

Blue Ridge

Conservation Opportunity Area



The Blue Ridge Conservation Opportunity Area (COA) is located in the Southern Appalachian Mountains of east Tennessee. The Cherokee National Forest, located within this COA, comprises the largest tract of public land in the state at a total of 650,000 acres. These public lands adjoin other national forests in Virginia and North Carolina. Within this COA, there are approximately 320 square miles of aquatic habitat within four distinct watersheds that have been identified as potential conservation areas.

This COA is characterized by mid- to high-elevation streams and terrestrial habitats that vary from 1,500 (450 m) to 6,400 feet (1950 m) in elevation. This COA contains all of the Brook trout resources in the state and is home to several populations of Eastern Hellbender, as well as the only population of Bog Turtles in the state. A significant eastern hemlock component is critical for numerous species of Greatest Conservation Need (GCN), both aquatic and terrestrial. Also of great interest in the southern portion of this COA are the state listed Blue Sucker and Olive Darter, as well as the state endangered Lake Sturgeon.

Outside of the national forest, this COA is threatened by incompatible agricultural activities, structures that interrupt stream connectivity, and development in sensitive areas. Within the national forest, there are acid deposition issues, a decline in the hemlock forest component, and invasive species that impact GCN wildlife and their habitats.

Public Lands within the COA

Andrew Johnson Game Refuge, Bumpus Cove Wildlife Management Area (WMA), Davy Crockett Birthplace State Park (SP), Erwin Fish Hatchery, French Broad State Scenic River, Great Smoky Mountains National Park & Foothills, Hampton Creek Cove State Natural Area, Henderson Swamp, Joachim Bible Refuge, Lick Creek Bottoms WMA, Martha Sundquist State Forest, Mullins Island, Nolichucky WMA, North Cherokee National Forest, Rankin Bottom WMA, Roan Mountain SP



This region contains all of the Brook Trout resources in the state and is home to several populations of Eastern Hellbender, as well as the only Bog Turtles in the state.

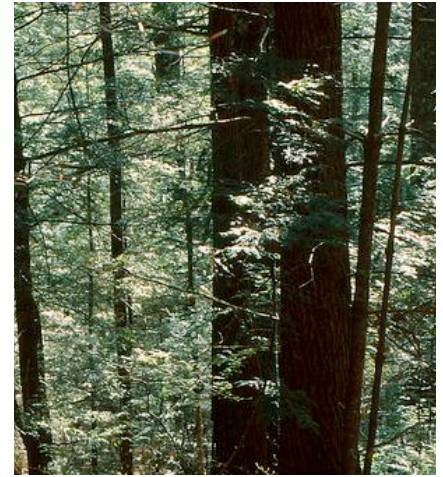


Top to bottom: **Brook Trout** - Dave Hersimtschuk, Freshwaters Illustrated; **Bog Turtle** showing characteristic yellow neck markings- Scott Dykes, TWRA/next page: **Sunlight on Hemlocks** - Ron Jones

Blue Ridge Conservation Opportunity Area

Partnerships

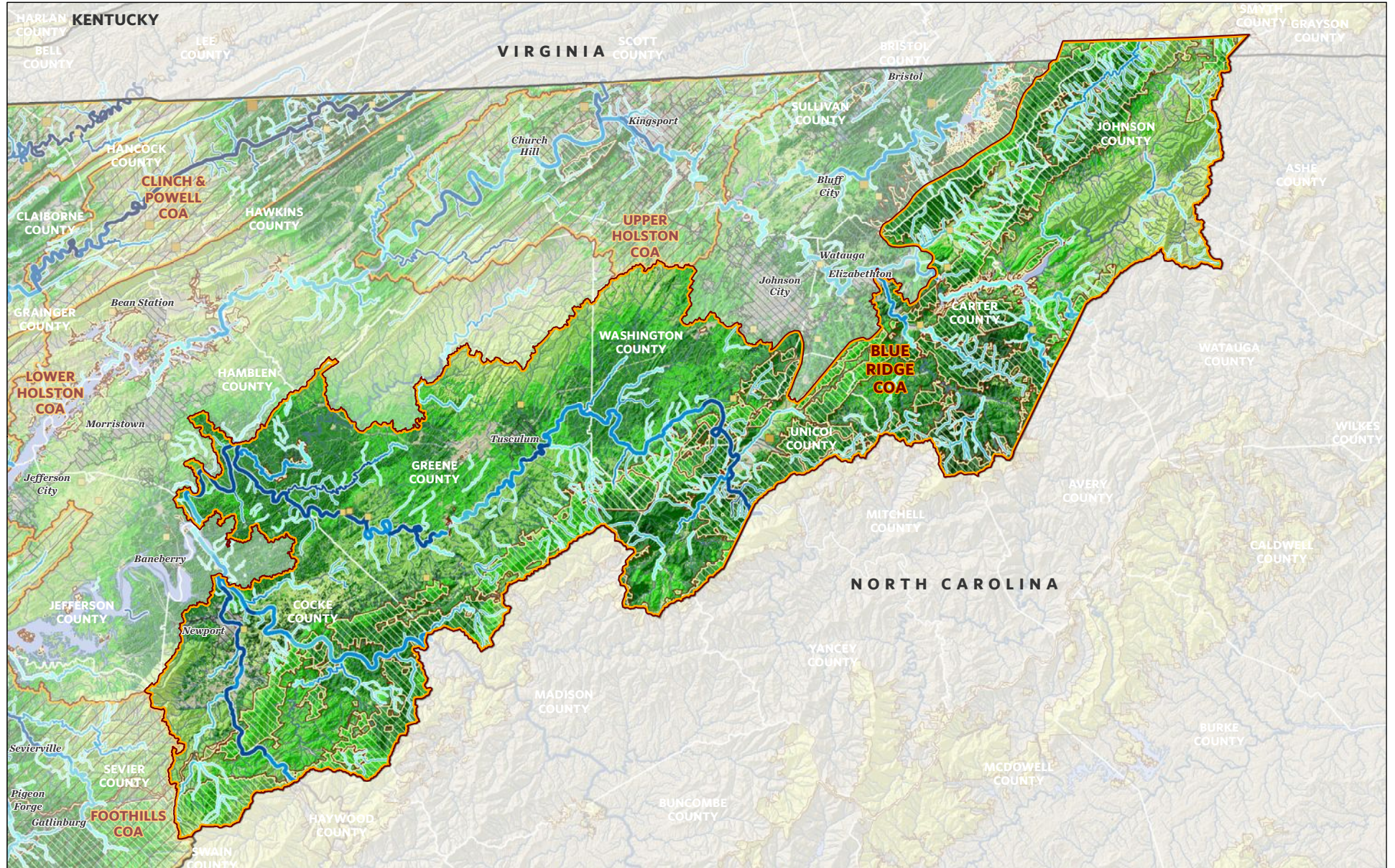
TWRA will continue to work with the U.S. Fish and Wildlife Service, U.S. Forest Service, National Park Service, Natural Resources Conservation Service, Tennessee Dept. of Environment and Conservation, Tennessee Valley Authority, Tennessee Aquarium, other agencies, Knoxville Zoo, the Little River Watershed Association, Quail Forever, Trout Unlimited, other NGOs, city and county governments and private developers to implement management and planning strategies that maintain and protect quality habitats on both public and private lands and to implement strategies to eliminate Wild Hogs.



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 appropriate natural ecological systems in or near critical habitat units by restoring degraded forests and other areas.	acres
+ Restore acres or stream miles of habitat through natural process restoration.	acres/miles
+ Develop and implement integrated pest management plan to aid in the control of native and exotic pests.	acres
+ Improve knowledge of the geographical distribution of GCN species and/or habitat changes through scientific surveys.	projects
+ Increase acres of protected habitat through purchase of land - whether fee title or easements - to link public lands; increase connectivity between habitats; or secure unique habitats/areas for restoration and management.	acres
+ Increase and improve the awareness, education, and cooperation of stakeholders/citizens pertaining to GCN species and habitat.	number
- Decrease the negative effects of development on GCN species and habitats by providing data to municipalities in planning/zoning processes with potential impacts on GCN species.	plans
+ Increase key GCN species populations through propagation and/or translocation .	animals

To learn more about the Blue Ridge Conservation Opportunity Area, please contact:
Scott Dykes, Wildlife Diversity Coordinator, Region 4 (423) 587-7037

Blue Ridge Conservation Opportunity Area



Habitat Priority

Very High			
High			
Medium			
Low			
Very Low			

Karst Aquatic Terrestrial

Conservation Opportunity Area

Protected Land



BLUE RIDGE COA GCN SPECIES (TN)

Taxa Group	Scientific & Common Names
Amphibian	<i>Cryptobranchus alleganiensis</i> (Hellbender)
Amphibian	<i>Desmognathus aeneus</i> (Seepage Salamander)
Amphibian	<i>Desmognathus wrighti</i> (Pygmy Salamander)
Amphibian	<i>Hemidactylium scutatum</i> (Four-toed Salamander)
Amphibian	<i>Plethodon jordani</i> (Red-cheeked Salamander)
Amphibian	<i>Plethodon montanus</i> (Northern Gray-cheeked Salamander)
Amphibian	<i>Plethodon welleri</i> (Weller's Salamander)
Amphibian	<i>Plethodon yonahlossee</i> (Yonahlossee Salamander)
Arachnid	<i>Microhexura montivaga</i> (Spruce-fir Moss Spider)
Bat	<i>Corynorhinus rafinesquii</i> (Rafinesque's Big-eared Bat)
Bat	<i>Corynorhinus townsendii virginianus</i> (Virginia Big-eared Bat)
Bat	<i>Myotis grisescens</i> (Gray Bat)
Bat	<i>Myotis leibii</i> (Eastern Small-footed Bat)
Bat	<i>Myotis lucifugus</i> (Little Brown Bat)
Bat	<i>Myotis septentrionalis</i> (Northern Myotis)
Bat	<i>Perimyotis subflavus</i> (Tri-colored Bat)
Bird	<i>Accipiter striatus</i> (Sharp-shinned Hawk)
Bird	<i>Aegolius acadicus</i> (Northern Saw-whet Owl)
Bird	<i>Ammodramus henslowii</i> (Henslow's Sparrow)
Bird	<i>Ammodramus leconteii</i> (LeConte's Sparrow)
Bird	<i>Ammodramus savannarum</i> (Grasshopper Sparrow)
Bird	<i>Anas rubripes</i> (American Black Duck)
Bird	<i>Aquila chrysaetos</i> (Golden Eagle)
Bird	<i>Asio flammeus</i> (Short-eared Owl)
Bird	<i>Bonasa umbellus</i> (Ruffed Grouse)
Bird	<i>Calidris canutus</i> (Red Knot)
Bird	<i>Calidris himantopus</i> (Stilt Sandpiper)
Bird	<i>Calidris mauri</i> (Western Sandpiper)
Bird	<i>Calidris pusilla</i> (Semipalmated Sandpiper)
Bird	<i>Caprimulgus carolinensis</i> (Chuck-will's-widow)
Bird	<i>Caprimulgus vociferus</i> (Whip-poor-will)
Bird	<i>Cardellina canadensis</i> (Canada Warbler)
Bird	<i>Certhia americana</i> (Brown Creeper)
Bird	<i>Chaetura pelagica</i> (Chimney Swift)
Bird	<i>Charadrius melodus melodus</i> (Piping Plover)
Bird	<i>Chordeiles minor</i> (Common Nighthawk)
Bird	<i>Circus cyaneus</i> (Northern Harrier)
Bird	<i>Cistothorus platensis</i> (Sedge Wren)
Bird	<i>Colinus virginianus</i> (Northern Bobwhite)
Bird	<i>Contopus cooperi</i> (Olive-sided Flycatcher)
Bird	<i>Empidonax alnorum</i> (Alder Flycatcher)
Bird	<i>Empidonax minimus</i> (Least Flycatcher)
Bird	<i>Empidonax traillii</i> (Willow Flycatcher)
Bird	<i>Euphagus carolinus</i> (Rusty Blackbird)
Bird	<i>Falco peregrinus</i> (Peregrine Falcon)
Bird	<i>Geothlypis formosa</i> (Kentucky Warbler)
Bird	<i>Grus americana</i> (Whooping Crane)
Bird	<i>Haliaeetus leucocephalus</i> (Bald Eagle)
Bird	<i>Helmitheros vermivorum</i> (Worm-eating Warbler)
Bird	<i>Hylocichla mustelina</i> (Wood Thrush)
Bird	<i>Icteria virens</i> (Yellow-breasted Chat)
Bird	<i>Icterus spurius</i> (Orchard Oriole)
Bird	<i>Ictinia mississippiensis</i> (Mississippi Kite)

BLUE RIDGE COA GCN SPECIES (TN)

Taxa Group	Scientific & Common Names
Bird	<i>Ixobrychus exilis</i> (Least Bittern)
Bird	<i>Lanius ludovicianus</i> (Loggerhead Shrike)
Bird	<i>Limnothlypis swainsonii</i> (Swainson's Warbler)
Bird	<i>Limosa haemastica</i> (Hudsonian Godwit)
Bird	<i>Melanerpes erythrocephalus</i> (Red-headed Woodpecker)
Bird	<i>Nycticorax nycticorax</i> (Black-crowned Night-heron)
Bird	<i>Parkesia motacilla</i> (Louisiana Waterthrush)
Bird	<i>Pluvialis dominica</i> (American Golden Plover)
Bird	<i>Poecile atricapillus</i> (Black-capped Chickadee)
Bird	<i>Protonotaria citrea</i> (Prothonotary Warbler)
Bird	<i>Riparia riparia</i> (Bank Swallow)
Bird	<i>Scolopax minor</i> (American Woodcock)
Bird	<i>Setophaga caerulescens</i> (Black-throated Blue Warbler)
Bird	<i>Setophaga cerulea</i> (Cerulean Warbler)
Bird	<i>Setophaga discolor</i> (Prairie Warbler)
Bird	<i>Setophaga dominica</i> (Yellow-throated Warbler)
Bird	<i>Setophaga fusca</i> (Blackburnian Warbler)
Bird	<i>Sitta pusilla</i> (Brown-headed Nuthatch)
Bird	<i>Sphyrapicus varius</i> (Yellow-bellied Sapsucker)
Bird	<i>Sturnella magna</i> (Eastern Meadowlark)
Bird	<i>Troglodytes troglodytes</i> (Winter Wren)
Bird	<i>Tryngites subruficollis</i> (Buff-breasted Sandpiper)
Bird	<i>Tyto alba</i> (Barn Owl)
Bird	<i>Vermivora chrysoptera</i> (Golden-winged Warbler)
Bird	<i>Vermivora cyanoptera</i> (Blue-winged Warbler)
Bivalve	<i>Alasmidonta raveneliana</i> (Appalachian Elktoe)
Bivalve	<i>Epioblasma capsaeformis</i> (Oyster Mussel)
Bivalve	<i>Pleuronaia barnesiana</i> (Tennessee Pigtoe)
Bivalve	<i>Ptychobranthus subtentum</i> (Fluted Kidneyshell)
Bivalve	<i>Villosa iris</i> (Rainbow)
Bivalve	<i>Villosa trabalis</i> (Cumberland Bean)
Bivalve	<i>Villosa vanuxemensis</i> (Mountain Creekshell)
Crustacean	<i>Orconectes forceps</i> (Surgeon Crayfish)
Fish	<i>Acipenser fulvescens</i> (Lake Sturgeon)
Fish	<i>Carpionodes velifer</i> (Highfin Carpsucker)
Fish	<i>Chrosomus tennesseensis</i> (Tennessee Dace)
Fish	<i>Cycleptus elongatus</i> (Blue sucker)
Fish	<i>Erimystax insignis</i> (Blotched Chub)
Fish	<i>Etheostoma acuticeps</i> (Sharphead Darter)
Fish	<i>Etheostoma gutselli</i> (Tuckasegee Darter)
Fish	<i>Etheostoma percnum</i> (Duskytail Darter)
Fish	<i>Etheostoma vulneratum</i> (Wounded Darter)
Fish	<i>Notropis rubellus</i> (Rosyface Shiner)
Fish	<i>Noturus crypticus</i> (Chucky Madtom)
Fish	<i>Percina aurantiaca</i> (Tangerine Darter)
Fish	<i>Percina squamata</i> (Olive Darter)
Fish	<i>Salvelinus fontinalis</i> (Brook Trout)
Gastropod	<i>Discus bryanti</i> (Sawtooth Disc)
Gastropod	<i>Fumonelix wheatleyi</i> (Cinnamon Covert)
Gastropod	<i>Inflectarius subpalliatu</i> (Velvet Covert)
Gastropod	<i>Mesomphix rugeli</i> (Wrinkled Button)
Gastropod	<i>Paravitrea lamellidens</i> (Lamellate Supercoil)
Gastropod	<i>Paravitrea tridens</i> (White-foot Supercoil)

BLUE RIDGE COA GCN SPECIES (TN)

Taxa Group	Scientific & Common Names
Gastropod	<i>Pilsbryna aurea</i> (Ornate Bud)
Gastropod	<i>Pilsbryna vanattai</i> (Honey Glyph)
Gastropod	<i>Stenotrema altispira</i> (Highland Slitmouth)
Gastropod	<i>Striatura exigua</i> (Ribbed Striate)
Gastropod	<i>Triodopsis anteridon</i> (Carter Threetooth)
Gastropod	<i>Ventridens coelaxis</i> (Bidentate Dome)
Gastropod	<i>Ventridens decussatus</i> (Crossed Dome)
Gastropod	<i>Vertigo clappi</i> (Cupped Vertigo)
Gastropod	<i>Vertigo parvula</i> (Smallmouth Vertigo)
Insect	<i>Speyeria diana</i> (Diana Fritillary)
Mammal	<i>Condylura cristata</i> (Star-nosed Mole)
Mammal	<i>Mustela nivalis</i> (Least Weasel)
Mammal	<i>Napaeozapus insignis</i> (Woodland Jumping Mouse)
Mammal	<i>Neotoma floridana haematorea</i> (Southern Appalachian)
Mammal	<i>Neotoma magister</i> (Allegheny Woodrat)
Mammal	<i>Ochrotomys nuttalli</i> (Golden Mouse)
Mammal	<i>Parascalops breweri</i> (Hairy-tailed Mole)
Mammal	<i>Sorex cinereus</i> (Cinereus Shrew)
Mammal	<i>Sorex dispar</i> (Long-tailed Shrew)
Mammal	<i>Sorex fumeus</i> (Smoky Shrew)
Mammal	<i>Sorex hoyi</i> (American Pygmy Shrew)
Mammal	<i>Tamiasciurus hudsonicus</i> (Red Squirrel)
Mammal	<i>Zapus hudsonius</i> (Meadow Jumping Mouse)
Plant	<i>Abies fraseri</i> (Fraser Fir)
Plant	<i>Acer leucoderme</i> (Chalk Maple)
Plant	<i>Aconitum reclinatum</i> (Trailing Wolfsbane)
Plant	<i>Adlumia fungosa</i> (Climbing Fumitory)
Plant	<i>Agastache scrophulariifolia</i> (Purple Giant Hyssop)
Plant	<i>Allium tricoccum</i> (Ramps)
Plant	<i>Alnus viridis</i> ssp. <i>crispa</i> (Green Alder)
Plant	<i>Athyrium filix-femina</i> ssp. <i>angustum</i> (Northern Lady Fern)
Plant	<i>Bazzania nudicaulis</i> ((a liverwort))
Plant	<i>Berberis canadensis</i> (American Barberry)
Plant	<i>Botrychium matricariifolium</i> (Chamomile Grapefern)
Plant	<i>Botrychium oneidense</i> (Blunt-lobed Grapefern)
Plant	<i>Botrychium simplex</i> (Least Grape-fern)
Plant	<i>Brachyelytrum aristosum</i> (Northern Shorthusk)
Plant	<i>Buckleya distichophylla</i> (Piratebush)
Plant	<i>Caltha palustris</i> (Marsh Marigold)
Plant	<i>Campanula aparinoides</i> (Marsh Bellflower)
Plant	<i>Cardamine clematitidis</i> (Mountain Bittercress)
Plant	<i>Cardamine flagellifera</i> (Running Bittercress)
Plant	<i>Cardamine rotundifolia</i> (Round-leaf Watercress)
Plant	<i>Carex bromoides</i> ssp. <i>montana</i> (Blue Ridge Brome Sedge)
Plant	<i>Carex hitchcockiana</i> (Hitchcock's Sedge)
Plant	<i>Carex manhartii</i> (Manhart's Sedge)
Plant	<i>Carex misera</i> (Wretched Sedge)
Plant	<i>Carex roanensis</i> (Roan Mountain Sedge)
Plant	<i>Carex ruthii</i> (Ruth's Sedge)
Plant	<i>Castanea dentata</i> (American Chestnut)
Plant	<i>Chrysogonum virginianum</i> (Green-and-gold)
Plant	<i>Clintonia borealis</i> (Clinton's Lily)
Plant	<i>Corallorhiza maculata</i> (Spotted Coralroot)

BLUE RIDGE COA GCN SPECIES (TN)

Taxa Group	Scientific & Common Names
Plant	<i>Corydalis sempervirens</i> (Pale Corydalis)
Plant	<i>Cymophyllus fraserianus</i> (Fraser's Sedge)
Plant	<i>Diervilla sessilifolia</i> var. <i>rivularis</i> (Mountain Bush-
Plant	<i>Draba ramosissima</i> (Branching Whitlow-grass)
Plant	<i>Drepanolejeunea appalachiana</i> ((a liverwort))
Plant	<i>Epilobium angustifolium</i> (Fireweed)
Plant	<i>Fothergilla major</i> (Mountain Witch-alder)
Plant	<i>Galium palustre</i> (Marsh Bedstraw)
Plant	<i>Gentiana austromontana</i> (Appalachian Gentian)
Plant	<i>Geum geniculatum</i> (Bent Avens)
Plant	<i>Geum laciniatum</i> (Rough Avens)
Plant	<i>Geum radiatum</i> (Spreading Avens)
Plant	<i>Goodyera repens</i> (Dwarf Rattlesnake-plantain)
Plant	<i>Hedyotis purpurea</i> var. <i>montana</i> (Roan Mountain Bluet)
Plant	<i>Helianthus glaucophyllus</i> (White-leaved Sunflower)
Plant	<i>Heracleum maximum</i> (Cow-parsnip)
Plant	<i>Hexastylis virginica</i> (Virginia Heartleaf)
Plant	<i>Huperzia appalachiana</i> (Appalachian Fir Clubmoss)
Plant	<i>Hydrophyllum virginianum</i> (Appalachian Waterleaf)
Plant	<i>Hymenophyllum tayloriae</i> (Taylor's Filmy Fern)
Plant	<i>Hypericum graveolens</i> (Mountain St. John's-wort)
Plant	<i>Hypericum mitchellianum</i> (Blue Ridge St. John's-wort)
Plant	<i>Isotria medeoloides</i> (Small Whorled Pogonia)
Plant	<i>Juglans cinerea</i> (Butternut)
Plant	<i>Lilium canadense</i> (Canada Lily)
Plant	<i>Lilium grayi</i> (Gray's Lily)
Plant	<i>Lophocolea appalachiana</i> ((a liverwort))
Plant	<i>Lysimachia terrestris</i> (Swamp Loosestrife)
Plant	<i>Meehania cordata</i> (Heartleaf Meehania)
Plant	<i>Megaceros aenigmaticus</i> (Megaceros)
Plant	<i>Melanthium latifolium</i> (Broadleaf Bunchflower)
Plant	<i>Menziesia pilosa</i> (Minniebush)
Plant	<i>Minuartia godfreyi</i> (Godfrey's Stitchwort)
Plant	<i>Minuartia groenlandica</i> (Mountain Sandwort)
Plant	<i>Packera schweinitziana</i> (Schweinitz's ragwort)
Plant	<i>Panax quinquefolius</i> (American Ginseng)
Plant	<i>Pedicularis lanceolata</i> (Swamp Lousewort)
Plant	<i>Phegopteris connectilis</i> (Northern Beechfern)
Plant	<i>Plagiochila exigua</i> ((a liverwort))
Plant	<i>Platanthera flava</i> var. <i>herbiola</i> (Tuberclad Rein-orchid)
Plant	<i>Platanthera grandiflora</i> (Large Purple Fringed Orchid)
Plant	<i>Platanthera orbiculata</i> (Large Round-leaved Orchid)
Plant	<i>Platanthera psycodes</i> (Small Purple Fringed Orchid)
Plant	<i>Polygonum cilinode</i> (Fringed Black Bindweed)
Plant	<i>Porella wataugensis</i> (Watauga Porella)
Plant	<i>Potentilla tridentata</i> (Three-toothed Cinquefoil)
Plant	<i>Pyrola americana</i> (American Wintergreen)
Plant	<i>Saxifraga caroliniana</i> (Carolina Saxifrage)
Plant	<i>Scutellaria saxatilis</i> (Rock Skullcap)
Plant	<i>Silene ovata</i> (Ovate Catchfly)
Plant	<i>Solidago lancifolia</i> (Broadleaf Goldenrod)
Plant	<i>Solidago spithamea</i> (Blue Ridge Goldenrod)
Plant	<i>Sphenolobopsis pearsoni</i> (Sphenolobopsis)

BLUE RIDGE COA GCN SPECIES (TN)

Taxa Group	Scientific & Common Names
Plant	<i>Spiranthes lucida</i> (Shining Ladies'-tresses)
Plant	<i>Stachys clingmanii</i> (Clingman's Hedge-nettle)
Plant	<i>Stellaria longifolia</i> (Longleaf Stitchwort)
Plant	<i>Streptopus roseus</i> (Rosy Twisted-stalk)
Plant	<i>Symplocarpus foetidus</i> (Skunk-cabbage)
Plant	<i>Thermopsis fraxinifolia</i> (Ash-leaved Bush-pea)
Plant	<i>Trichophorum cespitosum</i> (Tufted Club-rush)
Plant	<i>Trientalis borealis</i> (Northern Starflower)
Plant	<i>Tsuga caroliniana</i> (Carolina Hemlock)
Plant	<i>Veronica americana</i> (American Speedwell)
Plant	<i>Woodsia scopulina</i> ssp. <i>appalachiana</i> (Alleghany Cliff-fern)
Plant	<i>Xerophyllum asphodeloides</i> (Eastern Turkeybeard)
Reptile	<i>Anolis carolinensis</i> (Green Anole)
Reptile	<i>Glyptemys muhlenbergii</i> (Bog Turtle)
Reptile	<i>Terrapene carolina</i> (Eastern Box Turtle)
Subterranean - Arachnid	<i>Nesticus paynei</i> ((a cave obligate spider))
Subterranean - Crustacean	<i>Caecidotea nortoni</i> ((a cave obligate isopod))
Subterranean - Crustacean	<i>Stygobromus barryi</i> ((a cave obligate amphipod))
Subterranean - Insect	<i>Litocampa barryi</i> ((a bristletail))
Tardigrade	<i>Calohypsibius schusteri</i> (Schuster's Tardigrade)

BLUE RIDGE COA HABITATS (TN)	
Terrestrial Habitat Type	Total acres of very high, high, and medium ranked habitat
Natural habitats	
Southern Appalachian Oak Forest	387855
Southern Ridge and Valley / Cumberland Dry Calcareous Forest	91422
Southern and Central Appalachian Cove Forest	57815
South-Central Interior Mesophytic Forest	39212
Appalachian (Hemlock)-Northern Hardwood Forest	23987
Southern Appalachian Low-Elevation Pine Forest	22843
South-Central Interior Small Stream and Riparian	13232
Southern Appalachian Montane Pine Forest and Woodland	5043
Southern Appalachian Northern Hardwood Forest	3976
South-Central Interior Large Floodplain	2361
Allegheny-Cumberland Dry Oak Forest and Woodland	708
Central and Southern Appalachian Spruce-Fir Forest	237
Southern Appalachian Montane Cliff and Talus	131
Southern Appalachian Grass and Shrub Bald	41
Semi-natural habitats	
Pasture	164210
Old Field / Successional	22173
Cropland	15355
Aquatic Habitat Type	Total stream miles of very high, high, and medium ranked habitat
Headwaters & Streams	95
Small River	25
Medium River	142