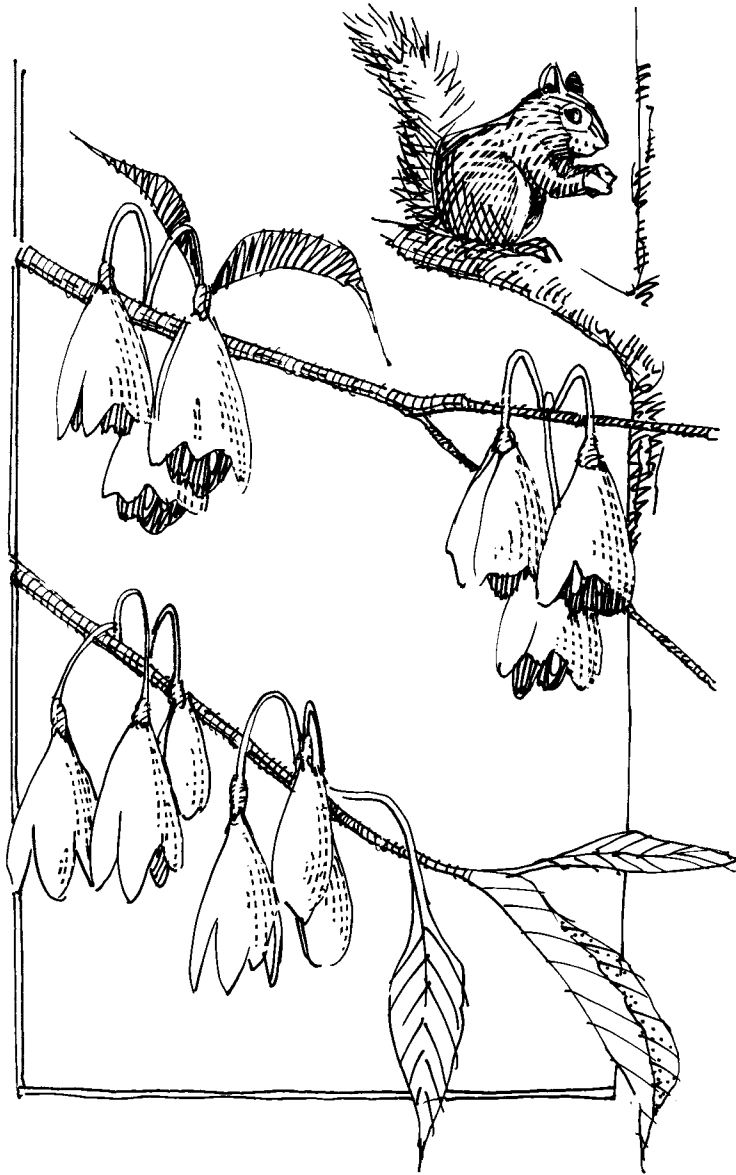


EAST TENNESSEE

Unaka Mountains, Ridge and Valley, Cumberland Plateau and Mountains



LANDSCAPING WITH NATIVE PLANTS

PROMOTES BIODIVERSITY

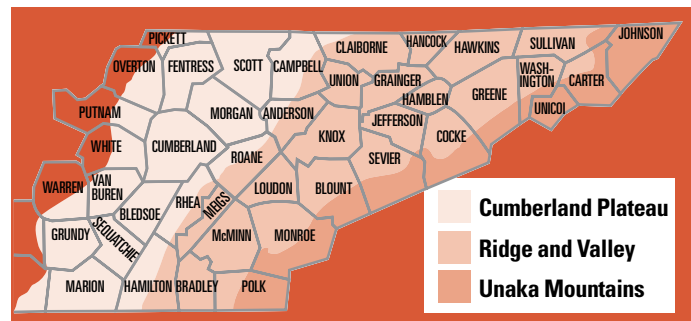
and endorses a land ethic that celebrates our natural heritage

EAST TENNESSEE

Unaka Mountains, Ridge and Valley, Cumberland Plateau and Mountains

The Unaka Mountains, the Ridge and Valley, and the Cumberland Plateau and Mountains are distinctively different physiographic regions that make up East Tennessee. Site conditions for each province are determined by topography, soil pH, soil depth, elevation, availability of light, and hydrology. These varying site conditions support a mosaic of native plant communities.

- ▶ Dry, higher-elevation, south-facing slopes have extremely acidic soils that support evergreens such as mountain laurel and pines, as well as oaks, huckleberry, blueberries, and hickories.
- ▶ On north-facing slopes, a mixed mesophytic forest community occurs that includes hemlock, tulip poplar and maple.
- ▶ Hydric plants occur in drainages, floodplains and upland swamps; these include sweetgum, sycamore, ironwood, and birches.



Soil pH and geology distinguish the Unaka Mountains and the Ridge and Valley from the Cumberland Plateau and Mountains. The Unaka Mountains contain an extremely acidic (lower pH) coarse to fine loam soil. The soil in the northern part of the mountains is formed from granite and gneiss. The soil in the southern part of the mountains derives from phyllite, slate, sandstone, and quartzite. The Ridge and Valley contains a wide variety of topography and geologic formations, and the soils are less acidic (higher pH). The valleys are made up of tilted rock formations of soft shales and clayey limestones. Mostly sandstones and hard shale underlie the ridges, but some limestone exists. The Cumberland Plateau and Mountain Region is generally more acidic (lower pH), underlain by Pennsylvanian sandstones and shales. The dominant soils are well-drained, loamy, strongly acidic, and low in natural fertility.

For landscaping purposes it is important to remember that plants growing in our region are specifically adapted to hydrology (moisture and dryness) and soil pH (acidity and alkalinity). Soil moisture, soil pH, and light availability are important limiting factors. Matching plants to site conditions will yield the maximum benefits that natives provide.

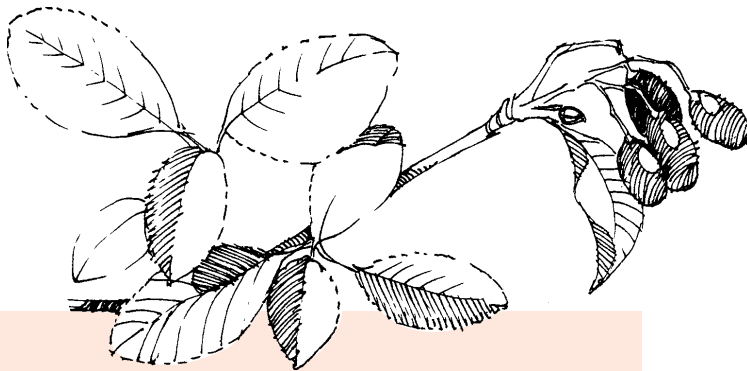
Our natural heritage

The use of native plants in landscaping is a celebration of our natural heritage and an awakening of a land ethic first expressed by Aldo Leopold more than 50 years ago.

The natural processes from which natives evolve represent the cog and wheel of a healthy ecosystem sustained by a complex web of biological diversity.

Native plants have many inherent qualities and adaptive traits that make them aesthetically pleasing, practical, and ecologically valuable for landscaping.

Using native plants contributes to the health and often the restoration of an ecosystem. Landscaping with natives in an urban setting helps restore regional character and places fewer demands on resources.



Native

species naturally occurring in a region (indigenous)

Exotic

species introduced by humans, either deliberately or accidentally (alien, non-native)

What are natives?

Natives are plants that evolved in place over geologic time and are distributed across the landscape largely in response to climatic episodes and adaptation to site conditions related to land formation.

Natives are generally defined as plants that occurred in North America before European settlement. This distinction is made because of the large-scale changes in the flora that have resulted since European settlement and the introduction of “exotic” plants.

Exotics are plants that are directly or indirectly, deliberately or accidentally introduced by human action. To be more precise, natives are natural elements of a regional landscape. While some species are native to North America, they may be exotic to East Tennessee.

Natives vs. exotics

While many exotics are harmless, others pose serious threats to biodiversity. Exotics that escape and naturalize change the floral composition of native plant communities. Exotics that invade native plant communities spread, out-compete, and displace natives. Other exotics are vectors for disease and exotic insects. Future introductions can be prevented by using native species.

Using natives also exhibits regional flora and promotes our natural heritage. Natives have often been overlooked and their aesthetic value ignored. Instead, many regions look the same because overuse of the same exotics has created a monotonous, predictable landscape.

Basics about using natives

When landscaping with natives match the right plants with the right site conditions. Consider using plants that occur together in their natural habitats. Do your homework before planting; study the plants and the site condition information in this brochure. Visit a natural area and observe how plants occur and design your landscape accordingly. Buy nursery propagated plants. Remember, landscaping with natives is art imitating nature.

Benefits of natives

- ▶ Adapted to regional conditions and may require less maintenance and are cost-effective.
- ▶ Hardy, withstand extreme winter cold, do not suffer from die back.
- ▶ Environmentally friendly, require fewer pesticides and fertilizers because of natural adaptations.
- ▶ Promote biodiversity and stewardship.
- ▶ Provide food and shelter for native wildlife.
- ▶ Restore regional landscapes.
- ▶ Prevent future exotic introductions.

Natives for wildlife

Using natives in landscaping helps sustain native butterflies, moths and other beneficial insects; native birds, reptiles, mammals, and other fauna. Fall migrating birds depend on high-energy fruits from flowering dogwood and spicebush. Spring migrants feed on insects that occur on oak trees. Beech and other native trees provide nesting habitat, while Eastern red cedar, short leaf pine, and American holly provide winter cover and food.



- ▶ **Don't dig plants from the wild.**
- ▶ **Buy nursery-propagated plant material.**

Native plant recommendations

KEY	LIGHT	SOIL MOISTURE	SOIL pH
	F = full sunlight	H = hydric; wet, plants periodically or often inundated by water	B = basic; prefers limestone
	P = partial shade	M = mesic; moist, adequate soil moisture retention year-round	A = acidic; prefers acidic soils
	S = shade	S = sub-xeric; moist to dry, seasonally moist, periodically dry	R = restricted to either B or A
		X = xeric; dry & drought resistant, little moisture retention, excessively drained	

COMMON NAME	SCIENTIFIC NAME	LIGHT				MOISTURE				SOIL pH		
		F	P	S		H	M	S	X	B	A	R
SHRUBS												
Alder	<i>Alnus serrulata</i>	●	●			●	●				●	
Serviceberry	<i>Amelanchier laevis</i>	●	●			●	●				●	
Indigo bush	<i>Amorpha fruticosa</i>	●	●			●	●	●	●	●		
Red chokeberry	<i>Aronia arbutifolia</i>	●	●			●	●	●	●		●	
Black chokeberry	<i>Aronia melanocarpa</i>	●	●			●	●	●	●		●	
Sweetshrub	<i>Calycanthus floridus</i>		●	●		●	●	●			●	
American beautyberry	<i>Callicarpa americana</i>	●	●			●	●	●	●			
New Jersey tea	<i>Ceanothus americanus</i>		●	●		●	●	●	●		●	
Buttonbush	<i>Cephalanthus occidentalis</i>	●	●			●	●			●		
Cumberland rosemary	<i>Conradina verticillata</i>		●			●	●				●	
Hazelnut	<i>Corylus americana</i>	●	●			●	●			●		
Leatherwood	<i>Dirca palustris</i>	●	●	●		●				●		
Hearts-a-bustin	<i>Euonymus americanus</i>		●	●		●	●					
Swamp mallow	<i>Hibiscus moscheutos</i>	●	●			●						
Wild hydrangea	<i>Hydrangea arborescens</i>	●	●	●		●		●				
Golden St. John's Wort	<i>Hypericum frondosum</i>	●	●			●		●	●	●		
Shrubby St. John's Wort	<i>Hypericum prolificum</i>	●	●			●	●	●	●		●	
Common winterberry	<i>Ilex verticillata</i>	●	●	●		●	●					
Virginia-willow	<i>Itea virginica</i>	●	●	●		●	●					
Mountain laurel	<i>Kalmia latifolia</i>	●	●					●	●	●	●	
Spicebush	<i>Lindera benzoin</i>	●	●	●						●		
Ninebark	<i>Physocarpus opulifolius</i>	●	●	●		●	●					
Flame azalea	<i>Rhododendron calendulaceum</i>	●	●			●	●				●	●
Wild azalea	<i>Rhododendron canescens</i>	●	●	●		●	●				●	
Rose bay	<i>Rhododendron maximum</i>	●	●			●	●				●	●
Fragrant sumac	<i>Rhus aromatica</i>	●	●					●	●	●		●
Winged sumac	<i>Rhus copallina</i>	●	●									
Carolina rose	<i>Rosa carolina</i>	●	●			●	●			●		
Swamp rose	<i>Rosa palustris</i>	●	●			●	●					
Elderberry	<i>Sambucus canadensis</i>	●	●	●		●				●		
Bladdernut	<i>Staphylea trifolia</i>		●	●		●	●	●	●		●	
Coralberry, buckbrush	<i>Symphoricarpos orbiculatus</i>	●	●	●		●	●	●	●		●	
Farkleberry	<i>Vaccinium arboreum</i>	●	●			●	●				●	●
Highbush blueberry	<i>Vaccinium corymbosum</i>	●	●			●	●				●	●
Cranberry	<i>Vaccinium macrocarpon</i>	●	●			●	●				●	●
Deerberry	<i>Vaccinium stamineum</i>	●	●			●	●	●	●		●	●
Mapleleaf viburnum	<i>Viburnum acerifolium</i>	●	●			●	●	●	●		●	

SMALL TREES												
Serviceberry	<i>Amelanchier arborea</i>	●	●	●				●	●		●	
Hercules club	<i>Aralia spinosa</i>	●	●					●	●			
Paw paw	<i>Asimina triloba</i>		●	●		●				●		
Ironwood	<i>Carpinus caroliniana</i>		●	●		●	●					
Redbud	<i>Cercis canadensis</i>	●	●	●		●	●	●	●		●	
Fringe tree	<i>Chionanthus virginicus</i>		●	●		●	●				●	
Alternate leaved dogwood	<i>Cornus alternifolia</i>		●	●		●	●			●		
Flowering dogwood	<i>Cornus florida</i>		●	●		●	●					
Parsley hawthorn	<i>Crataegus marshallii</i>	●	●					●	●	●		
Hawthorn	<i>Crataegus mollis</i>	●	●					●	●	●		
Washington hawthorn	<i>Crataegus phaenopyrum</i>	●	●					●	●	●		
Carolina silverbell	<i>Halesia carolina</i>	●	●	●		●	●			●		
Witch-hazel	<i>Hamamelis virginiana</i>		●	●		●	●			●		
American holly	<i>Ilex opaca</i>	●	●	●		●	●			●		
Sweet bay magnolia	<i>Magnolia virginiana</i>		●	●		●	●			●		
Hop-hornbeam	<i>Ostrya virginiana</i>		●	●		●	●			●		
Sourwood	<i>Oxydendrum arboreum</i>	●	●	●		●	●	●	●		●	●
American plum	<i>Prunus americana</i>	●	●			●	●				●	
Carolina buckthorn	<i>Rhamnus caroliniana</i>	●	●	●				●	●	●		

COMMON NAME	SCIENTIFIC NAME	LIGHT				MOISTURE				SOIL pH		
		F	P	S		H	M	S	X	B	A	R
SMALL TREES (CONTINUED)												
Staghorn sumac	<i>Rhus typhina</i>	●	●					●	●		●	
Mountain ash	<i>Sorbus americana</i>	●	●			●	●	●	●		●	
Southern rusty blackhaw	<i>Viburnum rufidulum</i>	●	●			●	●	●	●		●	
Northern blackhaw	<i>Viburnum prunifolium</i>	●	●	●		●	●	●	●			

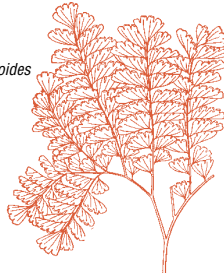
TREES												
Red maple	<i>Acer rubrum</i>	●	●	●		●	●	●	●		●	
Silver maple	<i>Acer saccharinum</i>	●	●			●	●	●				
Sugar maple	<i>Acer saccharum</i>	●	●			●	●	●	●		●	
Yellow buckeye	<i>Aesculus flava</i>		●	●		●	●					
Black birch	<i>Betula lenta</i>	●	●	●		●	●	●	●			
River birch	<i>Betula nigra</i>	●	●	●		●	●					
Bitternut hickory	<i>Carya cordiformis</i>	●	●	●		●				●		
Pignut hickory	<i>Carya glabra</i>	●	●	●		●				●		
Shagbark	<i>Carya ovata</i>	●	●	●		●				●		
Mockernut	<i>Carya tomentosa</i>	●	●	●		●	●	●				
Yellow-wood	<i>Cladrastis lutea</i>	●	●	●		●	●			●		
Persimmon	<i>Diospyros virginiana</i>	●	●			●	●					
American beech	<i>Fagus grandifolia</i>	●	●	●		●	●					
White ash	<i>Fraxinus americana</i>	●	●			●	●	●	●		●	
Green Ash	<i>Fraxinus pennsylvanica</i>	●	●	●		●	●	●	●			
Blue ash	<i>Fraxinus quadrangulata</i>	●	●	●		●	●	●	●		●	●
Black walnut	<i>Juglans nigra</i>	●	●	●		●	●	●	●		●	
Red cedar	<i>Juniperus virginiana</i>	●	●					●	●	●		
Sweetgum	<i>Liquidambar styraciflua</i>	●	●	●		●	●	●	●		●	
Tulip poplar	<i>Liriodendron tulipifera</i>	●	●	●		●	●	●	●			
Blackgum	<i>Nyssa sylvatica</i>	●	●			●	●	●	●		●	
Cucumber tree	<i>Magnolia acuminata</i>		●	●		●						
Red mulberry	<i>Morus rubra</i>	●	●	●		●	●	●	●			
Short leaf pine	<i>Pinus echinata</i>	●						●	●		●	
White pine	<i>Pinus strobus</i>	●						●	●		●	
Sycamore	<i>Platanus occidentalis</i>	●	●			●	●	●	●		●	
Black cherry	<i>Prunus serotina</i>	●	●			●	●	●	●			
White oak	<i>Quercus alba</i>	●	●			●	●	●	●			
Scarlet oak	<i>Quercus coccinea</i>	●	●			●	●			●	●	
Southern red oak	<i>Quercus falcata</i>	●	●			●	●			●	●	
Water oak	<i>Quercus nigra</i>	●	●			●	●					
Pin oak	<i>Quercus palustris</i>	●	●			●	●	●	●			
Chestnut oak	<i>Quercus prinus</i>	●	●			●	●	●	●		●	●
Northern red oak	<i>Quercus rubra</i>	●	●			●	●	●	●			
Post oak	<i>Quercus stellata</i>	●	●			●	●			●		
Black oak	<i>Quercus velutina</i>	●	●			●	●	●	●			
Black willow	<i>Salix nigra</i>	●	●			●	●			●		
Sassafras	<i>Sassafras albidum</i>	●	●			●	●	●	●			
White cedar	<i>Thuja occidentalis</i>		●	●		●	●	●	●		●	
Basswood	<i>Tilia americana</i>	●	●	●		●	●					

VINES												
Dutchman's pipe	<i>Aristolochia macrophylla</i>		●	●				●	●			
Crossvine	<i>Bignonia capreolata</i>	●	●			●	●	●	●			
Trumpet creeper	<i>Campsis radicans</i>	●	●			●	●	●	●			
Leatherflower	<i>Clematis viorna</i>	●	●	●		●	●	●	●			
Virgin's bower	<i>Clematis virginiana</i>	●	●	●		●	●	●	●			
Climbing hydrangea	<i>Decumaria barbara</i>	●	●			●	●					
Carolina jasmine	<i>Gelsemium sempervirens</i>	●	●			●	●				●	
Virginia creeper	<i>Parthenocissus quinquefolia</i>	●	●			●	●	●	●			
Passionflower	<i>Passiflora incarnata</i>	●	●			●	●	●	●			
Atlantic wisteria	<i>Wisteria frutescens</i>	●	●	●		●	●	●	●			

FERNS

Maidenhair fern
Ebony spleenwort
Lady fern
Common grape fern
Bulblet fern
Hay-scented fern
Shining club moss
Sensitive fern
Cinnamon fern
Christmas fern
Common woodsia
Chain fern

Adiantum pedatum
Asplenium platyneuron
Athyrium filix-femina ssp. asplenioides
Botrychium dissectum
Cystopteris bulbifera
Dennstaedtia punctiloba
Lycopodium lucidulum
Onoclea sensibilis
Osmunda cinnamomea
Polystichum acrostichoides
Woodsia obtusa
Woodwardia areolata



GRASSES AND SEDGES



Big bluestem
Split beard bluestem
Broomsedge
River cane
Plaintain-leaved sedge
River oats, spangle grass
Oat grass
Canada wild rye
Sugarcane plumegrass
Narrow plumegrass
Bottle brush
Switch-grass
Indian grass

Andropogon gerardii
Andropogon ternarius
Andropogon virginicus
Arundinaria gigantea ssp. gigantea
Carex plantaginea
Chasmanthium latifolium
Danthonia compressa
Elymus canadensis
Erianthus giganteus
Erianthus strictus
Hystrix patula
Panicum virgatum
Sorghastrum nutans

GROUND COVERS

Hog-peanut
Pussy's toes
Wild ginger
Mouse-eared coreopsis
Rattlesnake plantain
Dwarf crested iris
Partridge berry
Allegheny spurge
Phacelia
Chalice phlox
Carolina phlox
Wild blue phlox
Downy phlox
Creeping phlox
Foamflower
Verbena

Amphicarpaea bracteata
Antennaria plantaginifolia
Asarum canadense
Coreopsis auriculata
Goodyera pubescens
Iris cristata
Mitchella repens
Pachysandra procumbens
Phacelia bipinnatifida
Phlox amoena
Phlox carolina
Phlox divaricata
Phlox pilosa
Phlox stolonifera
Tiarella cordifolia
Verbena canadensis

MOSAIC FOR FULL SUN

Big blue stem
Butterfly weed
River oats
Joe-Pye weed
Carolina jasmine
Phlox
Black-eyed Susan
Indian grass

Andropogon gerardii
Asclepias tuberosa
Chasmanthium latifolium
Eupatorium dubium
Gelsemium sempervirens
Phlox spp.
Rudbeckia fulgida
Sorghastrum nutans



FLOWERS

Doll's eyes
Blue star
Thimbleweed
Wild columbine
Green dragon
Jack-in-the-pulpit
Goat's-beard
Swamp milkweed
Butterfly-weed
White wood aster
Showy aster
Late purple aster
False goatsbeard
Blue wild indigo
Marsh marigold
Blue cohosh
Pink turtlehead
Whorled tickseed
Wild bleeding heart
Shooting star
Purple coneflower
Wild ageratum
Joe-Pye weed
Wild geranium
Maximilian sunflower
Sharp-lobed hepatica
Alumroot
Jewelweed
Blue flag
Dense blazing star
Turks-cap lily
Cardinal flower
Virginia bluebells
Bishop's cap
Ginseng
Phlox maculata
Garden phlox
Jacob's ladder
Solomon's seal
Blackeyed Susan
Fire pink
Rough stemmed goldenrod
Spiderwort
Tall ironweed
Bird-foot violet
Long-spurred violet

Actaea pachypoda
Amsonia tabernaemontana
Anemone virginiana
Aquilegia canadensis
Arisaema dracontium
Arisaema triphyllum
Aruncus dioicus
Asclepias incarnata
Asclepias tuberosa
Aster divaricatus
Aster grandiflorus
Aster patens
Astilbe biternata
Baptisia australis
Caltha palustris
Caulophyllum thalictroides
Chelone lyonii
Coreopsis major
Dicentra eximia
Dodecatheon meadia
Echinacea purpurea
Eupatorium coelestinum
Eupatorium fistulosum
Geranium maculatum
Helianthus maximiliani
Hepatica acutiloba
Heuchera americana
Impatiens capensis
Iris versicolor
Liatris spicata
Lilium superbum
Lobelia cardinalis
Mertensia virginica
Mitella diphylla
Panax quinquefolius
Phlox maculata
Phlox paniculata
Polemonium reptans
Polygonatum biflorum
Rudbeckia fulgida
Silene virginica
Solidago rugosa
Tradescantia virginiana
Vernonia altissima
Viola pedata
Viola rostrata

MOSAIC FOR SHADE

Jack-in-the-pulpit
Dutchman's pipe
Wild ginger
River oats
Sharp-lobed hepatica
Alumroot
Cinnamon fern
Solomon's seal
Christmas fern
Violets

Arisaema triphyllum
Aristolochia macrophylla
Asarum canadense
Chasmanthium latifolium
Hepatica acutiloba
Heuchera americana
Osmunda cinnamomea
Polygonatum biflorum
Polystichum acrostichoides
Viola spp.



Celebrate our natural heritage and protect native plant communities

1. Learn more about native plants.
2. Buy nursery propagated plant material.
3. Don't dig plants from the wild.
4. Protect native plant and natural area habitat.
5. Promote responsible landscaping practices.
6. Plant native and not exotic plant species.

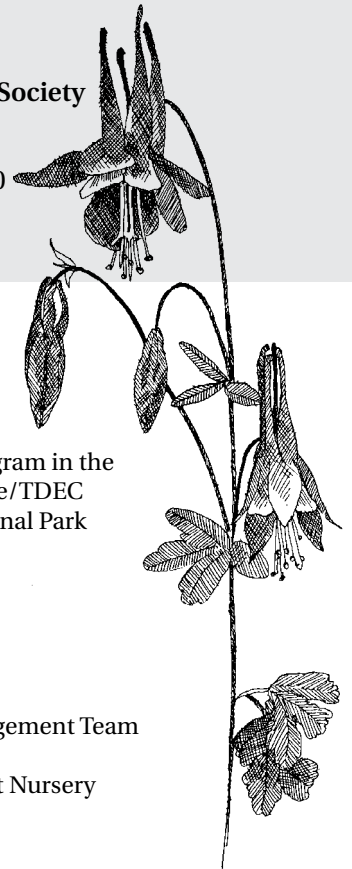
For more information

Great Smoky Mountains National Park
107 Park Headquarters Road
Gatingburg TN 37738
423/436-1706

Tennessee Dept. of Environment and Conservation
Natural Heritage Division
401 Church St., 8th floor, L & C Tower
Nashville TN 37243-0447
615/532-0436

Tennessee Exotic Pest Plant Council (TN-EPPC)
P.O. Box 936
Fairview TN 37062
www.tneppc.org

Tennessee Native Plant Society
Department of Botany
University of Tennessee
Knoxville TN 37996-1100
423/974-2256



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