## MIDDLE TENNESSEE

### Central Basin and Highland Rim

# LANDSCAPING WITH NATIVE PLANTS

PROMOTES BIODIVERSITY

*and endorses a land ethic that celebrates our natural heritage*

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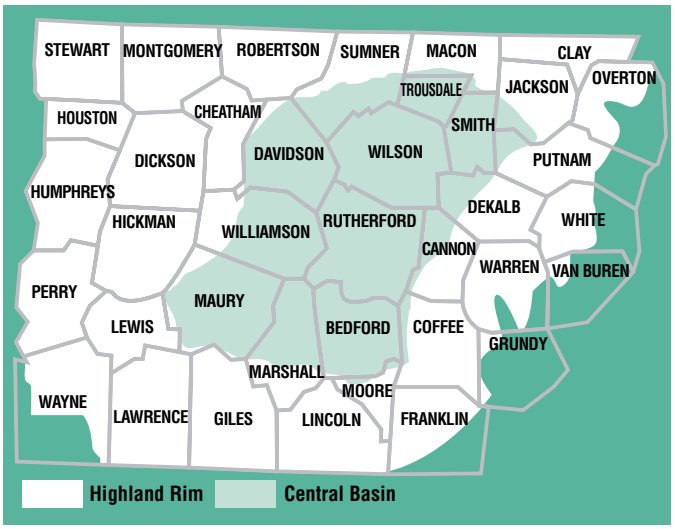
## Central Basin and Highland Rim

The Central Basin and the Highland Rim are uniquely different physiographic provinces that make up Middle Tennessee. Site conditions for each respective province are determined by topography, soil pH, soil depth, aspect, availability of light, and hydrology. These site conditions support a mosaic of native plant communities.

- Dry upland sites support xeric oak-hickory forests.
- Beech, tulip poplar, basswood, and sugar maple (mixed mesophytic) forest communities occur on north-facing slopes.
- Floodplains and upland swamps support "wet feet" or hydric plants.
- Unique barrens occur in open grassy areas on the Highland Rim.
- Rare cedar glades occupy thin soil, poorly drained limestone outcrops (winter wet, summer dry habitat) in the Central Basin.




Soil pH is a distinguishing feature between the Basin and the Rim. The elliptically shaped Central Basin is underlain by Ordovician limestone and has alkaline soils, whereas much of the surrounding Highland Rim has acidic soils that are heavily leached and often occur in the resistant siliceous Fort Payne formation.

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.

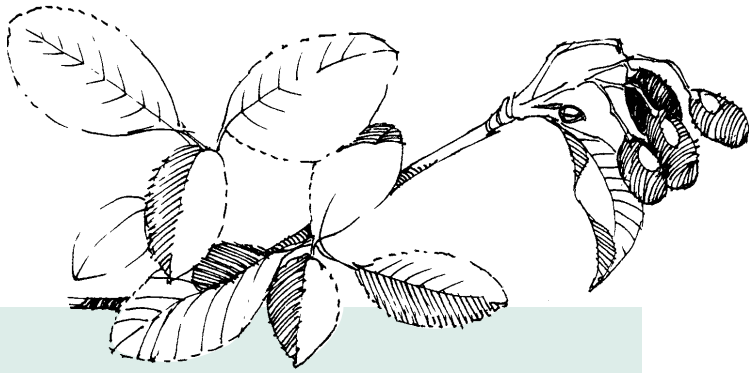
# Our natural heritage

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 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 Middle 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

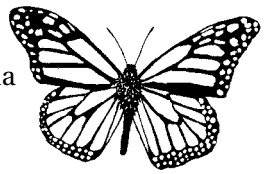
When landscaping with natives match the right plants with the right site conditions. Consider using plants that occur together in their natural habitats. Do your homework before planting; study the plants and the site condition information in this brochure. Visit a natural area and observe how plants 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, Virginia 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* | ● | ● | | ● | ● | | | | | |
| Indigobush | *Amorpha fruticosa* | ● | ● | | | ● | ● | ● | | | |
| Black chokeberry | *Aronia melanocarpa* | ● | ● | | ● | ● | ● | ● | | ● | |
| Sweetshrub | *Calycanthus floridus* | | ● | | ● | | ● | | | ● | |
| American beautyberry | *Callicarpa americana* | ● | ● | | ● | ● | ● | ● | | | |
| New Jersey tea | *Ceanothus americanus* | | ● | ● | | ● | ● | ● | | ● | ● |
| Buttonbush | *Cephalanthus occidentalis* | ● | ● | | ● | | | | | | |
| Silky dogwood | *Cornus amomum* | ● | ● | | ● | ● | | | | | |
| Hazelnut | *Corylus americana* | ● | ● | ● | | ● | ● | | | | |
| Leatherwood | *Dirca palustris* | ● | ● | ● | | ● | | | | | |
| Hearts-a-bustin | *Euonymus americanus* | | ● | ● | | ● | ● | | | | |
| Swamp mallow | *Hibiscus moscheutos* | ● | ● | | ● | | | | | | |
| Oakleaf hydrangea | *Hydrangea quercifolia* | ● | ● | ● | | ● | ● | | | | |
| 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* | ● | ● | | ● | ● | | ● | | | |
| Wild azalea | *Rhododendron canescens* | | ● | ● | | ● | ● | | | ● | ● |
| Fragrant sumac | *Rhus aromatica* | ● | ● | | | | ● | ● | ● | | ● |
| Winged sumac | *Rhus copallina* | ● | ● | | | ● | ● | | | | |
| Carolina rose | *Rosa carolina* | ● | ● | | | ● | ● | | ● | | |
| Swamp rose | *Rosa palustris* | ● | ● | | ● | ● | | | | | |
| Prairie rose | *Rosa setigera* | ● | ● | | | ● | ● | ● | ● | | |
| Elderberry | *Sambucus canadensis* | ● | ● | ● | | ● | | | ● | | |
| Bladdernut | *Staphlea trifolia* | | ● | ● | | ● | ● | | ● | | |
| Bigleaf snowbell | *Styrax grandifolia* | ● | ● | ● | | ● | ● | | | ● | |
| Coralberry, buckbrush | *Symphoricarpus orbiculatus* | ● | ● | ● | | ● | ● | ● | | | |
| Farkleberry | *Vaccinium arboreum* | ● | ● | | | | ● | ● | | ● | ● |
| Deerberry | *Vaccinium stamineum* | ● | ● | | | ● | ● | ● | | ● | ● |
| Lowbush blueberry | *Vaccinium vacillans* | ● | ● | | | | ● | ● | | ● | ● |
| Mapleleaf viburnum | *Viburnum acerifolium* | | ● | ● | | ● | ● | ● | | ● | |
| **SMALL TREES** | | | | | | | | | | | |
| Serviceberry | *Amelanchier arborea* | ● | ● | ● | | | ● | ● | | ● | |
| Hercules club | *Aralia spinosa* | ● | ● | | | | ● | ● | | | |
| Paw paw | *Asimina triloba* | | ● | ● | | ● | | | ● | | |
| Buckthorn bumelia | *Bumelia lycioides* | ● | ● | ● | | ● | ● | ● | ● | | ● |
| Ironwood | *Carpinus caroliniana* | | ● | ● | ● | ● | | | | | |
| Redbud | *Cercis canadensis* | ● | ● | ● | | ● | ● | ● | ● | | |
| Fringe tree | *Chionanthus virginicus* | | ● | ● | | ● | ● | | | ● | |
| Flowering dogwood | *Cornus florida* | | ● | ● | | ● | ● | | | | |
| Roughleaf dogwood | *Cornus drummondii* | ● | ● | | | | ● | ● | ● | | ● |
| Washington hawthorn | *Crataegus phaenopyrum* | ● | ● | | | | ● | ● | ● | | |
| Hawthorn | *Crataegus mollis* | ● | ● | | | | ● | ● | ● | | |
| Wahoo | *Euonymous atropurpureus* | ● | ● | ● | | ● | ● | | ● | | |
| Witch-hazel | *Hamamelis virginiana* | | ● | ● | | ● | ● | | | ● | ● |
| American holly | *Ilex opaca* | ● | ● | ● | | ● | ● | | | ● | |
| Cucumbertree | *Magnolia acuminata* | | ● | ● | | ● | | | | | |
| Hop-hornbeam | *Ostrya virginiana* | | ● | ● | | ● | ● | | ● | | |
| Sourwood | *Oxydendrum arboreum* | | ● | ● | | | ● | ● | | ● | ● |
| American plum | *Prunus americana* | ● | ● | | | | ● | ● | ● | | |
| Chicasaw plum | *Prunus angustifolia* | ● | ● | | | ● | ● | ● | | | |
| Hop tree | *Ptelea trifoliata* | ● | ● | ● | | | ● | ● | ● | | |
| Carolina buckthorn | *Rhamnus caroliniana* | ● | ● | ● | | | ● | ● | ● | | |

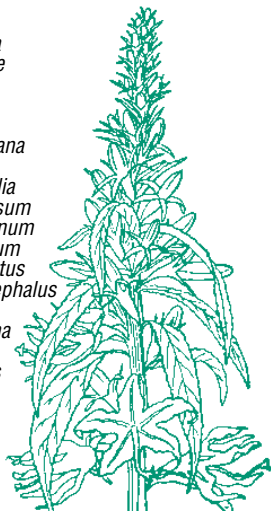
| COMMON NAME | SCIENTIFIC NAME | LIGHT | | | MOISTURE | | | | SOIL pH | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SMALL TREES** (CONTINUED) | | F | P | S | H | M | S | X | B | A | R |
| Staghorn sumac | *Rhus typhina* | ● | ● | | | | ● | ● | | | |
| Southern rusty blackhaw | *Viburnum rufidulum* | ● | ● | ● | | ● | ● | ● | ● | | |
| Northern blackhaw | *Viburnum prunifolium* | ● | ● | ● | | ● | ● | ● | | | |
| **TREES** | | | | | | | | | | | |
| Red maple | *Acer rubrum* | ● | ● | ● | ● | | ● | ● | | ● | |
| Silver maple | *Acer saccharinum* | ● | ● | | ● | | | | | | |
| Sugar maple | *Acer saccharum* | ● | ● | ● | | ● | ● | | ● | | |
| Buckeye | *Aesculus glabra* | | ● | ● | | ● | ● | | | | |
| Yellow buckeye | *Aesculus octandra* | | ● | ● | | ● | ● | | | | |
| 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* | ● | ● | ● | ● | ● | ● | ● | ● | | |
| Kentucky coffeetree | *Gymnocladus dioicus* | ● | ● | ● | | ● | ● | | ● | | |
| Black walnut | *Juglans nigra* | ● | ● | ● | | ● | ● | | ● | | |
| Red cedar | *Juniperus virginiana* | ● | ● | | | | ● | ● | ● | | |
| Sweetgum | *Liquidambar styraciflua* | ● | ● | ● | ● | ● | ● | ● | | ● | |
| Tulip poplar | *Liriodendron tulipifera* | ● | ● | | | ● | ● | | | | |
| Blackgum | *Nyssa sylvatica* | ● | ● | ● | | | ● | ● | | ● | |
| Red mulberrry | *Morus rubra* | ● | ● | ● | | ● | ● | ● | | | |
| Virginia pine | *Pinus virginiana* | ● | | | | | ● | ● | | ● | |
| Shortleaf pine | *Pinus echinata* | ● | | | | | ● | ● | | ● | |
| Sycamore | *Platanus occidentalis* | ● | ● | | ● | ● | | | ● | | |
| Black cherry | *Prunus serotina* | ● | ● | | | ● | ● | ● | | | |
| White oak | *Quercus alba* | ● | ● | | | ● | ● | ● | | | |
| Chinkapin oak | *Quercus muhlenbergii* | ● | ● | | | ● | ● | ● | ● | | ● |
| Chestnut oak | *Quercus prinus* | ● | ● | | | | ● | ● | | ● | ● |
| Bur oak | *Quercus macrocarpa* | ● | ● | | ● | ● | ● | | | | |
| Northern red oak | *Quercus rubra* | ● | ● | | ● | ● | ● | | | | |
| Black oak | *Quercus velutina* | ● | ● | | | ● | ● | ● | | | |
| Pin oak | *Quercus palustris* | ● | ● | | ● | ● | ● | ● | | | |
| Post oak | *Quercus stellata* | ● | ● | | | | ● | ● | | | |
| Shumard oak | *Quercus shumardii* | ● | ● | | ● | ● | ● | ● | ● | | ● |
| Scarlet oak | *Quercus coccinia* | ● | ● | | | | ● | ● | | ● | ● |
| Swamp white oak | *Quercus michauxii* | ● | ● | | ● | ● | | | | | |
| Water oak | *Quercus nigra* | ● | ● | | ● | ● | | | | | |
| Willow oak | *Quercus phellos* | ● | ● | | ● | ● | ● | ● | | | |
| Southern red oak | *Quercus falcata* | ● | ● | | | | ● | ● | | ● | |
| Black willow | *Salix nigra* | ● | ● | | ● | | | | ● | | |
| Sassafras | *Sassafras albidum* | ● | ● | | | ● | ● | | | | |
| Basswood | *Tilia americana* | ● | ● | ● | | ● | ● | | | | |
| **VINES** | | | | | | | | | | | |
| Crossvine | *Bignonia capreolata* | ● | ● | | ● | ● | ● | | | | |
| Trumpet creeper | *Campsis radicans* | ● | ● | | | | ● | ● | | | |
| Leatherflower | *Clematis versicolor* | ● | ● | ● | | ● | ● | ● | | | |
| Virgin's bower | *Clematis virginiana* | ● | ● | ● | | ● | ● | ● | | | |
| Coral honeysuckle | *Lonicera sempervirens* | ● | ● | ● | | ● | ● | ● | | | |
| Virginia creeper | *Parthenocissus quinquefolia* | ● | ● | ● | | ● | ● | ● | | | |
| Passion flower | *Passiflora incarnata* | ● | ● | | | | ● | ● | | | |

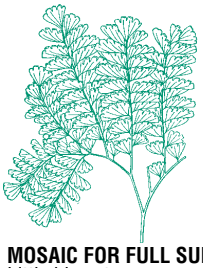
**GRASSES**

| | |
|---|---|
| Big bluestem | *Andropogon gerardii* |
| Little bluestem | *Andropogon scoparius* |
| broomsedge | *Andropogon virginicus* |
| river cane | *Arundinaria gigantea* |
| river oats, Spangle grass | *Chasmanthium latifolium* |
| Canada wild rye | *Elymus canadensis* |
| Bottle brush | *Hystrix patula* |
| Switch-grass | *Panicum virgatum* |
| Indian grass | *Sorghastrum nutans* |

**FLOWERS**

| | |
|---|---|
| Doll's-eye baneberry | *Actaea alba* |
| Thimbleweed | *Anemone virginiana* |
| Wild columbine | *Aquilegia canadensis* |
| Wild ginger | *Asarum canadense* |
| Butterfly weed | *Asclepias tuberosa* |
| Swamp milkweed | *Asclepias incarnata* |
| New England aster | *Aster novae-angliae* |
| Bushy aster | *Aster dumosus* |
| Fall blue aster | *Aster patens* |
| Blue false indigo | *Baptisia australis* |
| Tall bellflower | *Campanula americana* |
| Coreopsis | *Coreopsis major* |
| Shooting star | *Dodecatheon meadia* |
| Joe-Pye weed | *Eupatorium fistulosum* |
| Mist flower | *Euportium coelestinum* |
| Wild geranium | *Geranium maculatum* |
| Woods sunflower | *Helianthus divaricatus* |
| Small headed sunflower | *Helianthus microcephalus* |
| Liverleaf | *Hepatica acutiloba* |
| Alumroot | *Heuchera americana* |
| Jewelweed | *Impatiens pallida* |
| Spotted jewelweed | *Impatiens capensis* |
| Dwarf crested iris | *Iris cristata* |
| Cardinal flower | *Lobelia cardinalis* |
| Great blue lobelia | *Lobelia syphilitica* |
| Virginia bluebells | *Mertensia virginica* |
| Partridge-berry | *Mitchella repens* |
| Bergamot | *Monarda fistulosa* |
| Prickly pear | *Opuntia humifusa* |
| Appalachian pachysandra | *Pachysandra procumbens* |
| Wild blue phlox | *Phlox divaricata* |
| Beard-tongue | *Pentstemon calycosus* |
| Jacob's ladder | *Polemonium reptans* |
| Poke weed | *Phytolacca americana* |
| Solomon's seal | *Polygonatum biflorum* |
| Wild Petunia | *Ruellia humilis* |
| Fire Pink | *Silene virginica* |
| Indian Pink | *Spigelia marilandica* |





**FERNS**

| | |
|---|---|
| Lady-fern | *Athyrium felix-femina* |
| Sensitive fern | *Onoclea sensibilis* |
| Cinnamon fern | *Osmunda cinnamomea* |
| Chain fern | *Woodwardia areolata* |
| Maidenhair fern | *Adiantum pedatum* |
| Ebony spleenwort | *Asplenium platyneuron* |
| Christmas fern | *Polystichum acrostichoides* |
| Common grape fern | *Botrychium dissectum* |
| Broad beech fern | *Phegopteris hexagonaptera* |
| Common woodsia | *Woodsia obtusa* |

**MOSAIC FOR FULL SUN**

| | |
|---|---|
| Little blue stem | *Andropogon scoparius* |
| Big blue stem | *Andropogon gerardii* |
| Indian grass | *Sorghastum nutans* |
| Canada rye grass | *Elymus canadensis* |
| Grey headed coneflower | *Ratibida pinnata* |
| Blackeyed susan | *Rudbeckia hirta & triloba* |
| New England aster | *Aster novae-anglie* |
| Bushy aster | *Aster dumosus* |
| Butterfly weed | *Asclepias tuberosa* |
| Blue false indigo | *Baptisia australis* |
| Rose vervain | *Verbena canadensis* |
| Joe Pye weed | *Eupatorium fistulosum* |
| Wild bergamot | *Monarda fistulosa* |
| Ironweed | *Vernonia altissima* |
| Shooting star | *Dodecatheon meadia* |

**MOSAIC FOR SHADE**

| | |
|---|---|
| Thimbleweed | *Anemone virginiana* |
| Wild Ginger | *Asarum canadense* |
| Ebony Spleenwort | *Asplenium platyneuron* |
| Shooting Star | *Dodecatheon meadia* |
| Alumroot | *Heuchera americana* |
| Pachysandra | *Pachysandra procumbens* |
| Christmas Fern | *Polystichum acrostichoides* |
| Broad Beech Fern | *Phegopteris hexagonaptera* |
| Golden Ragwort | *Senecio glabellus* |
| Foam-flower | *Tiarella cordifolia* |
| Spiderwort | *Tradescantia virginiana* |
| Violets | *Violet spp.* |
| Woodsia | *Woodisa obtusa* |

# 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.

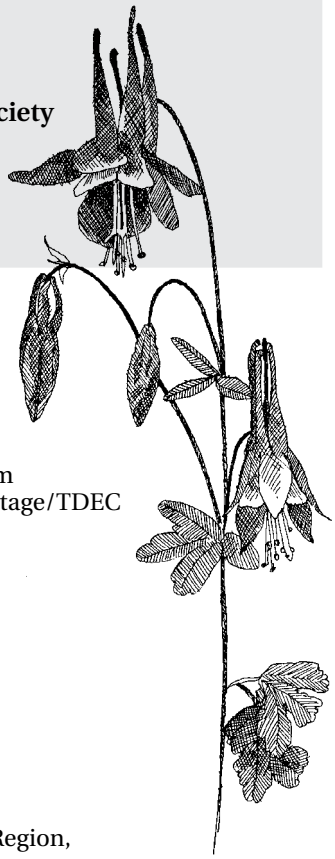
## For more information

**Warner Park Nature Center**
7311 Highway 100
Nashville TN 37221
615/352-6299

**Tennessee Dept. of Environment and Conservation (TDEC)**
Division of Natural Heritage
401 Church Street, 8th Floor
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
615/532-0439



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U.S. Fish and Wildlife Service
Southern Appalachian Man and Biosphere Foundation

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