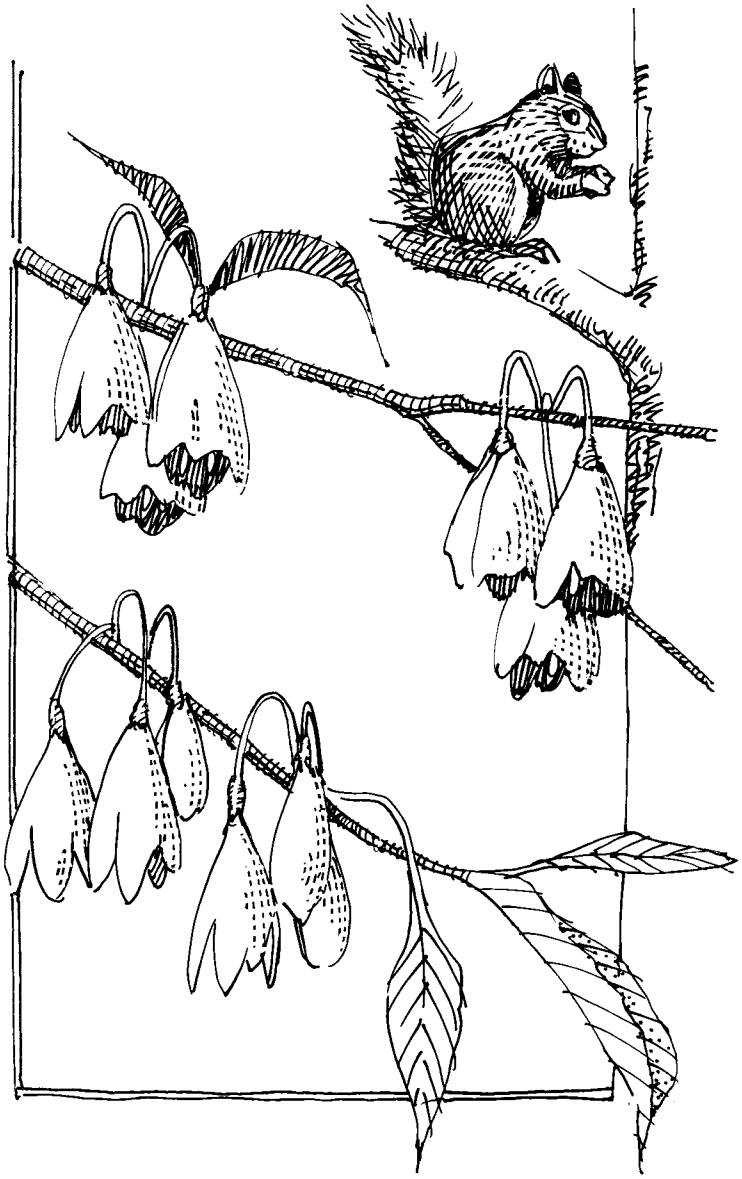
EAST TENNESSEE

Unaka Mountains, Ridge and Valley, Cumberland Plateau and Mountains



LANDSCAPING WITH NATIVE PLANTS

PROMOTES BIODIVERSITY

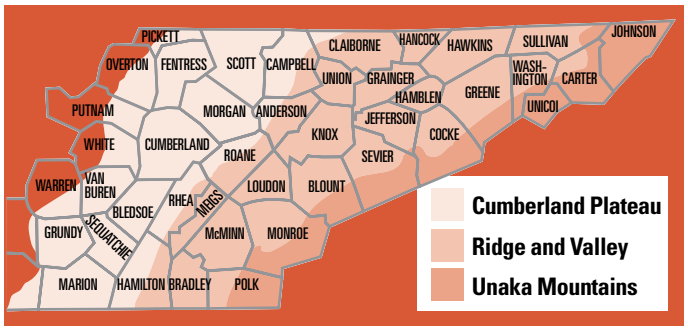
and endorses a land ethic that celebrates our natural heritage

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.

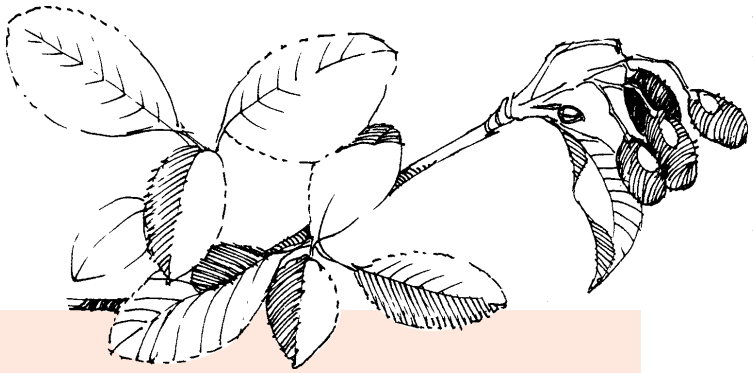
Our natural heritage

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

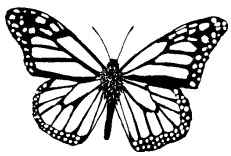
When landscaping with natives match the right plants with the right site conditions. Consider using plants that occur together in their natural habitats. Do your homework before planting; study the plants and the site condition information in this brochure. Visit a natural area and observe how plants 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
F = full sunlight
P = partial shade
S = shade

SOIL MOISTURE
H = hydric; wet, plants periodically or often inundated by water
M = mesic; moist, adequate soil moisture retention year-round
S = sub-xeric; moist to dry, seasonally moist, periodically dry
X = xeric; dry & drought resistant, little moisture retention, excessively drained

SOIL pH
B = basic; prefers limestone
A = acidic; prefers acidic soils
R = restricted to either B or A

COMMON NAME	SCIENTIFIC NAME	LIGHT			MOISTURE				SOIL pH		
SHRUBS		F	P	S	H	M	S	X	B	A	R
Alder	*Alnus serrulata*	●	●		●	●				●	
Serviceberry	*Amelanchier laevis*	●	●			●	●			●	
Indigo bush	*Amorpha fruticosa*	●	●			●	●	●	●		
Red chokeberry	*Aronia arbutifolia*	●	●		●	●	●			●	
Black chokeberry	*Aronia melanocarpa*	●	●		●	●	●	●		●	
Sweetshrub	*Calycanthus floridus*		●	●	●	●	●			●	
American beautyberry	*Callicarpa americana*	●	●		●	●	●	●			
New Jersey tea	*Ceanothus americanus*		●	●		●	●	●		●	
Buttonbush	*Cephalanthus occidentalis*	●	●		●	●			●		
Cumberland rosemary	*Conradina verticillata*		●			●	●			●	
Hazelnut	*Corylus americana*	●	●	●		●	●		●		
Leatherwood	*Dirca palustris*	●	●	●		●			●		
Hearts-a-bustin	*Euonymus americanus*		●	●		●	●				
Swamp mallow	*Hibiscus moscheutos*	●	●		●						
Wild hydrangea	*Hydrangea arborescens*		●	●		●		●			
Golden St. John's Wort	*Hypericum frondosum*	●	●			●		●	●		●
Shrubby St. John's Wort	*Hypericum prolificum*	●	●		●	●	●	●		●	
Common winterberry	*Ilex verticillata*	●	●	●	●	●					
Virginia-willow	*Itea virginica*	●	●	●	●	●					
Mountain laurel	*Kalmia latifolia*	●	●				●	●		●	●
Spicebush	*Lindera benzoin*		●	●		●			●		
Ninebark	*Physocarpus opulifolius*	●	●	●	●	●					
Flame azalea	*Rhododendron calendulaceum*		●	●		●	●			●	●
Wild azalea	*Rhododendron canescens*	●	●	●		●	●			●	
Rose bay	*Rhododendron maximum*		●	●		●	●			●	●
Fragrant sumac	*Rhus aromatica*	●	●	●			●	●	●		●
Winged sumac	*Rhus copallina*	●	●			●	●				
Carolina rose	*Rosa carolina*	●	●			●	●		●		
Swamp rose	*Rosa palustris*	●	●		●	●					
Elderberry	*Sambucus canadensis*	●	●	●		●			●		
Bladdernut	*Staphylea trifolia*		●	●		●	●		●		
Coralberry, buckbrush	*Symphoricarpus orbiculatus*	●	●	●		●	●	●	●		
Farkleberry	*Vaccinium arboreum*	●	●				●	●		●	●
Highbush blueberry	*Vaccinium corymbosum*	●	●				●	●		●	●
Cranberry	*Vaccinium macrocarpon*	●	●		●	●				●	●
Deerberry	*Vaccinium stamineum*	●	●			●	●	●		●	●
Mapleleaf viburnum	*Viburnum acerifolium*		●	●		●	●	●		●	
SMALL TREES											
Serviceberry	*Amelanchier arborea*	●	●	●			●	●		●	
Hercules club	*Aralia spinosa*	●	●				●	●			
Paw paw	*Asimina triloba*		●	●		●			●		
Ironwood	*Carpinus caroliniana*		●	●	●	●					
Redbud	*Cercis canadensis*	●	●	●		●	●	●	●		
Fringe tree	*Chionanthus virginicus*		●	●		●	●			●	
Alternate leaved dogwood	*Cornus alternifolia*		●	●		●	●			●	
Flowering dogwood	*Cornus florida*		●	●		●	●				
Parsley hawthorn	*Crataegus marshallii*	●	●				●	●	●		
Hawthorn	*Crataegus mollis*	●	●				●	●	●		
Washington hawthorn	*Crataegus phaenopyrum*	●	●				●	●	●		
Carolina silverbell	*Halesia carolina*	●	●	●		●	●			●	
Witch-hazel	*Hamamelis virginiana*		●	●		●	●			●	
American holly	*Ilex opaca*	●	●	●		●	●			●	
Sweet bay magnolia	*Magnolia virginiana*		●	●		●	●			●	
Hop-hornbeam	*Ostrya virginiana*		●	●		●	●		●		
Sourwood	*Oxydendrum arboreum*		●	●			●	●		●	●
American plum	*Prunus americana*	●	●				●	●			
Carolina buckthorn	*Rhamnus caroliniana*	●	●	●			●	●	●		

COMMON NAME	SCIENTIFIC NAME	LIGHT			MOISTURE				SOIL pH		
SMALL TREES (CONTINUED)		F	P	S	H	M	S	X	B	A	
Staghorn sumac	*Rhus typhina*	●	●				●	●		●	
Mountain ash	*Sorbus americana*	●	●		●	●	●			●	
Southern rusty blackhaw	*Viburnum rufidulum*	●	●	●		●	●	●	●		
Northern blackhaw	*Viburnum prunifolium*	●	●	●		●	●	●			
TREES											
Red maple	*Acer rubrum*	●	●	●	●		●	●		●	
Silver maple	*Acer saccharinum*	●	●		●						
Sugar maple	*Acer saccharum*	●	●	●		●	●		●		
Yellow buckeye	*Aesculus flava*		●	●		●	●				
Black birch	*Betula lenta*	●	●	●		●	●	●			
River birch	*Betula nigra*	●	●	●	●	●					
Bitternut hickory	*Carya cordiformis*	●	●	●		●			●		
Pignut hickory	*Carya glabra*	●	●	●			●	●			
Shagbark	*Carya ovata*	●	●	●			●	●	●		
Mockernut	*Carya tomentosa*	●	●	●		●	●	●			
Yellow-wood	*Cladrastis lutea*	●	●	●		●	●		●		
Persimmon	*Diospyros virginiana*	●	●			●	●				
American beech	*Fagus grandifolia*	●	●	●		●	●				
White ash	*Fraxinus americana*	●	●	●		●	●		●		
Green Ash	*Fraxinus pennsylvanica*	●	●	●	●	●	●	●			
Blue ash	*Fraxinus quadrangulata*	●	●	●		●	●		●		●
Black walnut	*Juglans nigra*	●	●	●		●	●		●		
Red cedar	*Juniperus virginiana*	●	●				●	●	●		
Sweetgum	*Liquidambar styraciflua*	●	●	●	●	●	●	●		●	
Tulip poplar	*Liriodendron tulipifera*	●	●			●	●				
Blackgum	*Nyssa sylvatica*	●	●	●			●	●		●	
Cucumber tree	*Magnolia acuminata*		●	●		●					
Red mulberry	*Morus rubra*	●	●	●		●	●	●			
Short leaf pine	*Pinus echinata*	●					●	●		●	
White pine	*Pinus strobus*	●				●	●			●	
Sycamore	*Platanus occidentalis*	●	●		●	●			●		
Black cherry	*Prunus serotina*	●	●			●	●	●			
White oak	*Quercus alba*	●	●			●	●	●			
Scarlet oak	*Quercus coccinea*	●	●				●	●		●	●
Southern red oak	*Quercus falcata*	●	●				●	●			
Water oak	*Quercus nigra*	●	●		●	●					
Pin oak	*Quercus palustris*	●	●		●	●	●	●			
Chestnut oak	*Quercus prinus*	●	●				●	●		●	●
Northern red oak	*Quercus rubra*	●	●		●	●	●				
Post oak	*Quercus stellata*	●	●				●	●			
Black oak	*Quercus velutina*	●	●			●	●	●			
Black willow	*Salix nigra*	●	●		●				●		
Sassafras	*Sassafras albidum*	●	●			●	●				
White cedar	*Thuja occidentalis*		●	●	●	●	●		●		
Basswood	*Tilia americana*	●	●	●		●	●				
VINES											
Dutchman's pipe	*Aristolochia macrophylla*		●	●		●	●				
Crossvine	*Bignonia capreolata*	●	●		●	●	●				
Trumpet creeper	*Campsis radicans*	●	●				●	●			
Leatherflower	*Clematis viorna*	●	●	●		●	●	●			
Virgin's bower	*Clematis virginiana*	●	●	●		●	●	●			
Climbing hydrangea	*Decumaria barbara*	●	●		●	●					
Carolina jasmine	*Gelsemium sempervirens*	●	●			●	●			●	
Virginia creeper	*Parthenocissus quinquefolia*	●	●	●		●	●	●			
Passionflower	*Passiflora incarnata*	●	●				●	●			
Atlantic wisteria	*Wisteria frutescens*		●	●	●	●	●				

FERNS

Maidenhair fern	*Adiantum pedatum*
Ebony spleenwort	*Asplenium platyneuron*
Lady fern	*Athyrium felix–femina ssp. asplenioides*
Common grape fern	*Botrychium dissectum*
Bulblet fern	*Cystopteris bulbifera*
Hay–scented fern	*Dennstaedtia punctiloba*
Shining club moss	*Lycopodium lucidulum*
Sensitive fern	*Onoclea sensibilis*
Cinnamon fern	*Osmunda cinnamomea*
Christmas fern	*Polystichum acrostichoides*
Common woodsia	*Woodsia obtusa*
Chain fern	*Woodwardia areolata*

GRASSES AND SEDGES

Big bluestem	*Andropogon gerardii*
Split beard bluestem	*Andropogon ternarius*
Broomsedge	*Andropogon virginicus*
River cane	*Arundinaria gigantea ssp. gigantea*
Plaintain–leaved sedge	*Carex plantaginea*
River oats, spangle grass	*Chasmanthium latifolium*
Oat grass	*Danthonia compressa*
Canada wild rye	*Elymus canadensis*
Sugarcane plumegrass	*Erianthus giganteus*
Narrow plumegrass	*Erianthus strictus*
Bottle brush	*Hystrix patula*
Switch–grass	*Panicum virgatum*
Indian grass	*Sorghastrum nutans*

GROUND COVERS

Hog–peanut	*Amphicarpaea bracteata*
Pussy's toes	*Antennaria plantaginifolia*
Wild ginger	*Asarum canadense*
Mouse–eared coreopsis	*Coreopsis auriculata*
Rattlesnake plaintain	*Goodyera pubescens*
Dwarf crested iris	*Iris cristata*
Partridge berry	*Mitchella repens*
Allegheny spurge	*Pachysandra procumbens*
Phacelia	*Phacelia bipinnatifida*
Chalice phlox	*Phlox amoena*
Carolina phlox	*Phlox carolina*
Wild blue phlox	*Phlox divaricata*
Downy phlox	*Phlox pilosa*
Creeping phlox	*Phlox stolonifera*
Foamflower	*Tiarella cordifolia*
Verbena	*Verbena canadensis*

MOSAIC FOR FULL SUN

Big blue stem	Andropogon gerardii
Butterfly weed	Asclepias tuberosa
River oats	Chasmanthium latifolium
Joe-Pye weed	Eupatorium dubium
Carolina jasmine	Gelsemium sempervirens
Phlox	Phlox spp.
Black-eyed Susan	Rudbeckia fulgida
Indian grass	Sorghastrum nutans

FLOWERS

Doll's eyes	*Actaea pachypoda*
Blue star	*Amsonia tabernaemontana*
Thimbleweed	*Anemone virginiana*
Wild columbine	*Aquilega canadensis*
Green dragon	*Arisaema dracontium*
Jack-in-the-pulpit	*Arisaema triphyllum*
Goat's-beard	*Aruncus dioicus*
Swamp milkweed	*Asclepias incarnata*
Butterfly-weed	*Asclepias tuberosa*
White wood aster	*Aster divaricatus*
Showy aster	*Aster grandiflorus*
Late purple aster	*Aster patens*
False goatsbeard	*Astilbe biternata*
Blue wild indigo	*Baptisia australis*
Marsh marigold	*Caltha palustris*
Blue cohosh	*Caulophyllum thalictroides*
Pink turtlehead	*Chelone lyonii*
Whorled tickseed	*Coreopsis* major
Wild bleeding heart	*Dicentra eximia*
Shooting star	*Dodecatheon meadia*
Purple coneflower	*Echinacea purpurea*
Wild ageratum	*Eupatorium coelestinum*
Joe-Pye weed	*Eupatorium fistulosum*
Wild geranium	*Geranium maculatum*
Maximillian sunflower	*Helianthus maximilianii*
Sharp-lobed hepatica	*Hepatica acutiloba*
Alumroot	*Heuchera americana*
Jewelweed	*Impatiens capensis*
Blue flag	*Iris versicolor*
Dense blazing star	*Liatris spicata*
Turks-cap lily	*Lilium superbum*
Cardinal flower	*Lobelia cardinalis*
Virginia bluebells	*Mertensia virginica*
Bishop's cap	*Mitella diphylla*
Ginseng	*Panax quinquefolius*
Phlox maculata	*Phlox maculata*
Garden phlox	*Phlox paniculata*
Jacob's ladder	*Polemonium reptans*
Solomon's seal	*Polygonatum biflorum*
Blackeyed Susan	*Rudbeckia fulgida*
Fire pink	*Silene virginica*
Rough stemmed goldenrod	*Solidago rugosa*
Spiderwort	*Tradescantia virginiana*
Tall ironweed	*Vernonia altissima*
Bird-foot violet	*Viola pedata*
Long-spurred violet	*Viola rostrata*

MOSAIC FOR SHADE

Jack-in-the-pulpit	Arisaema triphyllum
Dutchman's pipe	*Aristolochia macrophylla*
Wild ginger	*Asarum canadense*
River oats	*Chasmanthium latifolium*
Sharp-lobed hepatica	*Hepatica acutiloba*
Alumroot	*Heuchera americana*
Cinnamon fern	*Osmunda cinnamomea*
Solomon's seal	*Polygonatum biflorum*
Christmas fern	*Polystichum acrostichoides*
Violets	*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.

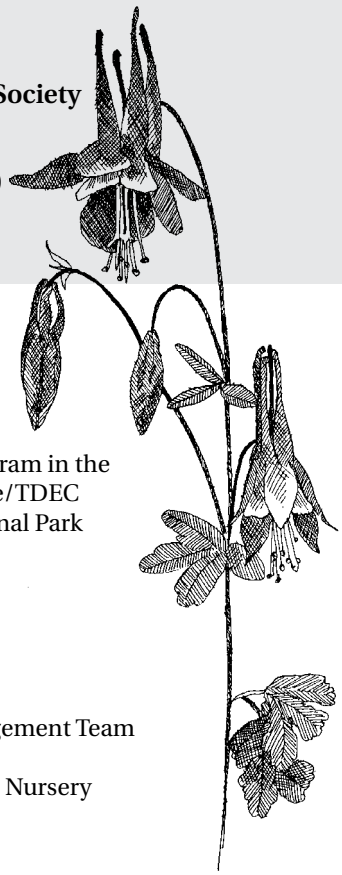
For more information

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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Southern Appalachian Man and Biosphere Foundation

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