

# Natural Communities of Piedmont Ecoregion

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Ecosystems are often separated into three categories: uplands are moderately to well-drained; prairies, glades, barrens and rock outcrops are relatively open sites; and wetlands are poorly to somewhat poorly drained.

**Upland Forest communities** include the following natural communities. Characteristic plants in each community are listed in the chart below.

- **Mesic forests:** Deciduous hardwood forests that occur on mesic sites, such as lower slopes, steep, north-facing slopes, ravines, well-drained stream bottoms, and some high stream terraces. American beech is typically an indicator species; basswood, northern red oak, and tulip-tree are other common species.
- **Oak-Pine-Hickory Forests: Upland Communities.** Forests that occur on xeric to submesic sites. White oak, southern red oak, pignut hickory, mockernut hickory, shortleaf pine, and loblolly pine are especially common.
- **Pine-Oak Woodlands & Forests:** Small-patch woodlands and forests that occur on xeric to dry sites (rarely submesic), typically on sharp ridges or on slopes with stony, thin soils. Typical species include a mix of dry-site oaks and pines, including blackjack oak, post oak, scarlet oak, rock chestnut oak, black oak, shortleaf pine, and loblolly pine.
- **Montane Longleaf Pine Woodlands & Forests:** Woodlands and forests that are dominated by longleaf pine and xeric (dry-site) oaks. They occur infrequently on steep, rocky slopes scattered throughout the lower, central, and western Piedmont.

## Upland Forests and Woodlands Communities

		Mesic Forests	Oak-Pine-Hickory Forests	Pine-Oak Woodlands & Forests	Montane Longleaf Pine Woodlands & Forests
<b>Trees</b>					
<i>Acer floridanum</i>	Southern sugar maple	x			
<i>Asimina triloba</i>	Paw paw	x			
<i>Carpinus caroliniana</i>	Musclewood	x			
<i>Carya glabra</i>	Pignut hickory		x		
<i>Carya ovalis</i>	Red or false hickory		x		
<i>Carya ovata</i>	Shagbark hickory		x		
<i>Carya pallida</i>	Sand hickory		x	x	
<i>Carya tomentosa</i>	Mockernut hickory		x		
<i>Cornus florida</i>	Flowering dogwood		x		
<i>Fagus grandifolia</i>	American beech	x			
<i>Halesia tetraptera</i>	Common silverbell	x			
<i>Liriodendron tulipifera</i>	Tulip poplar	x			
<i>Magnolia macrophylla</i>	Bigleaf magnolia	x			
<i>Magnolia tripetala</i>	Umbrella magnolia	x			
<i>Ostrya virginiana</i>	Hophornbeam	x			
<i>Oxydendrum arboreum</i>	Sourwood		x	x	
<i>Pinus echinata</i>	Shortleaf pine		x	x	x
<i>Pinus palustris</i>	Longleaf pine				x
<i>Pinus taeda</i>	Loblolly pine		x	x	
<i>Quercus alba</i>	White oak		x		
<i>Quercus coccinea</i>	Scarlet oak		x	x	x
<i>Quercus falcata</i>	Southern red oak		x	x	x
<i>Quercus marilandica</i>	Blackjack oak			x	x
<i>Quercus montana (Q. prinus)</i>	Chestnut oak		x	x	x
<i>Quercus rubra</i>	Northern red oak	x			
<i>Quercus stellata</i>	Post oak			x	x
<i>Quercus velutina</i>	Black oak		x	x	
<i>Tilia americana</i>	Basswood	x			
<b>Shrubs</b>					
<i>Aesculus pavia</i>	Red buckeye	x			

<i>Aesculus sylvatica</i>	Georgia buckeye	x			
<i>Asimina parviflora</i>	Dwarf paw paw		x		
<i>Euonymus americanus</i>	Strawberry bush	x	x		
<i>Hydrangea arborescens</i>	Smooth hydrangea	x			
<i>Kalmia latifolia</i>	Mountain laurel	x	x		
<i>Lindera benzoin</i>	Spicebush	x			
<i>Rhododendron canescens</i>	Piedmont azalea	x			
<i>Rhododendron flammeum</i>	Oconee azalea		x		
<i>Rhus</i> spp.	Sumacs			x	
<i>Rubus</i> spp.	Blackberries				x
<i>Vaccinium arboreum</i>	Sparkleberry		x	x	x
<i>Vaccinium pallidum</i>	Upland low blueberries		x	x	x
<i>Vaccinium stamineum</i>	Deerberry		x	x	x
<b>Vines</b>					
<i>Smilax</i> spp.	Greenbriers		x		
<i>Vitis rotundifolia</i>	Muscadine		x		
<b>Ferns</b>					
<i>Botrypus virginianus</i>	Rattlesnake fern	x			
<i>Phegopteris hexagonoptera</i>	Broad beech fern	x			
<i>Pteridium aquilinum</i>	Bracken fern				x
<b>Herbaceous</b>					
<i>Actaea racemosa</i>	Common black-cohosh	x			
<i>Anemone americana</i>	Round-lobed hepatica	x			
<i>Apocynum cannabinum</i>	Hemp dogbane				x
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	x			
<i>Cardamine</i> spp.	Toothworts	x			
<i>Chamaelirium luteum</i>	Devil's-bit, fairywand	x			
<i>Chimaphila maculata</i>	Pipsissewa		x		
<i>Chrysopsis graminifolia</i>	Maryland golden-aster			x	
<i>Chrysopsis mariana</i>	Maryland golden-aster				x
<i>Clitoria mariana</i>	Spurred butterfly pea		x		
<i>Coreopsis major</i>	Whorled-leaf coreopsis				x
<i>Dioscorea villosa</i>	Wild yam		x		
<i>Elephantopus tomentosus</i>	Elephant's foot		x		x
<i>Erythronium umbilicatum</i>	Dimpled trout lily	x			
<i>Eupatorium capillifolium</i>	Dogfennel				x
<i>Eupatorium perfoliatum</i>	Common boneset				x
<i>Euphorbia corollata</i>	Flowering spurge		x		
<i>Geranium maculatum</i>	Wild geranium	x			

<i>Goodyera pubescens</i>	Rattlesnake plantain		x		
<i>Helianthus</i> spp.	Sunflowers			x	x
<i>Hexastylis arifolia</i>	Little brown jugs		x		
<i>Hieracium venosum</i>	Veiny hawkweed		x	x	
<i>Hypericum</i> spp.	St. John's worts				x
<i>Hypoxis hirsuta</i>	Yellow stargrass		x		x
<i>Lespedeza</i> spp.	Bush clovers			x	x
<i>Liatris</i> spp.	Blazing stars				x
<i>Mimosa microphylla</i>	Eastern sensitive briar				x
<i>Packera anonyma</i>	Appalachian ragwort				x
<i>Panax quinquefolia</i>	Ginseng *				
<i>Parthenium integrifolium</i>	Common wild quinine			x	x
<i>Pityopsis graminifolia</i>	Silkgrass			x	x
<i>Podophyllum peltatum</i>	Mayapple	x			
<i>Sanguinaria canadensis</i>	Bloodroot	x			
<i>Solidago odora</i>	Anise-scented goldenrod		x	x	
<i>Solidago</i> spp.	Goldenrods				x
<i>Stylosanthes biflora</i>	Pencil-flower			x	
<i>Symphiotrichum</i> spp.	Asters			x	
<i>Tephrosia virginiana</i>	Goat's-rue			x	x
<i>Tiarella wherryi</i>	Foamflower	x			
<i>Trillium cuneatum</i>	Sweet Betsy	x			
<i>Viola pedata</i>	Bird's-foot violet			x	x
<b>Grasses</b>					
<i>Andropogon</i> spp.	Broomsedges				x
<i>Andropogon virginicus</i>	Broomsedge			x	
<i>Danthonia</i> spp.	Witchgrasses			x	x
<i>Dichanthelium</i> spp.	Rosette grasses				x
<i>Piptochaetium avenaceum</i>	Black-seeded needlegrass			x	
<i>Schizachyrium scoparium</i>	Little bluestem			x	x
<i>Sorghastrum nutans</i>	Yellow Indiangrass			x	

**Prairies, Glades, Barrens, and Rock Outcrops** include the following natural communities. Characteristic plants in each community are listed in the chart below.

- Prairies and Savannas:** Savannas are areas where the herbaceous vegetation dominates and trees beyond the sapling stage are infrequent and widely spaced. Prairies occur where no trees beyond the sapling stage are present. Soils are deeper

than those of the glade, barren, and woodland natural community. This natural community requires fire and may have been more extensive in the past.

- **Glade, Barrens, and Woodlands:** A mosaic of herbaceous or shrub-dominated vegetation with occasional stunted trees that occur on rocky, shallow soils that are interspersed with large expanses of rock outcroppings. They differ from granite outcrops by having substrates that have more joints that support more vegetation and have fewer depressional soil islands. They are small-patch.
- **Granite Outcrops:** Large expanses of smooth, bare rock (granite or granitic gneiss), interspersed with islands of vegetation. Some of these communities occur on dome-like outcrops up to a few hundred feet high; others develop on flatrock expanses with little topographic prominence. They are small-patch.
- **Ultramafic Barrens and Woodlands.** A mosaic of barrens and woodlands that occur on large outcroppings of ultramafic rock. The only known Piedmont example is the Burks Mountain Complex. They are small-patch.
- **Cliffs, Bluffs, and Outcrops.** Fairly vertical cliffs or large outcrops that often form river bluffs. Sparse vegetation is limited to small microsites within a cliff or bluff. They are small-patch.

**Prairies, Glades, Barrens, and Rock Outcrops Communities**

		Prairies & Savannas	Glades, Barrens & Woodlands	Granite Outcrops	Ultramafic Barrens & Woodlands	Cliffs, Bluffs, & Outcrops
<b>Trees</b>						
<i>Amelanchier arborea</i>	Serviceberry			x		x
<i>Celtis tenuifolia</i>	Dwarf hackberry		x			
<i>Juniperus virginiana</i>	Eastern red cedar		x	x		x
<i>Pinus echinata</i>	Shortleaf pine		x		x	x
<i>Pinus palustris</i>	Longleaf pine				x	
<i>Pinus taeda</i>	Loblolly pine			x	x	
<i>Pinus virginiana</i>	Virginia pine					x
<i>Quercus falcata</i>	Southern red oak					x
<i>Quercus georgiana</i>	Georgia oak			x		
<i>Quercus marilandica</i>	Blackjack oak		x		x	x
<i>Quercus montana</i>	Rock chestnut oak		x			x

<i>Quercus stellata</i>	Post oak		x		x	x
<i>Ulmus alata</i>	Winged elm					x
<b>Shrubs</b>						
<i>Chionanthus virginicus</i>	Fringe tree		x	x		x
<i>Clinopodium georgianum</i>	Georgia calamint				x	
<i>Kalmia latifolia</i>	Mountain laurel					x
<i>Ptelea trifoliata</i>	Wafer-ash		x			
<i>Rhododendron minus</i>	Gorge rhododendron					x
<i>Rhus aromatica</i>	Fragrant sumac				x	
<i>Rhus copallina</i>	Eastern winged sumac			x	x	
<i>Rhus</i> spp.	Sumacs		x			
<i>Rubus cuneifolius</i>	Sand blackberry				x	
<i>Vaccinium arboreum</i>	Sparkleberry		x	x		x
<i>Vaccinium pallidum</i>	Hillside blueberry		x			
<i>Yucca filamentosa</i>	Curly-leaf yucca		x	x		
<b>Vines</b>						
<i>Gelsemium sempervirens</i>	Carolina jessamine				x	
<i>Smilax</i> spp.	Greenbriers			X		
<b>Ferns</b>						
<i>Asplenium platyneuron</i>	Ebony spleenwort					x
<i>Cheilanthes lanosa</i>	Hairy lipfern					x
<i>Cheilanthes</i> spp.	Lipferns		x			
<i>Dryopteris marginalis</i>	Marginal wood-fern					x
<i>Polypodium virginianum</i>	Common rockcap fern					x
<i>Pteridium aquilinum</i>	Bracken fern	x			x	
<i>Woodsia obtusa</i>	Blunt-lobed cliff fern					x
<b>Herbaceous</b>						
<i>Allium cuthbertii</i>	Cuthbert's onion				x	
<i>Baptisia alba</i>	Thick-pod wild white indigo				x	
<i>Baptisia bracteata</i>	Creamy wild indigo				x	
<i>Boechera</i> spp.	Rockcresses		x			
<i>Centrosema virginianum</i>	Spurred butterfly pea	x				
<i>Chrysopsis mariana</i>	Maryland golden aster	x				
<i>Cladonia</i> spp.	Reindeer mosses		x	x		
<i>Cladina</i> spp.	Reindeer mosses			x		
<i>Clitoria mariana</i>	Butterfly pea	x				
<i>Coreopsis grandiflora</i>	Large-flowered coreopsis			x		
<i>Coreopsis major</i>	Daisy Fleabane	x				
<i>Croton willdenowii</i>	Glade rushfoil			x		

<i>Diamorpha cymosa</i>	Elf-orpine			x		
<i>Diodia teres</i>	Poorjoe			x		
<i>Erigeron strigosus</i>	Common rough fleabane				x	
<i>Eupatorium</i> spp.	Thoroughworts	x				
<i>Euphorbia corollata</i>	Eastern flowering spurge		x			
<i>Grimmia laevigata</i>	Rock moss			x		
<i>Grimmia</i> spp.	Grimmia mosses		x			
<i>Helianthus porteri</i>	Confederate daisy			x		
<i>Helianthus</i> spp.	Sunflowers	x				
<i>Heuchera</i> spp.	Alumroots					X
<i>Hieracium venosum</i>	Veiny hawkweed	x				x
<i>Hypericum gentianoides</i>	Pineweed		x	x	x	
<i>Lespedeza stuevei</i>	Velvety lespedeza				x	
<i>Lespedeza</i> spp.	Bush clovers	x				
<i>Liatis microcephala</i>	Blazing-star			x		
<i>Liatis virgata</i>	Blazing-star				x	
<i>Liatis</i> spp.	Blazing stars	x				
<i>Lilium michauxii</i>	Carolina lily					x
<i>Manfreda virginica</i>	Rattlesnake master		x			
<i>Marshallia ramosa</i>	Pineland Barbara's buttons				x	
<i>Mimosa microphylla</i>	Eastern sensitive briar	x				
<i>Minuartia uniflora</i>	Sandwort			x		
<i>Nothoscordum bivalve</i>	False garlic				x	
<i>Opuntia compressa</i>	Eastern prickly-pear		x			
<i>Opuntia</i> spp.	Prickly-pears			X		
<i>Packera anonyma</i>	Appalachian ragwort		x			
<i>Packera tomentosa</i>	Woolly ragwort			x		
<i>Parthenium integrifolium</i>	Common wild quinine	x				
<i>Passiflora incarnata</i>	Passionflower, maypop	x				
<i>Pediomelum piedmontarum</i>	Dixie mountain breadroot				x	
<i>Phacelia maculata</i>	Flatrock phacelia			x		
<i>Phemeranthus teretifolius</i>	Appalachian rock-pink		x	x	x	x
<i>Pityopsis aspera</i> var <i>adenolepis</i>	Silkgrass				x	
<i>Pityopsis graminifolia</i>	Silkgrass	x	x			
<i>Polygonum tenue</i>	Glade knotweed				x	
<i>Polytrichum commune</i>	Haircap moss			x		
<i>Portulaca smallii</i>	Small's portulaca			x		
<i>Pseudognaphalium obtusifolium</i>	Fragrant rabbit tobacco	x				

<i>Pycnanthemum</i> spp.	Mountain mints	x				
<i>Rudbeckia hirta</i>	Black-eyed Susan	x				
<i>Salvia urticifolia</i>	Nettle-leaf sage		x			
<i>Saxifraga virginiana</i>	Early saxifrage					x
<i>Schoenolirion croceum</i>	Yellow sunnybell			x		
<i>Selaginella rupestris</i>	Rock spikemoss					x
<i>Silene virginica</i>	Fire pink		x			
<i>Silphium compositum</i>	Rosinweed	x				
<i>Solidago</i> spp.	Goldenrods	x	x			
<i>Stylosanthes biflora</i>	Pencil-flower	x				
<i>Tephrosia virginiana</i>	Goat's Rue	x				
<i>Tradescantia</i> spp.	Spiderworts		x	x		x
<i>Tragia urticifolia</i>	Nettleleaf noseburn		x			
<i>Vernonia acaulis</i>	Ironweed				x	
<i>Viola pedata</i>	Bird's foot violet	x				x
<b>Grasses</b>						
<i>Andropogon gerardii</i>	Big bluestem				x	
<i>Andropogon virginicus</i>	Old-field broomsedge			x		x
<i>Andropogon</i> spp.	Bluestems	x	x			
<i>Danthonia sericea</i>	Downy oat grass					x
<i>Danthonia spicata</i>	Oat grass					x
<i>Danthonia</i> spp.	Oat-grasses	x	x			
<i>Eragrostis</i> spp.	Love grasses	x				
<i>Gymnopogon ambiguus</i>	Eastern beardgrass	x				
<i>Piptochaetium avenaceum</i>	Eastern needlegrass	x	x			
<i>Schizachyrium scoparium</i>	Little bluestem	x	x	x	x	x
<i>Sorghastrum nutans</i>	Yellow Indiangrass	x			x	
<i>Sporobolus clandestinus</i>	Rough dropseed				x	
<i>Sporobolus junceus</i>	Sandhills dropseed				x	
<b>Sedges</b>						
<i>Bulbostylis capillaris</i>	<u>Common hairsedge</u>		x			
<i>Cyperus granitophilus</i>	Granite flatsedge			x		



**Wetlands and Lowlands** include the following natural communities. Characteristic plants in each community are listed in the chart below.

- **Flatwoods:** Shallow, depressional wetlands that form over mafic and possibly slate bedrock. Soils are shrink-swell, leading to wet conditions in winter and very dry conditions in summer. Vegetation is a mix of mesic and hydric plants (often calciphiles), including willow oak, Shumard oak, swamp chestnut oak, many hickories, and white ash. They are small-patch.
- **Seepage Wetlands.** Wetlands that may be forested or dominated by shrubs and herbs along the stream heads, stream banks, and along the base of steep slopes. Sites are saturated for at least part of the year, with water moving slowly towards a stream. Common trees include red maple, green ash, sweet gum, and/or tulip-tree, with mesic-hydric species such as southern wild raisin, cinnamon fern, royal fern, orange jewelweed, cutleaf coneflower, and lizard’s tail.
- **Floodplains, Bottomlands, & Riparian Zones.** Forests and areas of patchy vegetation that occur in low-lying areas along creeks and rivers. They are at least occasionally flooded. Indicator trees can tolerate limited periods of saturated soil: river birch, sycamore, cherrybark oak, swamp chestnut oak, and overcup oak, green ash, red maple, sweet gum, and box elder are common.

Wetland Communities				
		Flatwoods	Seepage Wetlands	Floodplains, Bottomlands & Riparian Zones
<b>Trees</b>				
<i>Acer negundo</i>	Boxelder			X
<i>Acer rubrum</i>	Red maple		X	X
<i>Betula nigra</i>	River birch			X
<i>Carpinus caroliniana</i>	Musclewood			X
<i>Carya carolinae-septentrionalis</i>	Carolina shagbark hickory	X		
<i>Carya ovalis</i>	Red hickory	X		
<i>Celtis laevigata</i>	Hackberry or sugarberry			X
<i>Cercis canadensis</i>	Eastern redbud	X		
<i>Cornus florida</i>	Flowering dogwood	X		
<i>Fraxinus americana</i>	White ash	X		
<i>Fraxinus pennsylvanica</i>	Green ash	X		X
<i>Juniperus virginiana</i>	Eastern red cedar	X		

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<i>Liquidambar styraciflua</i>	Sweetgum		x	x
<i>Liriodendron tulipifera</i>	Tulip-tree or yellow poplar		x	x
<i>Platanus occidentalis</i>	Sycamore			x
<i>Quercus michauxii</i>	Swamp chestnut oak	x		x
<i>Quercus nigra</i>	Water oak			x
<i>Quercus pagoda</i>	Cherrybark oak	x		x
<i>Quercus phellos</i>	Willow oak	x		
<i>Quercus shumardii</i>	Shumard oak	x		
<i>Salix nigra</i>	Black willow			x
<b>Shrubs</b>				
<i>Alnus serrulata</i>	Tag alder		x	x
<i>Cephalanthus occidentalis</i>	Buttonbush			x
<i>Chionanthus virginicus</i>	Fringe-tree	x		
<i>Cocculus carolinus</i>	Coral beads	x		
<i>Cornus amomum</i>	Silky dogwood		x	
<i>Cornus stricta</i>	Southern swamp dogwood	x		
<i>Crataegus</i> spp.	Hawthorns	x		
<i>Ilex decidua</i>	Possumhaw	x	x	
<i>Ilex verticillata</i>	Winterberry		x	
<i>Itea virginica</i>	Virginia sweetspire		x	x
<i>Lindera benzoin</i>	Spicebush			x
<i>Rhododendron viscosum</i>	Swamp azalea			x
<i>Sabal minor</i>	Dwarf palmetto	x		
<i>Sambucus nigra</i> ssp. <i>canadensis</i>	Elderberry		x	
<i>Sideroxylon lycioides</i>	Buckthorn bumelia	x		
<i>Styrax americanus</i>	Snowbell, American		x	
<i>Viburnum nudum</i>	Southern wild raisin		x	
<i>Xanthorhiza simplicissima</i>	Yellowroot			x
<b>Vines</b>				
<i>Apios americana</i>	Groundnut		x	
<i>Berchemia scandens</i>	American rattan	x		
<i>Bignonia capreolata</i>	Crossvine	x		x
<i>Campsis radicans</i>	Trumpet creeper	x		
<i>Decumaria barbara</i>	Climbing hydrangea			x
<b>Ferns</b>				
<i>Onoclea sensibilis</i>	Sensitive fern			x
<i>Osmunda regalis</i>	Royal fern		x	x
<i>Osmundastrum cinnamomea</i>	Cinnamon fern		x	x
<i>Polystichum acrostichoides</i>	Christmas fern	x		
<i>Woodwardia areolata</i>	Netted chain fern		x	x

<b>Herbaceous</b>				
<i>Boehmeria cylindrica</i>	False nettle			x
<i>Claytonia virginica</i>	Virginia spring beauty	x		
<i>Gentiana saponaria</i>	Gentian, Soapwort		x	
<i>Impatiens capensis</i>	Jewelweed or touch-me-not		x	x
<i>Lobelia cardinalis</i>	Cardinal flower		x	x
<i>Lycopus</i> spp.	Bugleweeds		x	
<i>Mimulus</i> spp.	Monkeyflowers		x	
<i>Nothoscordum bivalve</i>	Crow poison	x		
<i>Oxypolis rigidior</i>	Cowbane		x	
<i>Parnassia asarifolia</i>	Kidney-leaved grass of Parnassas		x	
<i>Peltandra virginica</i>	Green arrow-arum			x
<i>Platanthera clavellata</i>	Small green wood orchid		x	
<i>Rudbeckia laciniata</i>	Cutleaf coneflower		x	x
<i>Sagittaria latifolia</i>	Duck potato, arrowhead			x
<i>Sagittaria</i> spp.	Arrowheads		x	
<i>Saururus cernuus</i>	Lizard's tail		x	x
<i>Scutellaria</i> spp.	Skullcaps	x		
<i>Thalictrum dioicum</i>	Early meadow-rue	x		
<i>Trautvetteria caroliniensis</i>	Tassel-rue		x	
<i>Zephranthes atamasca</i>	Atamasco lily	x	x	x
<b>Grasses</b>				
<i>Arundinaria gigantea</i>	River cane	x		x
<i>Chasmanthium latifolium</i>	River oats			x
<i>Dichanthelium</i> spp.	Witchgrasses	x		
<b>Sedges &amp; Rushes</b>				
<i>Carex</i> spp.	Sedges	x		x
<i>Juncus</i> spp.	Rushes			x