

Interior Low Plateau Cedar Glades

Conservation Opportunity Area



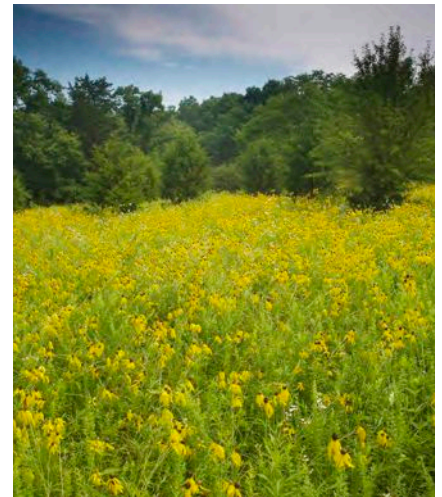
Cedar glade habitats are characterized by their limestone outcrops and shallow soils. Middle Tennessee is highly recognized for its high concentration of these habitats, which are considered one of the rarest habitats in the southeastern United States. Other notable features of cedar glades are their association with dense thickets of cedar trees, upland forests, and grass dominated barrens in a matrix of different habitat types. These components of the cedar glade ecosystem create habitats for a diverse flora and fauna.

Pyne's Ground-plum (*Astragalus bibullatus*), a federally listed plant species, was once thought to be extirpated until recently rediscovered in cedar glades of Tennessee. The first- and second-order streams within the upland forests associated with cedar glades in middle Tennessee provide terrestrial and breeding habitat for the Streamside Salamander, a species of Greatest Conservation Need. This salamander requires both upland forests and streams to complete its life cycle.

Population growth is expected to continue in this region at one of the highest rates for the state overall during the coming decades. Urban sprawl threatens to further reduce, degrade and fragment glade habitats. Many of the cedar glades' rare species of flora and fauna have evolved life history characteristics that reduce their ability to move across the environment, making connectivity among these habitats crucial for maintaining genetic diversity. Furthermore, many cedar glade and barren species evolved with fire (from lightning strikes and Native American management), and some require fire either for propagation or for maintenance of open habitat structure. Without active management using prescribed fire, the grass-dominated barrens within cedar glades will be lost.

Public Lands within the COA

Black Fox Wetland, Cedars of Lebanon State Forest/State Park (SP)/State Natural Area (SNA), Couchville Cedar Glade SNA, Elsie Quarterman Cedar Glade SNA, Fat Sanders Barrens SNA, Flat Rock SNA, Gattingers Cedar Glade & Barrens SNA, Haley-Jaqueth Wildlife Management Area (WMA), John & Hester Lane Cedar Glades SNA, Long Hunter SP, Manus Road Cedar Glade SNA, Murfree Spring Wetland, Overbridge SNA, Percy Priest WMA, Stones River National Battlefield, Sunnyside Cedar Glade SNA, Vesta Cedar Glade SNA, Vine Cedar Glade SNA, Walterhill Floodplain SNA



Middle Tennessee is highly recognized for its cedar glades, considered one of the rarest habitats in the southeastern United States.

Top to bottom: Couchville Cedar State Natural Area - Byron Jorjorian/next page: Pyne's Ground-plum (*Astragalus bibullatus*) - Ryan Kaldari

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Partnerships

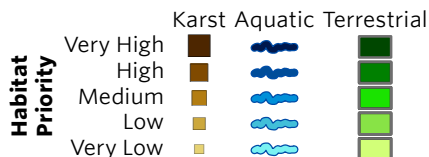
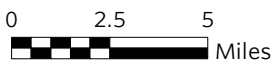
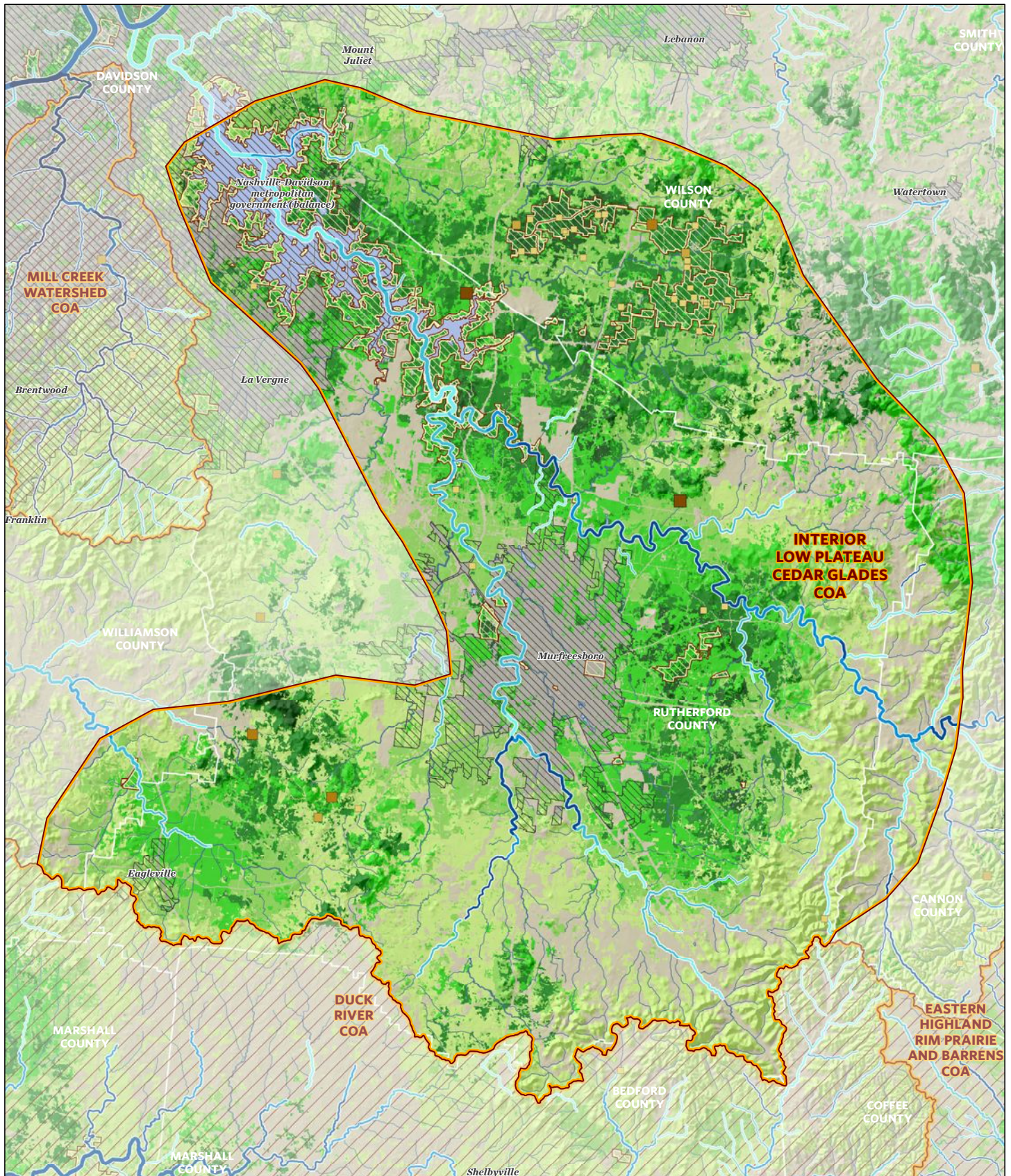
TWRA will implement strategies to improve protection and management of cedar glades, their associated matrix habitats, and many GCN plant and animal species. TWRA will develop and foster partnerships with the U.S. Fish and Wildlife Service, Natural Resources Conservation Service, U.S. Army Corps of Engineers, Tennessee Dept. of Environment and Conservation, Tennessee Valley Authority, The Nature Conservancy, Middle Tenn. State University, other universities, local governments, and private landowners.



Desired Change	Units
+ Increase the application of Best Management Practices to benefit GCN species and habitats on private lands using government funded incentive programs	number
+ Increase acres of native ecosystems by restoring pastures and agricultural lands.	acres
+ Restore acres or stream miles of degraded habitat.	acres/ miles
+ Increase acres of fire-dependent grasslands and forest managed with prescribed fire.	acres
+ Increase understanding of species' life history, ecological needs, geographical distribution and/or habitat changes through scientific surveys to improve management aimed at promoting survival over the long-term.	projects
+ Increase acres of habitat under permanent conservation management to benefit GCN species/increase habitat connectivity.	acres
+ Decrease the negative effects of development on GCN species and habitats by encouraging municipal and county governments to limit or regulate urban growth within critical units of aquatic, subterranean, and terrestrial habitats.	plans
+ Improve ecosystem management in conservation areas by developing and implementing integrated conservation plans for all public/private conservation areas within the COA.	plans

To learn more about the Interior Low Plateau Cedar Glades Conservation Opportunity Area, please contact: Josh Campbell, Wildlife Diversity Coordinator, Region 2 (615) 781-6626

Interior Low Plateau Cedar Glades Conservation Opportunity Area Tennessee State Wildlife Action Plan 2015



Conservation Opportunity Area
 Protected Land



The Nature Conservancy
 Protecting nature. Preserving life.

INTERIOR LOW PLATEAU CEDAR GLADES COA GCN SPECIES (TN)	
Taxa Group	Scientific & Common names
Amphibian	Ambystoma barbouri (Streamside Salamander)
Amphibian	Pseudotriton montanus (Mud Salamander)
Bat	Myotis grisescens (Gray Bat)
Bat	Myotis sodalis (Indiana Bat)
Bat	Perimyotis subflavus (Tri-colored Bat)
Bird	Accipiter striatus (Sharp-shinned Hawk)
Bird	Ammodramus leconteii (LeConte's Sparrow)
Bird	Ammodramus savannarum (Grasshopper Sparrow)
Bird	Anas rubripes (American Black Duck)
Bird	Aquila chrysaetos (Golden Eagle)
Bird	Asio flammeus (Short-eared Owl)
Bird	Bartramia longicauda (Upland Sandpiper)
Bird	Botaurus lentiginosus (American Bittern)
Bird	Calidris mauri (Western Sandpiper)
Bird	Calidris pusilla (Semipalmated Sandpiper)
Bird	Caprimulgus carolinensis (Chuck-will's-widow)
Bird	Caprimulgus vociferus (Whip-poor-will)
Bird	Cardellina canadensis (Canada Warbler)
Bird	Chaetura pelagica (Chimney Swift)
Bird	Chordeiles minor (Common Nighthawk)
Bird	Circus cyaneus (Northern Harrier)
Bird	Cistothorus platensis (Sedge Wren)
Bird	Colinus virginianus (Northern Bobwhite)
Bird	Egretta caerulea (Little Blue Heron)
Bird	Empidonax minimus (Least Flycatcher)
Bird	Empidonax traillii (Willow Flycatcher)
Bird	Euphagus carolinus (Rusty Blackbird)
Bird	Falco peregrinus (Peregrine Falcon)
Bird	Geothlypis Formosa (Kentucky Warbler)
Bird	Grus americana (Whooping Crane)
Bird	Haliaeetus leucocephalus (Bald Eagle)
Bird	Helmitheros vermivorum (Worm-eating Warbler)
Bird	Hylocichla mustelina (Wood Thrush)
Bird	Icteria virens (Yellow-breasted Chat)
Bird	Icterus spurius (Orchard Oriole)
Bird	Ictinia mississippiensis (Mississippi Kite)
Bird	Lanius ludovicianus (Loggerhead Shrike)
Bird	Limnithlypis swainsonii (Swainson's Warbler)
Bird	Melanerpes erythrocephalus (Red-headed Woodpecker)
Bird	Nycticorax nycticorax (Black-crowned Night-heron)
Bird	Parkesia motacilla (Louisiana Waterthrush)
Bird	Pluvialis dominica (American Golden Plover)
Bird	Protonotaria citrea (Prothonotary Warbler)
Bird	Riparia riparia (Bank Swallow)
Bird	Scolopax minor (American Woodcock)
Bird	Setophaga cerulea (Cerulean Warbler)
Bird	Setophaga discolor (Prairie Warbler)
Bird	Setophaga fusca (Blackburnian Warbler)
Bird	Sturnella magna (Eastern Meadowlark)
Bird	Thryomanes bewickii (Bewick's Wren)
Bird	Tryngites subruficollis (Buff-breasted Sandpiper)
Bird	Tyto alba (Barn Owl)

INTERIOR LOW PLATEAU CEDAR GLADES COA GCN SPECIES (TN)	
Taxa Group	Scientific & Common names
Bird	<i>Vermivora cyanoptera</i> (Blue-winged Warbler)
Bivalve	<i>Alasmidonta viridis</i> (Slippershell Mussel)
Bivalve	<i>Medionidus conradicus</i> (Cumberland Moccasinshell)
Bivalve	<i>Pleurobema gibberum</i> (Cumberland Pigtoe)
Bivalve	<i>Quadrula cylindrica cylindrica</i> (Rabbitsfoot)
Bivalve	<i>Villosa taeniata</i> (Painted Creekshell)
Crustacean	<i>Cambarus williamsi</i> (Brawleys Fork Crayfish)
Fish	<i>Erimonax monachus</i> (Spotfin Chub)
Fish	<i>Erimystax insignis</i> (Blotched Chub)
Fish	<i>Etheostoma luteovinctum</i> (Redband Darter)
Fish	<i>Etheostoma microlepidum</i> (Smallscale Darter)
Fish	<i>Notropis rubellus</i> (Rosyface Shiner)
Fish	<i>Notropis rupestris</i> (Bedrock Shiner)
Insect	<i>Gomphus sandrius</i> (Tennessee Clubtail)
Mammal	<i>Neotoma magister</i> (Allegheny Woodrat)
Mammal	<i>Zapus hudsonius</i> (Meadow Jumping Mouse)
Plant	<i>Allium burdickii</i> (Narrow-leaf Ramps)
Plant	<i>Allium stellatum</i> (Glade Onion)
Plant	<i>Ammoselinum popei</i> (Pope's Sand-parsley)
Plant	<i>Amsonia tabernaemontana</i> var. <i>gattingeri</i> (Limestone Blue Star)
Plant	<i>Anemone caroliniana</i> (Carolina Anemone)
Plant	<i>Turritis glabra</i> (Tower-mustard)
Plant	<i>Arabis hirsuta</i> (Western Hairy Rockcress)
Plant	<i>Arnoglossum plantagineum</i> (Fen Indian-plantain)
Plant	<i>Astragalus bibullatus</i> (Pyne's Ground-plum)
Plant	<i>Astragalus tennesseensis</i> (Tennessee Milk-vetch)
Plant	<i>Boechera perstellata</i> (Braun's Rockcress)
Plant	<i>Carex davisii</i> (Davis' Sedge)
Plant	<i>Castanea dentata</i> (American Chestnut)
Plant	<i>Dalea candida</i> (White Prairie-clover)
Plant	<i>Dalea foliosa</i> (Leafy Prairie-clover)
Plant	<i>Dalea purpurea</i> (Purple Prairie-clover)
Plant	<i>Echinacea simulata</i> (Wavy-leaf Purple Coneflower)
Plant	<i>Echinacea tennesseensis</i> (Tennessee Coneflower)
Plant	<i>Eleocharis wolfii</i> (Wolf Spike-rush)
Plant	<i>Evolvulus nuttallianus</i> (Evolvulus)
Plant	<i>Fimbristylis puberula</i> (Hairy Fimbristylis)
Plant	<i>Gentiana puberulenta</i> (Downy Gentian)
Plant	<i>Helianthus occidentalis</i> (Naked-stem Sunflower)
Plant	<i>Isoetes melanopoda</i> (Blackfoot Quillwort)
Plant	<i>Juglans cinerea</i> (Butternut)
Plant	<i>Lejeunea sharpii</i> (Sharp's Lejeunea)
Plant	<i>Liatris cylindracea</i> (Slender Blazing-star)
Plant	<i>Lilium canadense</i> (Canada Lily)
Plant	<i>Lilium michiganense</i> (Michigan Lily)
Plant	<i>Mirabilis albida</i> (Pale Umbrella-wort)
Plant	<i>Neviusia alabamensis</i> (Alabama Snow-wreath)
Plant	<i>Oenothera macrocarpa</i> (Missouri Primrose)
Plant	<i>Onosmodium molle</i> ssp. <i>subsetosum</i> (Smooth False Gromwell)
Plant	<i>Panax quinquefolius</i> (American Ginseng)
Plant	<i>Paysonia densipila</i> (Duck River Bladderpod)
Plant	<i>Paysonia stonensis</i> (Stones River Bladderpod)

INTERIOR LOW PLATEAU CEDAR GLADES COA GCN SPECIES (TN)	
Taxa Group	Scientific & Common names
Plant	<i>Perideridia americana</i> (Thicket Parsley)
Plant	<i>Phemeranthus calcaricus</i> (Limestone Fame-flower)
Plant	<i>Phlox bifida</i> ssp. <i>stellaria</i> (Glade Cleft Phlox)
Plant	<i>Phlox pilosa</i> ssp. <i>ozarkana</i> (Ozark Downy Phlox)
Plant	<i>Polygala boykinii</i> (Boykin's Milkwort)
Plant	<i>Prenanthes crepidinea</i> (Nodding Rattlesnake-root)
Plant	<i>Schoenolirion croceum</i> (Yellow Sunnybell)
Plant	<i>Scleria verticillata</i> (Low Nutrush)
Plant	<i>Silphium pinnatifidum</i> (Southern Prairie-dock)
Plant	<i>Solidago gattingeri</i> (Gattinger's Goldenrod)
Plant	<i>Sporobolus heterolepis</i> (Northern Dropseed)
Plant	<i>Stellaria fontinalis</i> (Water Stitchwort)
Plant	<i>Trifolium calcaricum</i> (Running Glade Clover)
Plant	<i>Veronica catenata</i> (Sessile Water-speedwell)
Plant	<i>Zanthoxylum americanum</i> (Northern Prickly-ash)
Reptile	<i>Crotalus horridus</i> (Timber Rattlesnake)
Reptile	<i>Terrapene carolina</i> (Eastern Box Turtle)
Subterranean - Amphibian	<i>Gyrinophilus palleucus</i> (Tennessee Cave Salamander)
Subterranean - Amphibian	<i>Gyrinophilus palleucus necturoides</i> (Big Mouth Cave Salamander)
Subterranean - Amphibian	<i>Gyrinophilus palleucus palleucus</i> (Pale Salamander)
Subterranean - Arachnid	<i>Eidmanella pallida</i> (Pallid cave spider)
Subterranean - Arachnid	<i>Hesperochernes mirabilis</i> (Southeastern Cave Pseudoscorpion)
Subterranean - Arachnid	<i>Liocranoides coylei</i> (Coyle's tengellid spider)
Subterranean - Arachnid	<i>Macrocheles</i> sp. 1 (mite)
Subterranean - Arachnid	<i>Phanetta subterranea</i> (Subterranean sheet-web spider)
Subterranean - Crustacean	<i>Bactrurus</i> undescribed sp. (groundwater amphipod)
Subterranean - Crustacean	<i>Caecidotea bicrenata</i> ((a cave obligate isopod))
Subterranean - Crustacean	<i>Caecidotea bicrenata bicrenata</i> ((a cave obligate isopod))
Subterranean - Crustacean	<i>Cambarus tenebrosus</i> (Cavespring Crayfish)
Subterranean - Crustacean	<i>Stygobromus exilis</i> (Central Kentucky Cave Obligate)
Subterranean - Crustacean	<i>Triconiscus pusillus</i> (terrestrial isopod)
Subterranean - Fish	<i>Typhlichthys subterraneus</i> (Southern Cavefish)
Subterranean - Flatworm	<i>Sphalloplana percoeca</i> ((a cave obligate planarian))
Subterranean - Insect	<i>Atheta annexa</i> ((a rove beetle))
Subterranean - Insect	<i>Atheta trogliphila</i> ((a trogliphilic rove beetle))
Subterranean - Insect	<i>Batriasymmodes quisnamus</i> ((a cave obligate beetle))
Subterranean - Insect	<i>Ceratophysella</i> undescribed sp., <i>denticulata</i> group (springtail)
Subterranean - Insect	<i>Ceuthophilus</i> sp. (cave crickets)
Subterranean - Insect	<i>Folsomia candida</i> (springtail)
Subterranean - Insect	<i>Litocampa cookei</i> (Cooke's Cave Dipluran)
Subterranean - Insect	<i>Megaselia cavernicola</i> (cave hump-backed fly)
Subterranean - Insect	<i>Nemadus horni</i> (small carrion beetle)
Subterranean - Insect	<i>Platynus tenuicollis</i> (ground beetle)
Subterranean - Insect	<i>Pseudanophthalmus acherontis</i> (Echo Cave Beetle)
Subterranean - Insect	<i>Pseudosinella hirsuta</i> (Hirsute Cave Springtail)
Subterranean - Insect	<i>Spelobia tenebrarum</i> (Cave dung fly)
Subterranean - Millipede	<i>Scoterpes musicarustica</i> ((a cave obligate millipede))
Subterranean - Millipede	<i>Scoterpes tricornis</i> ((a cave obligate millipede))

INTERIOR LOW PLATEAU CEDAR GLADES COA HABITATS	
Terrestrial Habitat Type	Total acres of very high, high, and medium ranked habitat
Natural habitats	
Southern Interior Low Plateau Dry-Mesic Oak Forest	56664
Nashville Basin Limestone Glade and Woodland	55476
South-Central Interior Mesophytic Forest	3870
South-Central Interior Small Stream and Riparian	814
South-Central Interior Large Floodplain	50
Semi-natural habitats	
Pasture	36112
Old Field / Successional	18336
Cropland	5841
Aquatic Habitat Type	Total stream miles of very high, high, and medium ranked habitat
Headwaters and Streams	13
Small River	46