

Pennyroyal Plains and Barrens

Conservation Opportunity Area



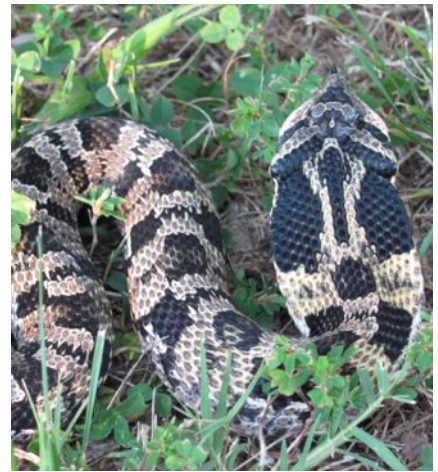
The barrens of the Pennyroyal Plain ecosystem were once the dominant habitat type pre-European settlement. There are numerous accounts of settlers describing these areas dominated by grasses and wildflowers with short, stunted trees scattered across the landscape. Post-settlement, much of this ecosystem was converted to agricultural production with the natural, intermittent fire regime being all but eliminated due to fire suppression.

Natural or prescribed fires reduce encroachment by woody vegetation and slow or stop succession of this habitat into forests. The largest remnant of barrens within the Pennyroyal Plain lies on Fort Campbell Military Reservation, where the Department of Defense regularly manages the barrens with fire supporting training and readiness as well as habitat enhancement.

The diversity of plants within this Conservation Opportunity Area (COA) is extremely high, as researchers have documented over 340 species across multiple barrens. Dominated by little bluestem, this habitat type supports numerous rare plant species, many of which are also fire-dependent. Numerous species of Greatest Conservation Need occur within this COA, including Henslow's Sparrow, Grasshopper Sparrow, Prairie Warbler, Hognosed Snake, and Timber Rattlesnake.

Public Lands within the COA

Barnett's Woods State Natural Area, Bellamy Cave Wildlife Refuge, Fort Campbell Military Reservation and Wildlife Management Area



Researchers have documented over 340 plant species across multiple barren habitats in the Pennyroyal Plain ecosystem, many of which are fire-dependent.



Top to bottom: Hognose Snake - Rob Colvin, TWRA; Prescribed burn - Clarence Coffey, TWRA (retired); Little bluestem in fall - aecole2010/
next page: Prairie Warbler - Chris Sloan

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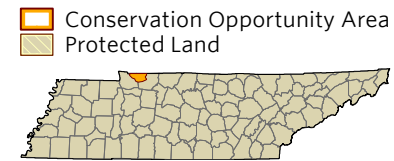
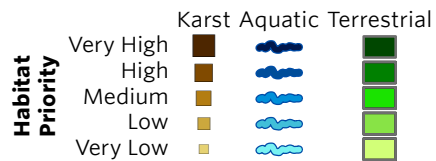
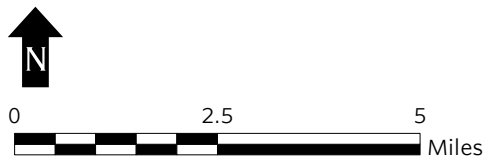
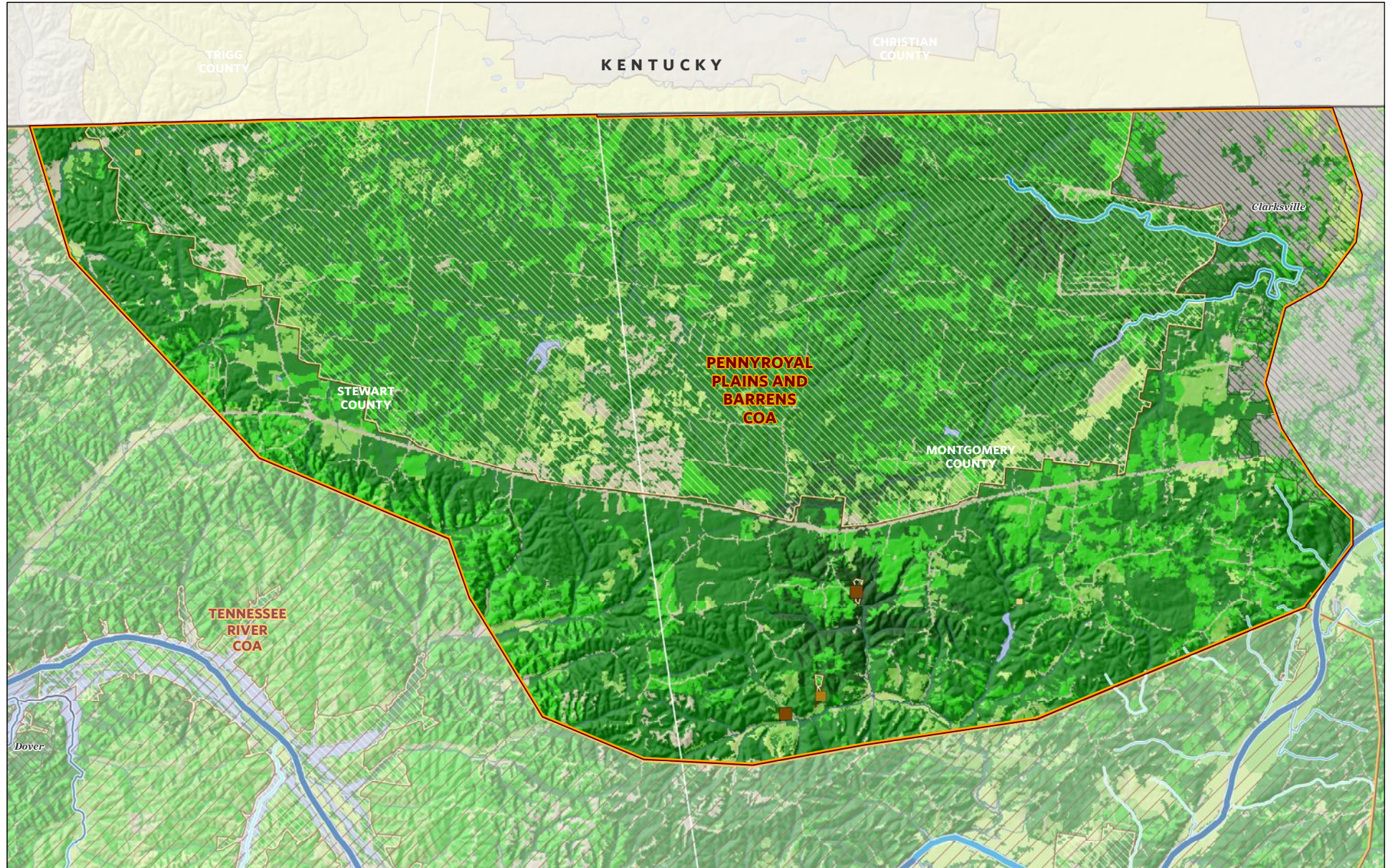
Partnerships

TWRA will develop and expand partnerships with the U.S. Fish and Wildlife Service, U.S. Army Dept. of Defense (Ft. Campbell), Tennessee Dept. of Environment and Conservation, The Nature Conservancy, universities, and the planning departments of local city and county governments.



Desired Change	Units
+ Restore riparian buffers and physical stream habitat in priority locations throughout the watershed.	miles
+ Increase acres of fire-dependent grasslands and forest managed with prescribed fire within critical units of terrestrial habitat.	acres
+ Increase understanding of target species' geographic distribution, life history, and ecological needs 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
✓ Develop and/or participate in regional conservation planning initiatives sponsored by federal, state, and local agencies.	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 Pennyroyal Plains and Barrens Conservation Opportunity Area, please contact: Josh Campbell, Wildlife Diversity Coordinator, Region 2 (615) 781-6626



PENNYROYAL PLAINS AND BARRENS COA GCN SPECIES (TN)	
Taxa Group	Scientific & Common names
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>Myotis sodalis</i> (Indiana Bat)
Bat	<i>Perimyotis subflavus</i> (Tri-colored Bat)
Bird	<i>Accipiter striatus</i> (Sharp-shinned Hawk)
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>Bartramia longicauda</i> (Upland Sandpiper)
Bird	<i>Botaurus lentiginosus</i> (American Bittern)
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>Chaetura pelagica</i> (Chimney Swift)
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>Egretta caerulea</i> (Little Blue Heron)
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>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)
Bird	<i>Lanius ludovicianus</i> (Loggerhead Shrike)
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>Peucaea aestivalis</i> (Bachman's Sparrow)
Bird	<i>Pluvialis dominica</i> (American Golden Plover)
Bird	<i>Protonotaria citrea</i> (Prothonotary Warbler)
Bird	<i>Riparia riparia</i> (Bank Swallow)
Bird	<i>Scolopax minor</i> (American Woodcock)
Bird	<i>Setophaga cerulea</i> (Cerulean Warbler)
Bird	<i>Setophaga discolor</i> (Prairie Warbler)
Bird	<i>Setophaga fusca</i> (Blackburnian Warbler)
Bird	<i>Sturnella magna</i> (Eastern Meadowlark)
Bird	<i>Tyto alba</i> (Barn Owl)
Bird	<i>Vermivora chrysoptera</i> (Golden-winged Warbler)
Bird	<i>Vermivora cyanoptera</i> (Blue-winged Warbler)
Bird	<i>Vireo bellii</i> (Bell's Vireo)
Bivalve	<i>Villosa vanuxemensis</i> (Mountain Creekshell)

PENNYROYAL PLAINS AND BARRENS COA GCN SPECIES (TN)	
Taxa Group	Scientific & Common names
Crustacean	<i>Orconectes barrenensis</i> ((a crayfish))
Fish	<i>Etheostoma barrenense</i> (Splendid Darter)
Fish	<i>Etheostoma bellum</i> (Orange-fin Darter)
Mammal	<i>Sorex cinereus</i> (Cinereus Shrew)
Mammal	<i>Sorex hoyi</i> (American Pygmy Shrew)
Mammal	<i>Sorex longirostris</i> (Southeastern Shrew)
Mammal	<i>Synaptomys cooperi</i> (Southern Bog Lemming)
Mammal	<i>Zapus hudsonius</i> (Meadow Jumping Mouse)
Plant	<i>Apios priceana</i> (Price's Potato-bean)
Plant	<i>Boechera shortii</i> (Short's Rock-cress)
Plant	<i>Cimicifuga rubifolia</i> (Appalachian Bugbane)
Plant	<i>Hottonia inflata</i> (Featherfoil)
Plant	<i>Juglans cinerea</i> (Butternut)
Plant	<i>Packera plattensis</i> (Prairie Ragwort)
Plant	<i>Prenanthes crepidinea</i> (Nodding Rattlesnake-root)
Plant	<i>Ranunculus flabellaris</i> (Yellow Water-crowfoot)
Plant	<i>Ribes odoratum</i> (Buffalo Currant)
Plant	<i>Solidago rupestris</i> (Rock Goldenrod)
Reptile	<i>Crotalus horridus</i> (Timber Rattlesnake)
Reptile	<i>Heterodon platirhinos</i> (Eastern Hognosed Snake)
Reptile	<i>Ophisaurus attenuatus longicaudus</i> (Eastern Slender Glass Lizard)
Reptile	<i>Terrapene carolina</i> (Eastern Box Turtle)
Subterranean - Arachnid	<i>Calymmaria persica</i> (Cave-loving funnel-web spider)
Subterranean - Arachnid	<i>Hesperochernes mirabilis</i> (Southeastern Cave Pseudoscorpion)
Subterranean - Arachnid	<i>Liocranoides gertschi</i> (Gertsch's tengellid spider)
Subterranean - Arachnid	<i>Phanetta subterranea</i> (Subterranean sheet-web spider)
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>Haplophthalmus danicus</i> ((a terrestrial cave isopod))
Subterranean - Crustacean	<i>Orconectes pellucidus</i> (Mammoth Cave Crayfish)
Subterranean - Crustacean	<i>Stygobromus exilis</i> (Central Kentucky Cave Obligate)
Subterranean - Fish	<i>Typhlichthys subterraneus</i> (Southern Cavefish)
Subterranean - Gastropod	<i>Carychium stygium</i> (Cave Thorn)
Subterranean - Insect	<i>Aleochara lucifuga</i> ((a rove beetle))
Subterranean - Insect	<i>Atheta annexa</i> ((a rove beetle))
Subterranean - Insect	<i>Atheta trogliphila</i> ((a trogliphilic rove beetle))
Subterranean - Insect	<i>Batrisodes</i> sp. (ant beetles)
Subterranean - Insect	<i>Ceratophysella denticulata</i> (Toothed springtail)
Subterranean - Insect	<i>Ceuthophilus</i> sp. (cave crickets)
Subterranean - Insect	<i>Desoria trispinata</i> (Three-spined springtail)
Subterranean - Insect	<i>Desoria truncata</i> (Truncate springtail)
Subterranean - Insect	<i>Folsomia stella</i> (Stellate springtail)
Subterranean - Insect	<i>Macrocera nobilis</i> (fungus gnat)
Subterranean - Insect	<i>Megaselia cavernicola</i> (cave hump-backed fly)
Subterranean - Insect	<i>Platynus tenuicollis</i> (ground beetle)
Subterranean - Insect	<i>Prionochaeta opaca</i> (small carrion beetle)
Subterranean - Insect	<i>Pseudanophthalmus ciliaris ciliaris</i> ((a cave obligate beetle))
Subterranean - Insect	<i>Pseudanophthalmus colemanensis</i> (Coleman Cave Beetle)
Subterranean - Insect	<i>Pseudosinella aera</i> ((a cave obligate springtail))
Subterranean - Insect	<i>Pseudosinella hirsuta</i> (Hirsute Cave Springtail)
Subterranean - Insect	<i>Sciara</i> sp. (fungus gnats)
Subterranean - Insect	<i>Sensillanura barberi</i> (Barber's Springtail)
Subterranean - Insect	<i>Sinella cavernarum</i> ((a springtail))

PENNYROYAL PLAINS AND BARRENS COA GCN SPECIES (TN)	
Taxa Group	Scientific & Common names
Subterranean - Insect	<i>Spelobia tenebrarum</i> (Cave dung fly)
Subterranean - Insect	<i>Tomocerus bidentatus</i> (Two-toothed springtail)
Subterranean - Millipede	<i>Pseudotremia</i> undescribed sp. (Shear's cave millipede)

PENNYROYAL PLAINS AND BARRENS COA HABITATS (TN)	
Terrestrial Habitat Type	Total acres of very high, high, and medium ranked habitat
Natural habitats	
South-Central Interior Mesophytic Forest	47946
Southern Interior Low Plateau Dry-Mesic Oak Forest	37046
South-Central Interior Small Stream and Riparian	290
South-Central Interior Large Floodplain	135
Central Interior Calcareous Cliff and Talus	4
Semi-natural habitats	
Pasture	10528
Old Field / Successional	6167
Cropland	4554
Forest Plantation	2714
Aquatic Habitat Type	Total stream miles of very high, high, and
Headwaters and Streams	2