betula alleghaniensis</i> , <i>Fagus grandifolia</i>) / <i>Actaea podocarpa</i> - <i>Dryopteris intermedia</i> Forest	Sname changed to: <i>Acer saccharum</i> - <i>Aesculus flava</i> - <i>Betula alleghaniensis</i> / <i>Caulophyllum thalictroides</i> - <i>Actaea podocarpa</i> - <i>Dryopteris intermedia</i> Forest

Table 3. Changes to Community Types 2013 – 2017 (continued)

Second Approximation ver. 2.5 (2013 list)	Third Approximation ver. 3.0 (2017 list)
HIGH-ELEVATION COVE FORESTS: <i>Betula alleghaniensis</i> - <i>Tsuga canadensis</i> / <i>Rhododendron maximum</i> Forest	Sname changed to: <i>Betula alleghaniensis</i> - (<i>Tsuga canadensis</i>) / <i>Rhododendron maximum</i> Forest
HIGH-ELEVATION OUTCROP BARRENS: <i>Diervilla lonicera</i> - <i>Solidago randii</i> - <i>Avenella flexuosa</i> - <i>Hylotelephium telephioides</i> - <i>Hydatica petiolaris</i> Herbaceous Vegetation	Sname changed to: <i>Diervilla lonicera</i> - <i>Solidago randii</i> - <i>Avenella flexuosa</i> - <i>Hylotelephium telephioides</i> - (<i>Hydatica petiolaris</i> , <i>Sibbaldia tridentata</i>) Herbaceous Vegetation
HIGH-ELEVATION OUTCROP BARRENS: <i>Minuartia groenlandica</i> - <i>Paronychia argyrocoma</i> - <i>Hydatica petiolaris</i> Herbaceous Vegetation [High-Elevation Outcrop Barren (Greenland Stichtwort Igneous / Metamorphic Type)]	SComName changed to: [High-Elevation Outcrop Barren (Greenland Sandwort Igneous / Metamorphic Type)]
HIGH-ELEVATION SEEPAGE SWAMPS: <i>Acer rubrum</i> - (<i>Betula alleghaniensis</i> , <i>Tsuga canadensis</i>) / <i>Rhododendron maximum</i> / <i>Osmundastrum cinnamomeum</i> Forest	Sname changed to: <i>Acer rubrum</i> - <i>Pinus strobus</i> - (<i>Nyssa sylvatica</i> , <i>Tsuga canadensis</i>) / <i>Osmundastrum cinnamomeum</i> Forest in the Group: MOUNTAIN / PIEDMONT SEEPAGE SWAMPS
HIGH-ELEVATION SEEPAGE SWAMPS: <i>Tsuga canadensis</i> - <i>Betula alleghaniensis</i> / <i>Veratrum viride</i> - <i>Carex scabrata</i> - <i>Oclemena acuminata</i> Forest	Sname changed to: <i>Betula alleghaniensis</i> - (<i>Tsuga canadensis</i>) / <i>Veratrum viride</i> - <i>Carex scabrata</i> - <i>Oclemena acuminata</i> Forest in the Group: MOUNTAIN / PIEDMONT SEEPAGE SWAMPS
HIGH-ENERGY TIDAL RIVER SHORES: <i>Schoenoplectus pungens</i> Tidal Herbaceous Vegetation	merged into: <i>Peltandra virginica</i> - <i>Schoenoplectus (pungens, tabernaemontani)</i> Tidal Herbaceous Vegetation
INTERDUNE SWALES AND PONDS: <i>Spartina patens</i> - <i>Fimbristylis (castanea, caroliniana)</i> - <i>Cyperus filicinus</i> - (<i>Schoenoplectus pungens</i>) Herbaceous Vegetation	Sname changed to: <i>Spartina patens</i> - <i>Fimbristylis (castanea, caroliniana)</i> - <i>Cyperus filicinus</i> - <i>Pluchea odorata</i> - (<i>Schoenoplectus pungens</i>) Herbaceous Vegetation
LICHEN / BRYOPHYTE NONVASCULAR BOULDERFIELDS AND OUTCROPS: <i>Lasallia (papulosa, pensylvanica)</i> - <i>Dimelaena oreina</i> - (<i>Melanelia culbersonii</i>) Nonvascular Vegetation [Central Appalachian Low-Elevation Acidic Lichen / Bryophyte Boulderfield]	SComName changed to: [Central Appalachian Low-Elevation Acidic Nonvascular Cliff / Boulderfield]
LICHEN / BRYOPHYTE NONVASCULAR BOULDERFIELDS AND OUTCROPS: <i>Lasallia papulosa</i> - <i>Stereocaulon glaucescens</i> - <i>Chrysothrix chlorina</i> Nonvascular Vegetation [Central Appalachian Mafic Lichen / Bryophyte Boulderfield]	SComName changed to: [Central Appalachian Mafic Nonvascular Cliff / Boulderfield] in the Group: LICHEN / BRYOPHYTE NONVASCULAR CLIFFS AND BOULDERFIELDS
LICHEN / BRYOPHYTE NONVASCULAR BOULDERFIELDS AND OUTCROPS: <i>Umbilicaria mammulata</i> Nonvascular Vegetation [Mountain / Piedmont Mesic Lichen / Bryophyte Cliff]	SComName changed to: [Mountain / Piedmont Mesic Nonvascular Cliff] in the Group: LICHEN / BRYOPHYTE NONVASCULAR CLIFFS AND BOULDERFIELDS
LICHEN / BRYOPHYTE NONVASCULAR BOULDERFIELDS AND OUTCROPS: <i>Umbilicaria muehlenbergii</i> - <i>Lasallia papulosa</i> - (<i>Melanelia stygia</i>) Nonvascular Vegetation [Central Appalachian High-Elevation Acidic Lichen / Bryophyte Boulderfield]	SComName changed to: [Central Appalachian High-Elevation Acidic Nonvascular Boulderfield] in the Group: LICHEN / BRYOPHYTE NONVASCULAR CLIFFS AND BOULDERFIELDS
LOBLOLLY PINE SAVANNAS: <i>Pinus taeda</i> / <i>Schizachyrium scoparium</i> - <i>Eupatorium hyssopifolium</i> - <i>Lespedeza stuevei</i> - <i>Symphytotrichum concolor</i> Woodland	Sname changed to: <i>Pinus taeda</i> / <i>Schizachyrium scoparium</i> Woodland
LOW-ELEVATION BASIC OUTCROP BARRENS: <i>Fraxinus americana</i> - <i>Juniperus virginiana</i> / <i>Opuntia humifusa</i> - <i>PheMERANTHUS teretifolius</i> - <i>Polygonum tenue</i> Wooded Herbaceous Vegetation	Sname changed to: <i>Fraxinus americana</i> - <i>Juniperus virginiana</i> / <i>Opuntia humifusa</i> - <i>PheMERANTHUS (teretifolius, piedmontanus)</i> Wooded Herbaceous Vegetation in the Group: LOW-ELEVATION OUTCROP BARRENS
LOW-ELEVATION BASIC OUTCROP BARRENS: <i>Quercus stellata</i> / <i>Schizachyrium scoparium</i> - <i>Sorghastrum nutans</i> - <i>Pycnanthemum tenuifolium</i> - <i>Packera paupercula</i> var. <i>paupercula</i> Wooded Herbaceous Vegetation	Sname changed to: <i>Quercus stellata</i> / <i>Schizachyrium scoparium</i> - <i>Andropogon gerardii</i> - <i>Pycnanthemum tenuifolium</i> - <i>Packera paupercula</i> var. <i>paupercula</i> Wooded Herbaceous Vegetation in the Group: LOW-ELEVATION OUTCROP BARRENS

Table 3. Changes to Community Types 2013 – 2017 (continued)

Second Approximation ver. 2.5 (2013 list)	Third Approximation ver. 3.0 (2017 list)
<p>LOW-ELEVATION BOULDERFIELD FORESTS AND WOODLANDS: <i>Acer saccharum</i> - <i>Tilia americana</i> / <i>Staphylea trifolia</i> / <i>Dryopteris marginalis</i> - (<i>Impatiens pallida</i>) Forest</p>	<p>Sname changed to: <i>Acer (saccharum, nigrum)</i> - <i>Tilia americana</i> / <i>Staphylea trifolia</i> / <i>Dryopteris marginalis</i> - (<i>Impatiens pallida</i>) Forest in the Group: LOW-ELEVATION BOULDERFIELD FORESTS</p>
<p>MAFIC FENS AND SEEPS: <i>Alnus serrulata</i> - <i>Lyonia ligustrina</i> - <i>Spiraea tomentosa</i> / <i>Calamagrostis canadensis</i> - <i>Sanguisorba canadensis</i> - <i>Scirpus expansus</i> Shrubland [Southern Blue Ridge Mafic Fen (Tall Shrub Type)]</p>	<p>Sname and SComName changed to: (<i>Alnus serrulata</i>) / <i>Sanguisorba canadensis</i> - <i>Scirpus expansus</i> Shrub Herbaceous Vegetation [Southern Blue Ridge Mafic Fen (Woodland Bulrush Type)]</p>
<p>MAFIC FENS AND SEEPS: <i>Alnus serrulata</i> / <i>Sanguisorba canadensis</i> - <i>Helenium brevifolium</i> - <i>Parnassia grandifolia</i> - <i>Eleocharis tenuis</i> Shrubland</p>	<p>Sname changed to: (<i>Alnus serrulata</i>) / <i>Sanguisorba canadensis</i> - <i>Helenium brevifolium</i> - <i>Parnassia grandifolia</i> - <i>Eleocharis tenuis</i> Shrub Herbaceous Vegetation</p>
<p>MAFIC FENS AND SEEPS: <i>Spiraea latifolia</i> - <i>Cornus racemosa</i> / <i>Calamagrostis canadensis</i> - <i>Sanguisorba canadensis</i> - <i>Carex scoparia</i> Shrub Herbaceous Vegetation</p>	<p>Sname changed to: (<i>Spiraea latifolia</i>, <i>Cornus racemosa</i>) / <i>Calamagrostis canadensis</i> - <i>Sanguisorba canadensis</i> - <i>Carex scoparia</i> Shrub Herbaceous Vegetation</p>
<p>MARITIME DUNE GRASSLANDS: <i>Ammophila breviligulata</i> - <i>Panicum amarum</i> Herbaceous Vegetation</p>	<p>Sname changed to: <i>Ammophila breviligulata</i> - <i>Panicum amarum</i> var. <i>amarum</i> Herbaceous Vegetation</p>
<p>MARITIME DUNE WOODLANDS: <i>Juniperus virginiana</i> / <i>Morella pensylvanica</i> Woodland [Maritime Eastern Red - Cedar Dune Woodland]</p>	<p>SComName changed to: [Maritime Eastern Red Cedar Dune Woodland]</p>
<p>MARITIME SWAMPS: <i>Acer rubrum</i> - <i>Nyssa (biflora, sylvatica)</i> / <i>Morella cerifera</i> / <i>Leersia (oryzoides, virginica)</i> Forest</p>	<p>Sname changed to: <i>Acer rubrum</i> - <i>Nyssa (biflora, sylvatica)</i> / <i>Morella cerifera</i> / <i>Woodwardia areolata</i> Forest</p>
<p>MARITIME SWAMPS: <i>Salix nigra</i> Forest</p>	<p>Sname changed to: <i>Salix nigra</i> / <i>Pericaria punctata</i> - <i>Boehmeria cylindrica</i> Forest</p>
<p>MARITIME UPLAND FORESTS: <i>Pinus taeda</i> - (<i>Quercus falcata</i>, <i>Prunus serotina</i>) / <i>Morella cerifera</i> / <i>Vitis rotundifolia</i> Forest [Maritime Loblolly Pine Forest]</p>	<p>SComName changed to: [Maritime Loblolly Pine - Hardwood Forest]</p>
<p>MARITIME UPLAND FORESTS: <i>Quercus nigra</i> - <i>Pinus taeda</i> - <i>Carya pallida</i> - (<i>Fagus grandifolia</i>) / <i>Symplocos tinctoria</i> / <i>Gelsemium sempervirens</i> Forest</p>	<p>Sname changed to: <i>Quercus nigra</i> - <i>Pinus taeda</i> - <i>Carya pallida</i> / <i>Persea palustris</i> / <i>Symplocos tinctoria</i> / <i>Gelsemium sempervirens</i> Forest</p>
<p>MONTANE DEPRESSION WETLANDS: (<i>Cephalanthus occidentalis</i>) / <i>Dulichium arundinaceum</i> - (<i>Pericaria hydropiperoides</i>, <i>Glyceria acutiflora</i>, <i>Proserpinaca palustris</i>) Shrub Herbaceous Vegetation</p>	<p>Sname changed to: <i>Cephalanthus occidentalis</i> / <i>Dulichium arundinaceum</i> - (<i>Pericaria hydropiperoides</i>, <i>Glyceria acutiflora</i>, <i>Proserpinaca palustris</i>) Shrub Herbaceous Vegetation in the Group: MONTANE DEPRESSION SWAMPS AND PONDS</p>
<p>MONTANE DEPRESSION WETLANDS: <i>Nyssa sylvatica</i> - <i>Acer rubrum</i> / <i>Vaccinium erythrocarpum</i> / <i>Osmundastrum cinnamomeum</i> Forest</p>	<p>Sname changed to: <i>Nyssa sylvatica</i> - <i>Acer rubrum</i> / <i>Rubus hispidus</i> - <i>Osmundastrum cinnamomeum</i> Forest in the Group: MONTANE DEPRESSION SWAMPS AND PONDS</p>
<p>MONTANE DEPRESSION WETLANDS: <i>Quercus alba</i> / <i>Pericaria hydropiperoides</i> - <i>Lysimachia lanceolata</i> Wooded Herbaceous Vegetation</p>	<p>Sname changed to: <i>Quercus alba</i> - <i>Nyssa sylvatica</i> / <i>Pericaria hydropiperoides</i> - <i>Lysimachia lanceolata</i> Wooded Herbaceous Vegetation in the Group: MONTANE DEPRESSION SWAMPS AND PONDS</p>
<p>MONTANE DRY CALCAREOUS FORESTS AND WOODLANDS: <i>Fraxinus americana</i> - <i>Carya ovata</i> / <i>Frangula caroliniana</i> / <i>Helianthus hirsutus</i> - (<i>Polymnia canadensis</i>) Forest</p>	<p>Sname changed to: <i>Fraxinus americana</i> - <i>Carya ovata</i> - <i>Quercus rubra</i> / <i>Frangula caroliniana</i> / <i>Helianthus hirsutus</i> Forest in the Group: MONTANE DRY AND DRY-MESIC CALCAREOUS FORESTS</p>
<p>MONTANE DRY CALCAREOUS FORESTS AND WOODLANDS: <i>Juniperus virginiana</i> - <i>Quercus muehlenbergii</i> / <i>Rhus aromatica</i> / <i>Pellaea atropurpurea</i> Woodland [Central Appalachian Chinquapin Oak - Eastern Red - Cedar Woodland]</p>	<p>SComName changed to: [Central Appalachian Chinquapin Oak - Eastern Red Cedar Woodland] in the Group: LIMESTONE / DOLOMITE WOODLANDS AND BARRENS</p>

Table 3. Changes to Community Types 2013 – 2017 (continued)

Second Approximation ver. 2.5 (2013 list)	Third Approximation ver. 3.0 (2017 list)
MONTANE DRY CALCAREOUS FORESTS AND WOODLANDS: <i>Quercus muehlenbergii</i> - <i>Acer (nigrum, saccharum)</i> / <i>Ostrya virginiana</i> / <i>Erigeron pulchellus</i> - <i>Packera obovata</i> Forest	Sname changed to: <i>Quercus muehlenbergii</i> - <i>Acer saccharum</i> / <i>Ostrya virginiana</i> - <i>Cercis canadensis</i> / <i>Erigeron pulchellus</i> - <i>Packera obovata</i> Forest in the Group: MONTANE DRY AND DRY-MESIC CALCAREOUS FORESTS
MONTANE DRY CALCAREOUS FORESTS AND WOODLANDS: <i>Quercus shumardii</i> - <i>Quercus muehlenbergii</i> / <i>Juniperus virginiana</i> - <i>Viburnum rufidulum</i> / <i>Sanicula odorata</i> - <i>Bignonia capreolata</i> Forest	Sname changed to: <i>Quercus muehlenbergii</i> - <i>Quercus (shumardii, stellata)</i> / <i>Juniperus virginiana</i> - <i>Viburnum rufidulum</i> / <i>Bignonia capreolata</i> Forest in the Group: MONTANE DRY AND DRY-MESIC CALCAREOUS FORESTS
MOUNTAIN / PIEDMONT ACIDIC WOODLANDS: <i>Pinus echinata</i> - <i>Quercus montana</i> - <i>Carya tomentosa</i> / <i>Sorghastrum nutans</i> - <i>Pityopsis graminifolia</i> var. <i>latifolia</i> - <i>Solidago odora</i> Woodland	Sname changed to: <i>Pinus echinata</i> - <i>Quercus (montana, stellata)</i> / <i>Vaccinium pallidum</i> / <i>Sorghastrum nutans</i> - <i>Pityopsis graminifolia</i> var. <i>latifolia</i> Woodland
MOUNTAIN / PIEDMONT ACIDIC WOODLANDS: <i>Pinus rigida</i> - <i>Quercus montana</i> / <i>Gaylussacia baccata</i> / <i>Carex pensylvanica</i> Woodland	Sname changed to: <i>Pinus (rigida, virginiana)</i> / <i>Gaylussacia baccata</i> / (<i>Carex pensylvanica</i> , <i>Danthonia spicata</i>) Woodland
MOUNTAIN / PIEDMONT CALCAREOUS CLIFFS: <i>Hydrangea arborescens</i> / <i>Sedum ternatum</i> - <i>Polypodium virginianum</i> Shrubland [Piedmont / Mountain Mafic / Calcareous Cliff]	SComName changed to: [Piedmont / Central Appalachian Mafic / Calcareous Cliff] in the Group: MOUNTAIN / PIEDMONT CLIFFS
MOUNTAIN / PIEDMONT CALCAREOUS CLIFFS: <i>Thuja occidentalis</i> / <i>Carex eburnea</i> - <i>Sedum glaucophyllum</i> Woodland	Sname changed to: <i>Thuja occidentalis</i> / <i>Carex eburnea</i> - <i>Pellaea atropurpurea</i> Woodland in the Group: MOUNTAIN / PIEDMONT CLIFFS
NORTHERN HARDWOOD FORESTS: <i>Fagus grandifolia</i> - <i>Tsuga canadensis</i> / <i>Dryopteris intermedia</i> Forest [Allegheny Mountain Beech - Hemlock Forest]	SComName changed to: [Northeastern Dry-Mesic Beech - Hemlock Forest]
NORTHERN HARDWOOD FORESTS: <i>Prunus serotina</i> - <i>Acer saccharum</i> - <i>Fagus grandifolia</i> / <i>Carex digitalis</i> - (<i>Demstaedtia punctilobula</i>) Forest	Sname changed to: <i>Prunus serotina</i> - <i>Acer saccharum</i> - <i>Fagus grandifolia</i> / <i>Carex digitalis</i> - <i>Demstaedtia punctilobula</i> Forest
PEATLAND ATLANTIC WHITE CEDAR FORESTS: <i>Chamaecyparis thyoides</i> / <i>Lyonia lucida</i> - <i>Ilex coriacea</i> / <i>Osmundastrum cinnamomeum</i> Forest	Sname changed to: <i>Chamaecyparis thyoides</i> / <i>Persea palustris</i> / <i>Lyonia lucida</i> - <i>Ilex coriacea</i> / <i>Osmundastrum cinnamomeum</i> Forest in the Group: PEATLAND ATLANTIC WHITE-CEDAR FORESTS
PIEDMONT / COASTAL PLAIN OAK - BEECH / HEATH FORESTS: <i>Fagus grandifolia</i> - <i>Quercus (alba, velutina, montana)</i> / <i>Kalmia latifolia</i> Forest	Sname changed to: <i>Fagus grandifolia</i> - <i>Quercus (alba, montana, rubra)</i> / <i>Kalmia latifolia</i> Forest in the Group: COASTAL PLAIN / PIEDMONT OAK - BEECH / HEATH FORESTS
PIEDMONT / MOUNTAIN FLOODPLAIN FORESTS: <i>Acer saccharum</i> - <i>Fraxinus americana</i> - <i>Carya cordiformis</i> / <i>Erythronium americanum</i> Forest	Sname changed to: <i>Acer saccharum</i> - <i>Fraxinus americana</i> - <i>Liriodendron tulipifera</i> / <i>Acer negundo</i> / <i>Asarum canadense</i> Forest in the Group: PIEDMONT / MOUNTAIN FLOODPLAIN FORESTS AND SWAMPS
PIEDMONT / MOUNTAIN SMALL-STREAM ALLUVIAL FORESTS: <i>Betula alleghaniensis</i> / (<i>Rhododendron maximum</i>) / <i>Parathelypteris noveboracensis</i> - <i>Viola macloskeyi</i> - <i>Scutellaria lateriflora</i> Forest	Sname changed to: <i>Betula alleghaniensis</i> / <i>Rhododendron maximum</i> / <i>Parathelypteris noveboracensis</i> - <i>Viola macloskeyi</i> var. <i>pallens</i> Forest
PIEDMONT / MOUNTAIN SMALL-STREAM ALLUVIAL FORESTS: <i>Liriodendron tulipifera</i> - <i>Acer (rubrum, negundo)</i> - (<i>Platanus occidentalis</i>) / <i>Carpinus caroliniana</i> / <i>Persicaria virginiana</i> Forest	Sname changed to: <i>Liriodendron tulipifera</i> - <i>Acer negundo</i> - (<i>Platanus occidentalis</i>) / <i>Carpinus caroliniana</i> / <i>Persicaria virginiana</i> Forest
PIEDMONT / MOUNTAIN SMALL-STREAM ALLUVIAL FORESTS: <i>Liriodendron tulipifera</i> - <i>Pinus strobus</i> - (<i>Tsuga canadensis</i>) / <i>Carpinus caroliniana</i> / <i>Amphicarpaea bracteata</i> Forest	Sname changed to: <i>Liriodendron tulipifera</i> - <i>Pinus strobus</i> - <i>Quercus alba</i> - (<i>Tsuga canadensis</i>) / <i>Carpinus caroliniana</i> / <i>Amphicarpaea bracteata</i> Forest
ROCKY BARS AND SHORES: <i>Platanus occidentalis</i> - <i>Acer saccharinum</i> - <i>Betula nigra</i> - <i>Fraxinus pennsylvanica</i> / <i>Boehmeria cylindrica</i> - <i>Carex emoryi</i> Woodland	Sname changed to: <i>Platanus occidentalis</i> - <i>Acer saccharinum</i> - <i>Ulmus americana</i> - <i>Fraxinus pennsylvanica</i> / <i>Boehmeria cylindrica</i> - <i>Carex emoryi</i> Woodland

Table 3. Changes to Community Types 2013 – 2017 (continued)

Second Approximation ver. 2.5 (2013 list)	Third Approximation ver. 3.0 (2017 list)
SALT FLATS: <i>(Salicornia virginica, Salicornia bigelovii, Sarcocornia pacifica)</i> Herbaceous Vegetation	Sname changed to: <i>(Salicornia virginica, Salicornia bigelovii, Sarcocornia pacifica) - Spartina alterniflora</i> Herbaceous Vegetation
SEA-LEVEL FENS: <i>Cladium mariscoides - Drosera intermedia - Eleocharis rostellata</i> Herbaceous Vegetation	Sname changed to: <i>Cladium mariscoides - Drosera intermedia - Rhynchospora alba</i> Herbaceous Vegetation
SEMIPERMANENT IMPOUNDMENTS: <i>Peltandra virginica - Alisma subcordatum - Leersia oryzoides</i> Herbaceous Vegetation [Pickerelweed Impoundment Marsh]	SComName changed to: [Arrow-Arum Impoundment Marsh]
SOUTHERN APPALACHIAN SHRUB AND GRASS BALDS: <i>Kalmia latifolia - Rhododendron catawbiense - Gaylussacia baccata</i> Shrubland	Sname changed to: <i>Kalmia latifolia - Rhododendron catawbiense - Gaylussacia baccata - (Vaccinium corymbosum)</i> Shrubland
SPRUCE AND FIR FORESTS: <i>Picea rubens - Betula alleghaniensis / Rhododendron (maximum, catawbiense)</i> Forest [Southern Appalachian Red Spruce - Northern Hardwood Forest (Evergreen Shrub Type)]	SComName changed to: [Southern Appalachian Red Spruce - Northern Hardwood Forest / Rhododendron Forest]
TIDAL BALD CYPRESS FORESTS AND WOODLANDS: <i>Taxodium distichum - Nyssa biflora - (Pinus taeda) / Morella cerifera / Osmunda spectabilis</i> Tidal Forest [Wind-Tidal Bald Cypress - Tupelo Swamp]	Sname and SComName changed to: <i>Nyssa biflora - (Taxodium distichum, Pinus taeda) / Morella cerifera / Osmunda spectabilis</i> Tidal Forest [Wind-Tidal Tupelo - Bald Cypress Swamp] in the Group: TIDAL SWAMP FORESTS AND WOODLANDS
TIDAL BALD CYPRESS FORESTS AND WOODLANDS: <i>Taxodium distichum - Nyssa biflora - Fraxinus profunda / Peltandra virginica - (Bignonia capreolata)</i> Tidal Forest	Sname changed to: <i>Taxodium distichum - (Nyssa biflora, Fraxinus pennsylvanica) / Pontederia cordata</i> Tidal Forest in the Group: TIDAL SWAMP FORESTS AND WOODLANDS
TIDAL FRESHWATER MARSHES: <i>Eleocharis palustris - Orontium aquaticum</i> Tidal Herbaceous Vegetation	merged into: <i>Impatiens capensis - Persicaria arifolia - Peltandra virginica - (Typha angustifolia)</i> Tidal Herbaceous Vegetation
TIDAL FRESHWATER MARSHES: <i>Nuphar advena - Peltandra virginica</i> Tidal Herbaceous Vegetation	merged into: <i>Peltandra virginica - Pontederia cordata</i> Tidal Herbaceous Vegetation
TIDAL FRESHWATER MARSHES: <i>Peltandra virginica - (Pontederia cordata)</i> Tidal Herbaceous Vegetation	Sname changed to: <i>Peltandra virginica - Pontederia cordata</i> Tidal Herbaceous Vegetation
TIDAL HARDWOOD SWAMPS: <i>(Fraxinus profunda, Nyssa biflora) / Agalinis purpurea - Rhynchospora macrostachya</i> Tidal Wooded Herbaceous Vegetation	moved to a successional / modified class in the Group: SUCCESSIONAL / MODIFIED TIDAL SWAMPS
TIDAL HARDWOOD SWAMPS: <i>Fraxinus profunda - Nyssa biflora - (Fraxinus pennsylvanica) / Ilex verticillata / Persicaria arifolia</i> Tidal forest	Sname changed to: <i>Nyssa biflora - Fraxinus profunda - (Fraxinus pennsylvanica) / Ilex verticillata / Persicaria arifolia</i> Tidal Forest
TIDAL HARDWOOD SWAMPS: <i>Nyssa biflora / Alnus serrulata - Cephalanthus occidentalis</i> Tidal Woodland	moved to a successional / modified class in the Group: SUCCESSIONAL / MODIFIED TIDAL SWAMPS
TIDAL MESOHALINE AND POLYHALINE MARSHES: <i>Bolboschoenus robustus - Spartina alterniflora</i> Tidal Herbaceous Vegetation [Riverine Salt Marsh (Saltmarsh Bulrush - Saltmarsh Cordgrass Type)]	Sname and SComName changed to: <i>Spartina alterniflora - Spartina cynosuroides - Bolboschoenus robustus</i> Tidal Herbaceous Vegetation [Riverine Salt Marsh (Saltmarsh Cordgrass - Saltmarsh Bulrush Type)]
TIDAL MESOHALINE AND POLYHALINE MARSHES: <i>Spartina alterniflora - Distichlis spicata</i> Tidal Herbaceous Vegetation [Low Salt Marsh (Saltmarsh Cordgrass - Salt Grass Type)]	Sname and SComName changed to: <i>Spartina alterniflora - Distichlis spicata - (Spartina patens)</i> Tidal Herbaceous Vegetation [Low Salt Marsh (Salt Panne Type)]
TIDAL MESOHALINE AND POLYHALINE MARSHES: <i>Spartina alterniflora - Spartina cynosuroides</i> Tidal Herbaceous Vegetation	merged into: <i>Spartina alterniflora - Spartina cynosuroides - Bolboschoenus robustus</i> Tidal Herbaceous Vegetation

Table 3. Changes to Community Types 2013 – 2017 (continued)

Second Approximation ver. 2.5 (2013 list)	Third Approximation ver. 3.0 (2017 list)
TIDAL MESOHALINE AND POLYHALINE MARSHES: <i>Spartina alterniflora</i> - <i>Spartina patens</i> Tidal Herbaceous Vegetation	merged into: <i>Spartina alterniflora</i> Tidal Herbaceous Vegetation
TIDAL OLIGOHALINE MARSHES: <i>Schoenoplectus americanus</i> - <i>Spartina patens</i> Tidal Herbaceous Vegetation [Tidal Oligohaline Marsh (Saltmeadow Cordgrass - Olney Three-Square Low Interior Marsh Type)]	SComName changed to: [Tidal Oligohaline Marsh (Saltmeadow Cordgrass - Olney Threesquare Low Interior Marsh Type)]
UPLAND DEPRESSION SWAMPS: <i>Quercus palustris</i> - <i>Acer rubrum</i> - <i>Liquidambar styraciflua</i> / <i>Vaccinium (fuscatum, formosum)</i> Forest [Outer Piedmont / Inner Coastal Plain Upland Depression Swamp (Pin Oak / Highbush Blueberry Type)]	SComName changed to: [Northern Piedmont Acidic Upland Depression Swamp] in the Group: PIEDMONT UPLAND DEPRESSION SWAMPS
UPLAND DEPRESSION SWAMPS: <i>Quercus palustris</i> - <i>Quercus bicolor</i> / <i>Viburnum prunifolium</i> / <i>Leersia virginica</i> - <i>Impatiens capensis</i> Forest	Sname changed to: <i>Quercus palustris</i> - <i>Quercus bicolor</i> / <i>Viburnum prunifolium</i> / <i>Cinna arundinacea</i> - <i>Leersia virginica</i> Forest in the Group: PIEDMONT UPLAND DEPRESSION SWAMPS
WIND-TIDAL OLIGOHALINE MARSHES: <i>Eleocharis fallax</i> - <i>Sagittaria lancifolia</i> - <i>Persicaria punctata</i> Tidal Herbaceous Vegetation	Sname changed to: <i>Eleocharis fallax</i> - <i>Sagittaria lancifolia</i> - <i>Hibiscus moscheutos</i> - (<i>Schoenoplectus americanus</i> , <i>Eleocharis rostellata</i>) Tidal Herbaceous Vegetation
WIND-TIDAL OLIGOHALINE MARSHES: <i>Eleocharis rostellata</i> - (<i>Eleocharis fallax</i>) Tidal Herbaceous Vegetation	merged into: <i>Eleocharis fallax</i> - <i>Sagittaria lancifolia</i> - <i>Hibiscus moscheutos</i> - (<i>Schoenoplectus americanus</i> , <i>Eleocharis rostellata</i>) Tidal Herbaceous Vegetation
WIND-TIDAL OLIGOHALINE MARSHES: <i>Sagittaria lancifolia</i> - <i>Osmunda spectabilis</i> - <i>Cladium (mariscoides, jamaicense)</i> Tidal Herbaceous Vegetation	merged into: <i>Eleocharis fallax</i> - <i>Sagittaria lancifolia</i> - <i>Hibiscus moscheutos</i> - (<i>Schoenoplectus americanus</i> , <i>Eleocharis rostellata</i>) Tidal Herbaceous Vegetation
WIND-TIDAL OLIGOHALINE MARSHES: <i>Spartina cynosuroides</i> - <i>Schoenoplectus americanus</i> - <i>Persicaria hydropiperoides</i> Tidal Herbaceous Vegetation	Sname changed to: <i>Spartina cynosuroides</i> - <i>Schoenoplectus americanus</i> - <i>Sagittaria lancifolia</i> Tidal Herbaceous Vegetation

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 over 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/biodiversity-science/publications/natureserve-conservation-status-assessments-methodology-assigning>

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	58	18%	S1 - Critically imperiled	114	37%
G2 – Imperiled	74	24%	S2 – Imperiled	57	18%
G3 – Vulnerable	77	25%	S3 – Vulnerable	68	22%
G4 - Apparently secure	56	18%	S4 - Apparently secure	26	8%
G5 – Secure	16	5%	S5 – Secure	4	1%
GNR - not yet ranked	19	6%	SU – currently unrankable	37	12%
No Global equivalent	7	2%	SX – Extirpated	2	<1%

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