ABOUT THE NATIVE PLANTS FOR CONSERVATION, RESTORATION AND LANDSCAPING PROJECT

This project is a collaboration between the Virginia Department of Conservation and Recreation and the Virginia Native Plant Society.

The following partners have provided valuable assistance throughout the life of this project:

- Virginia Master Naturalists Virginia Native Plant Society Virginia Nursery and Landscape Association Virginia Tech Department of Horticulture Virginia Department of Agriculture and Consumer Services Virginia Department of Environmental Quality Virginia Coastal Zone Management Program Virginia Department of Forestry Virginia Department of Wildlife Resources
- Virginia Department of Transportation

Project partners share a commitment to protect native plant habitats that support rare, threatened or endangered species. The use of native plant species in land management, conservation, restoration and horticultural projects maintains the ecological integrity of natural areas and preserves native biodiversity.

FOR MORE INFORMATION AND THE DCR NATIVE PLANT FINDER

Virginia Department of Conservation and Recreation Natural Heritage Program 804-786-7951 www.dcr.virginia.gov/natural-heritage/nativeplants

FOR A LIST OF NURSERIES THAT PROPAGATE NATIVE SPECIES, CONTACT:

Virginia Native Plant Society 400 Blandy Farm Lane, Unit 2 Boyce, VA 22620 540-837-1600 | info@vnps.org www.vnps.org/



FOR COLORFUL GUIDEBOOKS ON VIRGINIA NATIVE PLANTS FOR GARDENING, VISIT: www.plantvirginianatives.org/

FOR A LIST OF NURSERIES IN A PARTICULAR REGION OF VIRGINIA, CONTACT:

The Virginia Nursery and Landscape Association 5101 Monument Avenue, Suite 203 Richmond, VA 23230 804-256-2700 | info@vnla.org

SEARCH FOR NURSERIES BY SPECIES USING THE VNLA GROWERS GUIDE: www.vnla.org/growers-guide/

LEARN MORE ABOUT VIRGINIA'S NATIVE PLANTS

See the Flora of Virginia, available as a book or an app: www.floraofvirginia.org/



Native Plants

FOR CONSERVATION, RESTORATION & LANDSCAPING



Virginia Grasslands

WHAT ARE NATIVE PLANTS?

Native species evolved within specific regions and dispersed throughout their range without known human involvement. Native plants form the primary component of the living landscape and provide food and shelter for native animal species. Native plants co-evolved with native animals over many thousands to millions of years and have formed complex and interdependent relationships. Our native fauna depend on native flora to provide food and cover. Many animals require specific plants for their survival.

WHAT ARE NON-NATIVE PLANTS?

Sometimes referred to as "exotic," "alien," or "non-indigenous," non-native plants are species introduced, intentionally or accidentally, into a new region by human activity. Over the millennia, many plants and animals have expanded their ranges slowly and without human assistance. As people began cultivating plants, they brought beneficial and favored species along when they moved into new regions or traded with people in distant lands. Humans thus became a new pathway, enabling many species to move into new locations. What had once been accomplished by the winds and tides or by luckily hitchhiking on, or inside, far-ranging animals, began to take place more frequently through human travel. Species have moved into new ranges in higher numbers and at faster rates as trade and transportation expanded in the last few centuries.

WHAT ARE INVASIVE PLANTS?

Invasive plants are introduced species that cause health, economic or ecological damage in their new range. More than 30,000 species of plants have been introduced to the North America since European colonization. Most were introduced intentionally, and many provide great benefits to society as agricultural crops and landscape ornamentals. Some were introduced accidentally, for example, in ship ballast, in packing material and as seed contaminants. Of these introduced species, approximately 5,000 have naturalized and become established outside cultivation. About 1,000 naturalized plant species have become invasive pests that interfere with agriculture, forestry, transportation and utility infrastructure, lawn and garden maintenance, and natural ecosystem processes. Of the 3,200 plant species in Virginia, more than 600, or 19 percent of our flora, have been introduced since the founding of Jamestown.

> The Virginia Department of Conservation and Recreation currently lists 90 of these species as invasive, following a rigorous risk assessment.

IMPACTS OF INVASIVE SPECIES

Invasive species are a major threat, second only to habitat destruction, to native plants and wildlife. They can reduce habitat and population size of native species, alter habitat structure and change ecosystem properties. Fiftyseven percent of plant species listed as threatened or endangered by the U.S. Fish and Wildlife Service are directly threatened by invasive species. In the United States, invasive species cause an estimated \$120 billion in annual economic losses, including costs to manage their effects. Annual costs and damages arising from invasive plants alone are estimated at \$34 billion.



NATIVE PLANTS VS. INVASIVE PLANTS

Invasive plants have competitive advantages that allow them to disrupt native plant communities and the wildlife dependent on them.

Examples:

- Kudzu (*Pueraria montana*) grows very rapidly and overtops forest canopy, thus shading other plant species from the sunlight necessary for their survival.
- A tall invasive wetland grass, common reed (*Phragmites australis* ssp. *australis*), invades and dominates marshes, reducing native plant diversity and sometimes eliminating virtually all other species.
- The invasive plant autumn olive (*Elaeagnus umbellata*) has the ability to fix nitrogen, allowing it to invade sites with nutrient-poor soils and displace native species.
- Tree-of-heaven (*Ailanthus altissima*) also grows rapidly and releases a chemical compound that suppresses the growth of other plant species.

Invasive species can marginalize or even cause the loss of native species. With their natural host plants gone, many insects disappear. And since insects are an essential part of the diet of many birds, the effects on the food web become far-reaching.

BY PLANTING NATIVES, YOU CAN:

- save time and money native plants often require less water, fertilizer and pesticides
- help birds and pollinator species, including butterflies and bees – native gardens provide sanctuaries for migratory birds as they journey between summer and winter habitats
- attract desirable wildlife, such as natural predators of the pests that harm plants in our gardens
- reduce the likelihood of introducing new invasive species
- create an outdoor classroom for children of all ages

BUYING AND GROWING NATIVE PLANTS

Purchasing native plants from specialty growers and nurseries is preferable to taking them from wild places. The collection of wild plants threatens the existence of native species by causing net losses in population size and genetic diversity.

Use local growers and nurseries that offer nursery-propagated native species, especially plants propagated from local populations. One of the greatest benefits of landscaping with native plants is their adaptation to local conditions. However, it is important to select plants with growth requirements that best match conditions in the area to be planted.

TIPS TO GET STARTED

- Use the list in this brochure to learn which plants grow in your region of Virginia.
- Study the minimum light and moisture requirements for each species, noting that some plants grow well under a variety of conditions.
- Refer to field guides and publications on local natural history for color, shape, height, bloom times and specific wildlife value of the plants that grow in your region.
- For help in designing native plantings with combinations of species that would occur together naturally, visit a nearby park, natural area preserve, forest or wildlife management area to learn about common plant associations, spatial groupings and habitat conditions.
- For specific recommendations and advice about project design, consult a landscape or garden design specialist with experience in native plants. See also the <u>DCR native plant</u> <u>finder online</u> for a customized list for your site.



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Grasslands are natural communities dominated by grasses, sedges and forbs. From barrier island dunes to mountain balds, grasslands occupy wide-ranging and unusual places in Virginia's landscape. Some are unique because of harsh or extreme environmental conditions. Examples include tidal saltwater areas behind the barrier islands where extensive saltmarsh and saltmeadow cordgrass communities thrive; dry, sunbaked southwestern slopes of mountains; and diabase glades, which have very shallow soils. These conditions thwart woody species and allow sun-loving grasses and other herbs to flourish. Grasslands also arise where disturbance, such as drought, flood or fire, has removed woody species. The moist climate of the East favors the development of forests. Without disturbance, grasslands in this area are inevitably replaced by shrubs and trees. Disturbance-dependant grasslands are sometimes called successional grasslands.

Successional grasslands and closely related savannas once were common in Virginia. Savannas are open-canopy woodlands with a grass-dominated herb layer. Natural grasslands and savannas were maintained by both lightning- and human-set fires. Native Americans routinely used fire to clear land for agriculture and to enhance habitat for game. Fires also were used to drive deer toward waiting hunters. Early European settlers adopted the practice of clearing land with fire. In the last 100 years, fire suppression became policy and practice. Technical and organizational advances increased the success of suppression efforts. During the 20th century, fire-dependant natural communities (grasslands, savannas, seepage bogs, pocosins and longleaf pine forests) have decreased, dramatically threatening the existence of many rare plant and animal species associated with these areas. Examples include Michaux's sumac, a federally endangered shrub found only in fire-maintained savannas, and Henslow's sparrow, a Virginia state-threatened bird that depends on grassland ad savanna habitats for survival.

Today, the most extensive occurrences of successional grasslands and savannas in Virginia are found in and around artillery-impact areas on three military bases: Quantico, Fort A.P. Hill and Fort Pickett. The regular fires ignited by artillery maintain the grasslands and savannas. Grasslands and bogs also have become established in power-line rights-of-way, where mowing and the use of herbicides to control woody plant growth have favored sun-loving grasses and bog species. Many rare species and several rare plant communities are found in power-line rights-of-way.

GRASSLAND PLANT SPECIES

Six species of grass dominate most of our upland successional grasslands: big bluestem, little bluestem, bushy bluestem, broomsedge, Indian grass and switchgrass. These are warm-season grasses that grow in summer months. These grasses are referred to as bunch grasses because they have an upright growth habit and grow in distinct clumps, unlike sod-forming grasses such as fescue and Bermuda grass. Many alien grass species — such as tall fescue — introduced by European settlers for livestock are sod-forming, cool-season grasses and do not provide habitat for native wildlife.

Along with grasses, many wildflower species are part of the grassland community, including a variety of species in the aster, pea and rose families. Common grassland wildflowers include black-eyed Susan, evening primrose and butterfly weed. Rare plant species found in and adjacent to grasslands include prairie white-fringed orchid, sun-facing coneflower, smooth coneflowers and running glade clover.

In wet areas (seepages, pond edges and stream banks), hydric plant species dominate upland species because they are adapted to higher levels of soil moisture. Sedges and rushes are more prevalent than grasses in these wetter areas. Soft rush, tussock sedge, gamagrass, cattail, blue flag and swamp milkweed are a few species that may be found in hydric soils that receive full sun. For more information on wetland species, see the DCR brochure *Native Plants for Conservation, Restoration and Landscaping - Riparian Forest Buffers.*

Region M = Mountain H = Horticulture & landscaping W = Wildlife H = Horticulture & landscaping C = Conservation & restoration D = Domestic livestock forage Region M = Mountain D = Domestic livestock forage Region M = Mountain C = Coastal Plain M = Mountain C = Coastal Plain M = Mountain C = Coastal Plain M = Moderate moisture H = High moisture M = Moderate moisture M = Moderate moisture M = Moderate moisture M = Moderate moisture M = High moisture

Some species are marked with the following footnote symbols:

- + May be aggressive in a garden setting
- * Due to the rarity and sensitivity of habitat in Virginia, these species are recommended for horticultural use only. Planting these species in natural areas could be detrimental to the survival of native populations.
 - ** May be subject to emerald ash borer infestation.

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	Herbs							Grasses, Sedges & Rushes	
	Antennaria neglecta	field pussytoes	•		•	:		Agrostis perennans	
~	Asclepias incarnata	swamp milkweed	•	•	•		•	Andropogon gerardii	
*	Asclepias syriaca+	common milkweed	• • •	•				Andropogon glomeratus	
~ '	Asclepias tuberosa	butterfly weed	•	•				Andropogon virginicus	
-	Baptisia tinctoria	yellow wild-indigo	•	•	•			Arundinaria gigantea	
	Calura parusuris Chamaecrista fasciculata+	nitalsit filangotu partridge pea	•••		•		•	Calamarrostis canadensis	
	Chrysogonum virginianum	green and gold	•	•		•		Carex crinita	
	Chrysopsis mariana	Maryland golden aster	•	•	•			Carex lurida	
	Clitoria mariana	Maryland butterfly pea	•	•	•	•		Carex stricta	
	Conoclinium coelestinum	blue mistflower	•		•	•		Danthonia sericea	
	Coreopsis tripteris Coreopsis verticillata	threadleaf coreonsis	• •	•	• •	•		Danthonia spicata	
1	Desmodium paniculatum	narrow-leaf tick trefoil	•		•	•		Dulichium arundinaceum	
	Doellingeria umbellata	flat-top white aster	•	•	•	•	•	Elymus hystrix	
	Eupatoriadelphus fistulosus	Joe-pye weed	• • •	•	•	•	•	Erianthus giganteus	
	Eupatorium perfoliatum	common boneset	•	•	•	•	•	Juncus canadensis	
	Helenium autumnale	sneezeweed	•	•	•	•		Juncus effusus	
	Helianthus diigusulollus Helianthus divaricatus	man ow-real sumower woodland sunflower	• •	••••	•••	•	•	Leersia oryzolaes	
	Heliopsis helianthoides	oxeve sunflower	•		•	:	_	Schizachvrium scoparium	
	Iris prismatica	slender blueflag	•		•	•	•	Scirpus cyperinus	
	lris virginica	Virginia blue flag	•	•	•		•	Sorghastrum nutans	
	Kosteletskya virginica	seashore mallow	•	•			•	Tridens flavus	
	Lespeueza capitata Liatris nilosa var nilosa	round-nead bush clover grass-leaf blazing star	•••	• • • •	•			Tripsacum dactyloldes Zizania aduatica	
	Liatris spicata	spiked blazing star	•		•	•	-		
	Liatris squarrosa	plains blazing star	• • •	•	•	•		Shruds & Small Irees	
-	Lilium canadense	Canada lily	•	:	•	•	•	Aronia arbutifolia	
anite	Lilium philadelphicum	wood lily	•		•			Aronia melanocarpa Raccharis halimifolia	
in our contraction of the second s	Linum superbum Lobelia cardinalis	rurk's cap IIIy cardinal flower	••••	••••	• •	•		Ceanothus americanus	
einde	Lobelia siphilitica	areat blue lobelia	•		•		•	Cornus amomum	
	Lupinus perennis	lupine	•	•	•			Morella caroliniensis	
	Mimulus ringens	monkeyflower	•				•	Morella ceritera	
	Monarda didyma Monarda fictulação	bee balm	•	•	•	•		Rhododendron catawhiense	
	Mondhera frutionsa	wild beiganiot	••••	••••	•	•••	•	Rhododendron prinophyllum	
	Opuntia humifusa	Eastern prickly-pear	•					Rhododendron viscosum	
	Packera aurea+	golden ragwort	•	•	•	•	•	Rubus allegheniensis	
	Penstemon laevigatus	smooth beardtongue	•	:	•	•		Salix numilis Saliv soriroa	
	Physostegia Virginiana+ Pvcnanthemum incanum	opedient plant hoan mountain mint	••••		•	•		Sambucus canadensis	
	Pycnanthemum tenuifolium	narrow-leaved mountain mint	•		•	•		Spiraea alba	
The line	Rhexia virginica	Virginia meadow-beauty	•				·	Spiraea latifolia	
	Rudbeckia fulgida	early coneflower	•	•	•	•		Medium Trees	
	Rudbeckia hirta	black eyed Susan	•	•	•	:		Amelanchier arborea	
	Rudbeckia laciniata	cut-leaved coneflower	• •	•	•	•		Amelanchier canadensis	
1111	Kudbeckia triloba Socittorio lotifolio	three-lobed coneflower	•	•	•	•		Cercis canadensis	
	Salyitatia latitolia Salvia lvrata+	brodied allowited bre-leaf cade	•••		•		•	Chionanthus virginicus**	
	Saururus cemuus	lizard's tail	•		•		•	Rhus glabra	
	Senna marilandica	Maryland wild senna	:		•	:	_	Khus typhina	
	Silphium perfoliatum	cup plant	•	•	•	•		Large Trees	
	Solidago caesia	bluestem goldenrod	• • •	•	:	•		Diospyros virginiana	
	Solidago rugosa+	rough-stemmed goldenrod	•	•	•	•		Liquidambar styraciflua	
/	Solidago sempervirens	seaside goldenrod	•	•	•	•		Nyssa sylvatica	
1	Symphyourichum laeve Symphyotrichum poyae-angliae	SITTOOLITI DILLE ASLET New Encland actor	•••		•			Plnus Serotina Drunus ponsylvanica	
	Symphyoticitatii novae angliae	New York aster	• •		• •			Prinius perisylvanica	
	Symphyotrichum pilosum	frost aster		•	Ĺ		_	Quercus coccinea	
	Tradescantia virginiana+	Virginia spiderwort	•	•	•	•		Quercus falcata	
	Viola pedata	bird's foot violet	:	:	•			Quercus ilicifolia	
	Yucca filamentosa Zoobwaathos atamassoo	common yucca	•	•		•		Quercus prinus	
•	Ecros & Ecro Allice		•	-				Quercus velutina	
		aanaitiina fawa				_		Robinia pseudoacacia	
- '	Unoclea sensibilis+	sensitive tern	•	•	•	•	,	- 1111 - C	
	Ocmunda cinnamona	cinnamon forn					•	Sassafras albidum	1.1

		W H C D	MFC	ΣРΕ	LMH
Grasses, Sedges & Rushes	ushes				
Agrostis perennans Andronoron gerardii	autumn bentgrass hin hluectem	• •	•	• •	•
Andropogon glomeratus	bushy bluestem	•	•	•	•
Andropogon virginicus	broomsedge	•	•	•	•
Arundinaria gigantea	wild cane	•	•	•	•
Calamagrostis canadensis	bluejoint reedgrass	•••	•	• •	• •
Carex crinita	long hair sedge	•	•	•	•
Carex lurida	sallow sedge	•	:	:	•
Carex stricta Danthonia serirea	tussock sedge cilly naturace	•	• •	•	•
Danthonia spicata	poverty oatarass	• •	•	•	•
Dichanthelium clandestinum	deer-tongue		• • •	•	• • •
Dulichium arundinaceum	dwarf bamboo	•	•	•	•
Elymus hystrix	bottlebrush grass	:	•	•	•
Enantinus giganteus	giant plumegrass	•	•	•	•
Juncus canadensis	Callaua Tusii soft rush	•••	•	• •	•••
Leersia orvzoides	rice cutarass	•	•		•
Panicum virgatum	switch grass	•	•	•	•
Schizachyrium scoparium	little bluestem	• • •	•	•	•
Scirpus cyperinus	woolgrass bulrush	•	•	•	•
Sorghastrum nutans	Indian grass	•	•	•	•
Trinsactum dactyloides	reuop rama rrass	• •	• •	• •	•
Zizania aduatica	wild rice	• •			•
Shriths & Small Trees					
Aronia melanocarpa	hack chokeberry	•••	• •	•	•••
Baccharis halimifolia	high tide bush	•	•	•	•
Ceanothus americanus	New Jersey tea	•	•	•	
Cornus amomum	silky dogwood	•	•	•	•
Morella caroliniensis Morella cerifera	Southern wax murtle	 	•••	•••	
Morella pensylvanica	Northern bayberry		•	•	•
Rhododendron catawbiense	Catawba rhododendron	•	•	•	•
Rhododendron prinophyllum	rose azalea	•		•	•
Rhoadaenaron Viscosum Dubus allacibaniansis	Swamp azalea Allechamy hlackharny	• •	•	•	•
Salix humilis	prairie willow	• •	•	•	
Salix sericea	silky willow	•	•	•	•
Sambucus canadensis	common elderberry	•	•	•	•
Spiraea alba Sniraea latifolia	hord heaved meadowsweet	•		•	• •
Madium Trade					
	downy consicoborny	•	•		•
Amelanchier di bulea Amelanchier canadensis	Canada serviceberry	• •	• •	•	
Cercis canadensis	Eastern redbud	•	•	•	•
Chionanthus virginicus**	fringetree	•	• • •	•	•
Rhus glabra	smooth sumac	•	•	•	•
Rhus typhina	staghorn sumac	•	•	•	•
Large Trees					
Diospyros virginiana	persimmon	•	•	•	•
Liquidambar styraciflua	sweetgum	•	•	•	•
Nyssa sylvatica Dinus sorotina	black gum	•	•	•	•
Prunus pensylvanica	point printe	•		• •	•
Prunus serotina	wild black cherry	•	•	•	
Quercus coccinea	scarlet oak	•	•	•	
Quercus falcata	Southern red oak	•	•	•	•
Quercus Ilicitolia	bear oak chactmirt oab	•	•	•	
Quercus printus Quercus stellata	CITESTITUL VAK	• •	• •	•	
Quercus velutina	black oak	•	•	•	
Robinia pseudoacacia	black locust	•	•	•	•
Sassafras alhidum	sassafras	•	• • •	•	•