

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.

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

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 Blandly 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						
Amsonia tabernaemontana	blue star					
Arisaema triphyllum	Jack-in-the-pulpit					
Asarum canadense+	wild ginger					
Asclepias incarnata	swamp milkweed					
Bidens cernua+	nodding beggar-ticks					
Boltonia asteroides*	aster-like boltonia					
Caltha palustris	marsh marigold					
Chamaecrista fasciculata+	partridge pea					
Chelone glabra	white turtlehead					
Chrysogonum virginianum	green and gold					
Conoclinium coelestinum	blue mistflower					
Coreopsis tripteris	tall coreopsis					
Delphinium tricorne	dwarf larkspur					
Dicentra cucullaria	Dutchman's breeches					
Doellingeria umbellata	flat-top white aster					
Equisetum hyemale	horsetail					
Eupatoriadelphus fistulosus	Joe-pye weed					
Eupatorium perfoliatum	common boneset					
Helianthus autumnale	sneezeweed					
Helianthus decapetalus	ten-petaled sunflower					
Helianthus divaricatus	woodland sunflower					
Hibiscus moscheutos	Eastern rosemallow					
Iris virginica	Virginia blue flag					
Kosteletskya virginica	seashore mallow					
Lilium superbum	Turk's cap lily					
Lobelia cardinalis	cardinal flower					
Lobelia siphilitica	great blue lobelia					
Maianthemum racemosum	false Solomon's seal					
Mertensia virginica	Virginia bluebells					
Mimulus ringens	monkeyflower					
Monarda didyma	bee balm					
Nymphaea odorata	American water lily					
Oenothera fruticosa	sundrops					
Packera aurea+	golden ragwort					
Peltandra virginica	arrow arum					
Phlox divaricata	woodland phlox					
Phlox paniculata	summer phlox					
Podophyllum peltatum+	mayapple					
Polemonium reptans	Jacob's ladder					
Pontederia cordata	pickerel weed					
Rhexia virginica	Virginia meadow-beauty					
Rudbeckia laciniata	cut-leaved coneflower					
Sagittaria latifolia	broadleaf arrowhead					
Saururus cernuus	lizard's tail					
Solidago rugosa+	rough-stemmed goldenrod					
Symphoricarichum novae-angliae	New England aster					
Symphoricarichum novi-belgii	New York aster					
Verbena hastata	blue vervain					
Vernonia noveboracensis	New York ironweed					
Viola cucullata	marsh blue violet					
Viola pubescens	yellow violet					
Zephyranthes atamasco	Atamasco lily					
Ferns & Fern Allies						
Athyrium asplenoides	Southern ladyfern					
Botrychium virginianum	rattlesnake fern					
Onoclea sensibilis+	sensitive fern					
Osmunda cinnamomea	cinnamon fern					
Osmunda regalis	royal fern					
Polystichum acrostichoideis	Christmas fern					
Thelypteris palustris	marsh fern					
Woodwardia virginica+	Virginia chain fern					
Grasses, Sedges & Rushes						
Agrostis perennans	autumn bentgrass					
Andropogon gerardii	big bluestem					
Andropogon glomeratus	bushy bluestem					
Arundinaria gigantea	wild cane					
Carex crinita	long hair sedge					
Carex lurida	sallow sedge					
Carex stricta	tussock sedge					
Chasmanthium latifolium+	river oats, spanglegrass					
Dichanthelium clandestinum	deer-tongue					
Dichanthelium commutatum	variable panicgrass					
Dulichium arundinaceum	dwarf bamboo					
Elymus hystrix	bottlebrush grass					
Elymus virginicus	Virginia wild rye					

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
Juncus canadensis	Canada rush					
Juncus effusus	soft rush					
Leersia oryzoides	rice cutgrass					
Panicum virgatum	switch grass					
Saccharum giganteum	giant plumegrass					
Scirpus cyperinus	woolgrass bulrush					
Sparganium americanum	American bur-reed					
Tripsacum dactyloides	gama grass					
Typha latifolia	broad-leaved cattail					
Zizania aquatica	wild rice					
Vines						
Bignonia capreolata	crossvine					
Celastrus scandens	climbing bitter-sweet					
Clematis virginiana	virgin's bower					
Parthenocissus quinquefolia	Virginia creeper					
Shrubs & Small Trees						
Alnus serrulata	hazel alder					
Aronia arbutifolia	red chokeberry					
Aronia melanocarpa	black chokeberry					
Baccharis halimifolia	high tide bush					
CalliCARPA americana	American beautyberry					
Cephalanthus occidentalis	buttonbush					
Clethra alnifolia	sweet pepper-bush					
Cornus amomum	silky dogwood					
Eubotrys racemosa	fetterbush					
Hydrangea arborescens	wild hydrangea					
Ilex decidua	deciduous holly					
Ilex verticillata	winterberry					
Itea virginica	Virginia willow					
Leucothoe axillaris	coastal dog-hobble					
Lindera benzoin	spicebush					
Myrica cerifera	Southern wax myrtle					
Rhododendron viscosum	swamp azalea					
Rubus allegheniensis	Alleghany blackberry					
Salix sericea	silky willow					
Sambucus canadensis	common elderberry					
Spiraea alba	narrow-leaved meadowsweet					
Spiraea latifolia	broad-leaved meadowsweet					
Vaccinium corymbosum	highbush blueberry					
Viburnum dentatum	Southern arrow-wood					
Viburnum prunifolium	black-haw viburnum					
Medium Trees						
Amelanchier arborea	downy serviceberry					
Amelanchier canadensis	Canada serviceberry					
Amelanchier laevis	smooth serviceberry					
Asimina triloba	paw paw					
Cornus alternifolia	alternate-leaf dogwood					
Crataegus viridis	green hawthorn					
Morus rubra	red mulberry					
Ostrya virginiana	Eastern hop-hornbeam					
Persea borbonia	redbay					
Rhus glabra	smooth sumac					
Salix nigra	black willow					
Large Trees						
Acer rubrum	red maple					
Betula lenta	sweet birch					
Betula nigra	river birch					
Diospyros virginiana	persimmon					
Fraxinus americana	white ash					
Fraxinus pensylvanica	green ash					
Juglans nigra	black walnut					
Liquidambar styraciflua	sweetgum					
Liriodendron tulipifera	tulip poplar					
Nyssa aquatica	water tupelo					
Nyssa sylvatica	black gum					
Oxydendrum arboreum	sourwood					
Pinus taeda	loblolly pine					
Platanus occidentalis	sycamore					
Quercus bicolor	swamp white oak					
Quercus laurifolia	swamp laurel oak					
Quercus michauxii	swamp chestnut oak					
Quercus nigra	water oak					
Quercus palustris	pin oak					
Quercus phellos	willow oak					
Taxodium distichum	bald cypress					