

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. VNPS chapters across the state helped to fund the 2011 update to this brochure.

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The Nature Conservancy – Virginia Chapter • Virginia Tech Department of Horticulture • Virginia Department of Agriculture and Consumer Services • Virginia Department of Environmental Quality, Coastal Zone Management Program • Virginia Department of Forestry • Virginia Department of Game and Inland Fisheries • Virginia Department of Transportation



FOR MORE INFORMATION

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

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 | vnpsoc@shentel.net
www.vnps.org



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

The Virginia Nursery and Landscape Association
383 Coal Hollow Road
Christiansburg, VA 24073
540-382-0943 | vnla@verizon.net
To search for species in VNLA member catalogs, visit:
www.vnla.org/search.asp

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Illustrators: Lara Gastinger, Roy Fuller and Michael Terry. To learn more, visit:
www.floraofvirginia.org



Native Plants

FOR CONSERVATION,
RESTORATION & LANDSCAPING



VIRGINIA RIPARIAN BUFFER ZONES

WHAT ARE NATIVES?

Native species evolved within specific regions and dispersed throughout their range without known human involvement. They 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.



BENEFITS OF NATIVE PLANTS

Using native species in landscaping reduces the expense of maintaining cultivated landscapes and minimizes the likelihood of introducing new invasive species. It may provide a few unexpected benefits as well.

Native plants often require less water, fertilizer and pesticide, thus adding fewer chemicals to the landscape and maintaining water quality in nearby rivers and streams. Fewer inputs mean time and money saved for the gardener.

Native plants increase the presence of desirable wildlife, such as birds and butterflies, and provide sanctuaries for these animals as they journey between summer and winter habitats. The natural habitat you create with native plants can become an outdoor classroom for children, or a place for you to find peace and quiet after a busy day.

Native plants evoke a strong sense of place and regional character. For example, live oak and magnolia trees are strongly associated with the Deep South. Redwood trees characterize the Pacific Northwest. Saguaro cacti call to mind the deserts of the Southwest.

BUYING AND GROWING NATIVE PLANTS

More gardeners today are discovering the benefits of native plants and requesting them at their local garden centers. Because of this increased demand, retailers are offering an ever-widening selection of vigorous, nursery-propagated natives.

Once you've found a good vendor for native plants, the next step is choosing appropriate plants for a project. One of the greatest benefits of designing 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.

If you're planning a project using native plant species, use the list in this brochure to learn which plants grow in your region of Virginia. Next, study the minimum light and moisture requirements for each species, noting that some plants grow well under a variety of conditions. Many of the recommended species are well-suited to more than one of these categories.

For more information, 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. 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.

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 humans. Over time, 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 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 United States since the time of Columbus. 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, fewer than 3,000 have naturalized and become established in the United States outside cultivation. Of the 3,500 plant species in Virginia, more than 800 have been introduced since the founding of Jamestown. The Virginia Department of Conservation and Recreation currently lists more than 100 of these species as invasive.

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. For example, 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.

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. Habitats with a high occurrence of invasive plants become a kind of "green desert." Although green and healthy in appearance, far fewer native species of plants and animals are found in such radically altered places.



Virginia Riparian Buffer Zones

Riparian forest buffers are areas of trees, shrubs and other vegetation found next to stream channels and other waterways. The removal of these buffers has contributed to ecological problems in our waterways and the Chesapeake Bay. Problems include sedimentation, nutrient and toxic chemical pollution, and reduction of fish habitat.

Riparian forest buffers are natural communities such as bottomland hardwood forest, coastal scrub and upland oak-hickory-pine forests. They support a variety of plants and animals, particularly plants that are adapted to periodic flooding or saturated soils. Because of the presence of moving water, more materials are deposited in, and pass through, riparian forests than any other wetland ecosystem.

Riparian forest buffers provide important ecosystem services.

- Vegetation, leaf litter and porous soil slow the flow of water. This helps control the rate and volume of water in streams and rivers, greatly influencing flood levels.
- Leaf litter filters sediment from upland runoff, as well as phosphorus, nitrogen and other nutrients that may be bonded to sediment particles. Leaf litter intercepts and stores these polluting nutrients before they can cloud waterways.
- Leaf litter captures and converts pesticides to nontoxic compounds by various chemical and microbial activities within the forest buffer. This protects fish and amphibians, which are threatened by pesticide pollution.
- Soils store water, and plants in the forest buffer take up that water and release it into the atmosphere.

- The canopy created by riparian forests provides shade and controls water temperature, which is essential for instream organisms and the invertebrate food sources on which they depend. Instream, leaf litter and woody debris create food and habitat vital to the aquatic food web.

- Riparian forests provide food and habitat for a variety of terrestrial wildlife species and serve as safe corridors for movement between habitats. Habitat conversion and fragmentation have reduced wildlife habitat and limited the ability of animals to move between existing habitats.

- Riparian forest buffers offer recreation to fishermen, hunters, birders, hikers, canoeists and picnickers. People enjoy these areas in many different ways because of the diversity of life and scenic beauty they provide.

Drier upland forests adjacent to waterways provide many of the same ecosystem values. These ecological functions combine to make riparian forest buffers critical to ecological and human health. Recognizing this, staff at the Chesapeake Bay Program has set a goal to replant riparian buffers along 70 percent of stream miles in the bay watershed.

RIPARIAN VEGETATION ZONES

Riparian forest buffers consist of four vegetation zones. Zone 1, the emergent vegetation zone, is permanently to semipermanently flooded and often dominated by grasses, sedges, rushes and other herbaceous plants. Zone 2, the riverside thicket, may be seasonally to temporarily flooded and is often characterized by emergent aquatic species, shrubs and a few tree species. Zone 3, the saturated forest, has soils that are saturated to poorly drained. Zone 4, the well-drained forest, is also known as upland forest and has dry soil. Zones 3 and 4 are dominated by trees but also contain shrub and herb layers in the understory.

Recommended Uses

- W = Wildlife
H = Horticulture & landscaping
C = Conservation & restoration
D = Domestic livestock forage

Region

- M = Mountain
P = Piedmont
C = Coastal Plain

Minimum Light Requirements

- S = Shade
P = Partial sun
F = Full sun

Moisture Requirements

- L = Low moisture
M = Moderate moisture
H = High moisture

Riparian Buffer Zones

- 1 = Emergent
2 = Riverside thicket
3 = Saturated forest
4 = Well-drained forest

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.

Scientific Name	Common Name	Uses				Region			Light			Moisture			Riparian Zone			
		W	H	C	D	M	P	C	S	P	F	L	M	H	1	2	3	4
Herbs																		
<i>Amsonia tabernaemontana</i>	blue star	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Asarum canadense</i>	wild ginger	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Asclepias incarnata</i>	swamp milkweed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Bidens cernua</i>	nodding beggar-ticks	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Boltonia asteroides</i>	aster-like boltonia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Caltha palustris</i>	marsh marigold	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Chamaecrista fasciculata</i>	partridge pea	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Chelone glabra</i>	white turtlehead	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Chrysogonum virginianum</i>	green and gold	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Conoclinium coelestinum</i>	blue mistflower	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Coreopsis tripteris</i>	tall coreopsis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Delphinium bicorne</i>	dwarf larkspur	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Dicentra cucullaria</i>	Dutchman's breeches	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Doellingeria umbellata</i>	flat-top white aster	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Equisetum hyemale</i>	horsetail	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Eupatoriadelphus fistulosus</i>	Joe-pye weed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Eupatorium perfoliatum</i>	common boneset	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Helenium autumnale</i>	sneezeweed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Helianthus decapetalus</i>	ten-petaled sunflower	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Helianthus divaricatus</i>	woodland sunflower	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Hibiscus moscheutos</i>	Eastern rosemallow	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Iris virginica</i>	Virginia blue flag	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Kosteletskyia virginica</i>	seashore mallow	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Lilium superbum</i>	Turk's cap lily	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Lobelia cardinalis</i>	cardinal flower	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Lobelia siphilitica</i>	great blue lobelia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Maianthemum racemosum</i>	false Solomon's seal	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Mertensia virginica</i>	Virginia bluebells	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Mimulus ringens</i>	monkeyflower	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Monarda didyma</i>	bee balm	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Nymphaea odorata</i>	American water lily	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Oenothera fruticosa</i>	sundrops	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Packera aurea</i>	golden ragwort	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Peltandra virginica</i>	arrow arum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Phlox divaricata</i>	woodland phlox	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Phlox paniculata</i>	summer phlox	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Podophyllum peltatum</i>	mayapple	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Polemonium reptans</i>	Jacob's ladder	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Pontederia cordata</i>	pickerel weed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Rhexia virginica</i>	Virginia meadow-beauty	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Rudbeckia laciniata</i>	cut-leaved coneflower	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Sagittaria latifolia</i>	broadleaf arrowhead	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Saururus cernuus</i>	lizard's tail	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Solidago rugosa</i>	rough-stemmed goldenrod	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Symphotrichum novae-angliae</i>	New England aster	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Symphotrichum novi-belgii</i>	New York aster	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Verbena hastata</i>	blue vervain	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Vernonia noveboracensis</i>	New York ironweed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Viola cucullata</i>	marsh blue violet	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Viola pubescens</i>	yellow violet	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Zephyranthes atamasco</i>	Atamasco lily	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Ferns & Fern Allies

<i>Athyrium asplenoides</i>	Southern ladyfern	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Botrychium virginianum</i>	rattlesnake fern	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Onoclea sensibilis</i>	sensitive fern	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Osmunda cinnamomea</i>	cinnamon fern	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Osmunda regalis</i>	royal fern	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Polystichum acrostichoides</i>	Christmas fern	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Thelypteris palustris</i>	marsh fern	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Woodwardia virginica</i>	Virginia chain fern	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Grasses, Sedges & Rushes

<i>Agrostis perennans</i>	autumn bentgrass	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Andropogon gerardii</i>	big bluestem	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Andropogon glomeratus</i>	bushy bluestem	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Arundinaria gigantea</i>	wild cane	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Arundinaria tecta</i>	switch cane	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Carex crinita</i>	long hair sedge	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Carex lurida</i>	sallow sedge	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Carex stricta</i>	tussock sedge	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Chasmanthium latifolium</i>	river oats, spanglegrass	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Dichanthelium clandestinum</i>	deer-tongue	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Dichanthelium commutatum</i>	variable panicgrass	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Dulichium arundinaceum</i>	dwarf bamboo	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Elymus hystrix</i>	bottlebrush grass
<i>Elymus virginicus</i>	Virginia wild rye

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<i>Juncus canadensis</i>	Canada rush
<i>Juncus effusus</i>	soft rush
<i>Leersia oryzoides</i>	rice cutgrass	
<i>Panicum virgatum</i>	switch grass	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Saccharum giganteum</i>	giant plume grass	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Scirpus cyperinus</i>	woolgrass bulrush	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Sparganium americanum</i>	American bur-reed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Tripsacum dactyloides</i>	gama grass	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Typha latifolia</i>	broad-leaved cattail	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Zizania aquatica</i>	wild rice	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Vines