

Corynorhinus rafinesquii

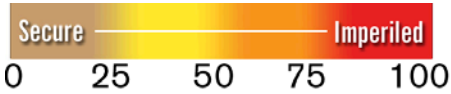
Rafinesque's Big-Eared Bat

Class: Mammalia

Order: Chiroptera

Family: Vespertilionidae

Priority Score: **29** out of 100



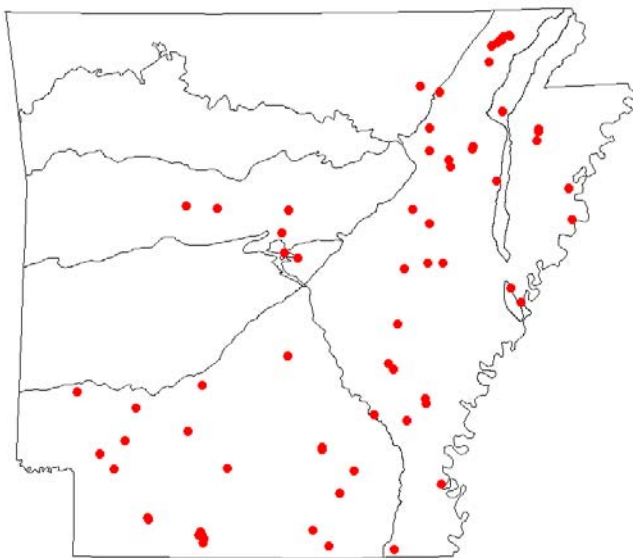
Population Trend: Decreasing

Global Rank: G3G4 — Vulnerable (uncertain rank)

State Rank: S3 — Vulnerable in Arkansas



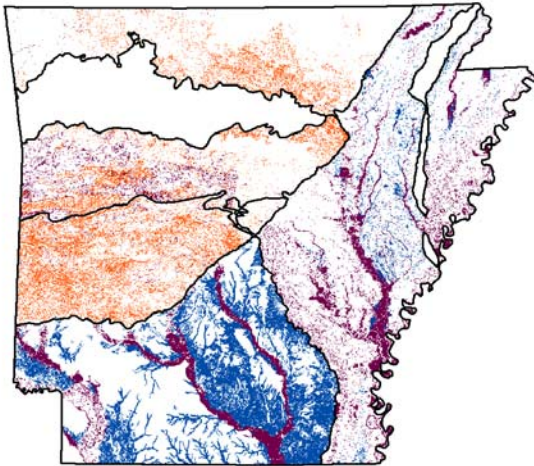
Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Weight

Lower Mississippi River Bottomland Depression	Optimal
Lower Mississippi River Dune Woodland, Pond, and Forest	Marginal
Lower Mississippi River High Bottomland Forest	Optimal
Lower Mississippi River Low Bottomland Forest	Optimal
Lower Mississippi River Riparian Forest	Optimal
Ozark-Ouachita Large Floodplain	Optimal
West Gulf Coastal Plain Large River Floodplain Forest	Optimal
West Gulf Coastal Plain Pine-Hardwood Forest	Marginal
West Gulf Coastal Plain Red River Floodplain Forest	Optimal
West Gulf Coastal Plain Seepage Swamp and Baygall	Optimal
West Gulf Coastal Plain Small Stream/River Forest	Suitable
West Gulf Coastal Plain Wet Hardwood Flatwoods	Suitable

Problems Faced

Threat: Habitat destruction or conversion
 Source: Conversion of riparian forest

Threat: Habitat destruction or conversion
 Source: Forestry activities

Threat: Toxins/contaminants
 Source: Agricultural practices

Threat: Biological alteration
 Source: Conversion of riparian forest

Fragmentation of habitat.
 Loss of habitat.
 Genetic diversity loss.
 Loss of old houses and wells.

Threat: Habitat fragmentation
 Source: Conversion of riparian forest

Data Gaps/Research Needs

Determine foraging behavior.

Determine forest roosting ecology.

Determine if reduction in habitat has reduced genetic diversity.

Conservation Actions

Importance Category

Preserve potential artificial roosts.

Low

Habitat Protection

Restore bottomland hardwoods.

High

Habitat Restoration/Improvement

Monitoring Strategies

More information is needed before a monitoring strategy can be developed.

Comments

Occurrence records from the Ozark Highlands and the Boston Mountains are suspect and may be Ozark Big-eared bats.

General Description: Very large ears (27-37 mm); ventral hairs black or blackish at the base, white or whitish at the tips; dorsum pale brown; total length 80-110 mm; hind foot length 8-13 mm; length of forearm 38.8-43.5 mm; greatest length of skull 13.2-15.1 mm; supraorbital region not ridged; maxillary toothrow length 4.7-5.4 mm; first upper incisor has two cusps; 36 teeth; male mass 7.9-9.5 g, female mass 7.9-13.6 g. (ANHI 2003, Baker and Ward 1967, Black 1936, Bunch and Dye 1998, Crump 2003, Crump and others 2003A, 2003C, 2003D, 2003H, Elliot 1994, Gardner and McDaniel 1978, Gardner 1978, Gardner 1978a, Graves and Harvey 1974, Heath and others 1983, Heidt and others 1987, Hoffmeister and Goodpaster 1962, Hurst and Lacki 1999, Kiser and Elliot 1996, McAllister and others 1995, McDaniel and Gardner 1977, Mumford and Cope 1964, NatureServe 2005, Nelson and others 1991, Odegard 2003, ONHI 2003: Penor and others 1996, Pitts and others 1996, Sasse and others 2004, Saugey and others 1993, Sealander 1956, Sealander and Heidt 1990, Steward 1988, Steward 1986, Tumilson 1995).

2007: S Rank changed from S2 to S3.

Research on the genetics of this species has found low genetic connectivity between populations in Arkansas, and that protection of roosts and improvement of habitat corridors could have a positive impact on this factor (Medlin and Risch 2008, Medlin and others 2010, Piaggio and others 2011). Old water wells appear to be important winter habitat for this species, and a technique developed in Arkansas to allow for their continued use by bats while addressing public safety concerns seems to be successful (Sasse and others 2011, Sasse and Saugey 2014). The known distribution of this species by county has been expanded by several studies (Fokidis and others 2005, Medlin and others 2006, Sasse and Saugey 2008).

Taxa Association Team and Peer Reviewers

AGFC Mr. Blake Sasse, UALR Dr. Bob Sikes, UAM Dr. Don White, UALR Dr. Gary Heidt, Mr. J. D. Wilhide, HSU Dr. Renn Tumilson, ATU Dr. Tom Nupp, ASU Dr. Thomas Risch, USFS Mr. David Saugey, USFS Dr. Roger Perry, SAU Mr. Matthew Connior, ASU Mr. Stephen Brandenbura

Corynorhinus townsendii ingens

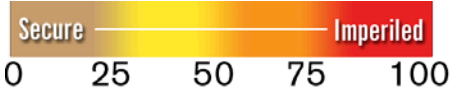
Ozark Big-eared Bat

Class: Mammalia

Order: Chiroptera

Family: Vespertilionidae

Priority Score: **80** out of 100



Population Trend: Stable

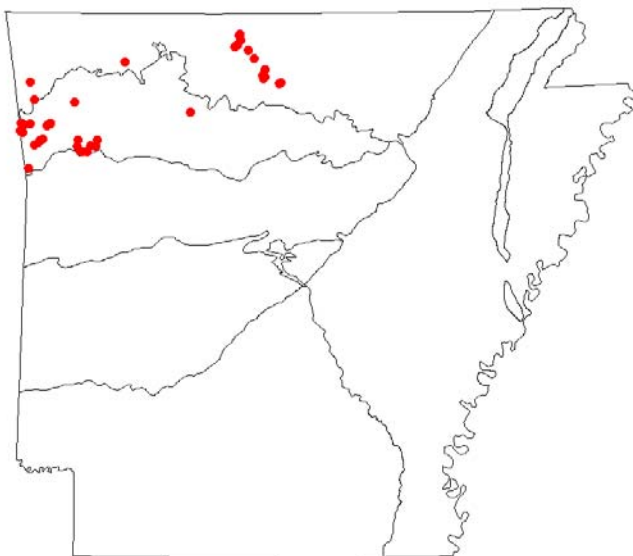
Global Rank: G3G4T1 — Vulnerable (uncertain rank, critically imperiled subspecies)

State Rank: S1 — Critically imperiled in Arkansas



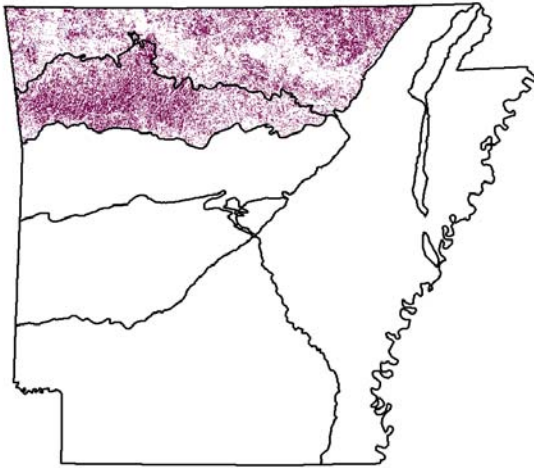
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Caves, Mines, Sinkholes and other Karst Features	Optimal
Ozark-Ouachita Cliff and Talus	Optimal
Ozark-Ouachita Dry Oak and Pine Woodland	Suitable
Ozark-Ouachita Riparian	Suitable

Weight

Problems Faced

Human disturbance of bats in caves.	Threat: Habitat disturbance Source: Recreation
White-nose Syndrome.	Threat: Extraordinary predation/parasitism/disease Source: Parasites/pathogens
Wind power development.	Threat: Collision with man-made structures Source: Commercial/industrial development

Data Gaps/Research Needs

Address data gaps identified by national white-nose syndrome plan.
Continue search for caves used for roosting.
Determine presence of white-nose syndrome or the fungus that causes it in hibernacula.

Conservation Actions	Importance	Category
Implement conservation actions recommended by national white-nose syndrome plan.	High	Threat Abatement
Protect caves used by this species.	High	Habitat Protection

Monitoring Strategies

Monitor impacts of white-nose syndrome on populations.

Monitor summer and winter caves in accordance with U.S. Fish and Wildlife Service recovery plan.

Comments

General description: Dorsal hairs brown with fuscous bases, ventral hairs cinnamon with fuscous bases; contrast between hair tips and bases is fairly sharp.

The species is more common in the western U.S. Two subspecies are listed as endangered species.

(Natureserve 2005, Sasse and others 2004, Sealander and Heidt 1990)

2007: No change in S Rank.

A long-term assessment of the overall status of this species in Arkansas and Oklahoma found that populations may be increasing though gaps in survey data make population trends difficult to determine at many sites (Graening and others 2011). Moths, the primary prey species of the Ozark big-eared bat, were found to vary in abundance by habitat type near maternity caves used by this species and that forested riparian corridors are important as foraging habitat (Dodd and Lacki 2007; Dodd and others 2008, Dodd and others 2011).

Taxa Association Team and Peer Reviewers

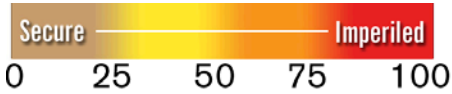
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Geomys bursarius ozarkensis

Ozark Pocket Gopher

Class: Mammalia
 Order: Rodentia
 Family: Geomyidae

Priority Score: **57** out of 100



Population Trend: Unknown

Global Rank: G5T1T3 — Secure (critically imperiled or imperiled subspecies)

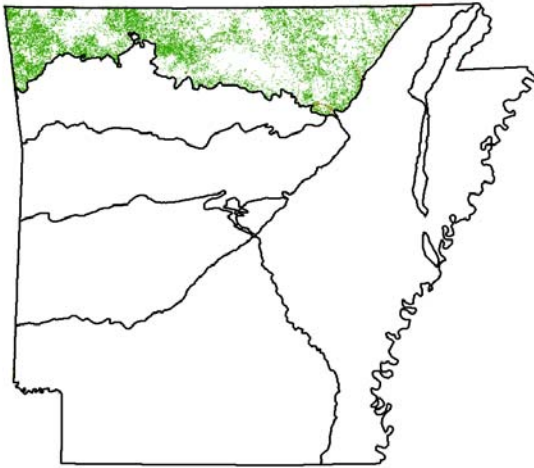
State Rank: S1 — Critically imperiled in Arkansas

Distribution Occurrence Records

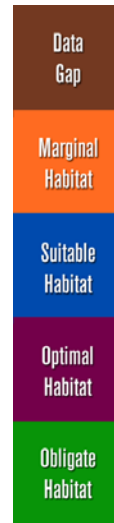


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Crop Land

Ozark-Ouachita Riparian

Pasture Land

Weight

Marginal

Obligate

Obligate

Problems Faced

Nuisance control by landowners.
Restricted range.

Threat: Death caused by humans
Source: Excessive non-commercial harvest or collection

Restricted range.

Threat: Biological alteration
Source: Restricted range in Arkansas

Data Gaps/Research Needs

Determine if range restrictions have caused decline in genetic diversity.

Study fall dispersal rates.

Conservation Actions

Purchase conservation easements on pasture land to maintain them in grasses and to reduce mortality due to nuisance wildlife control efforts.

Importance Category

High

Land Acquisition

Monitoring Strategies

Monitor status of known locations on a regular basis.

Comments

This species has a small range and is known only from IZARD County, Arkansas. The subspecies was first described in 2000.

(Elrod and others 2000, Natureserve 2005, Sasse and others 2004)

2007: S Rank changed from S? to S1.

Projects conducted under this program have closed data gaps relating to the home range, survival, dispersal, and habitat use for this species, while developing new techniques for capture and monitoring using radiotelemetry (Connior and Risch 2009a, Connior and Risch 2009b, Connior and others 2010, Connior and Risch 2010). A wide number of other species were found to be associated with Ozark pocket gopher burrows (Connior and others 2008).

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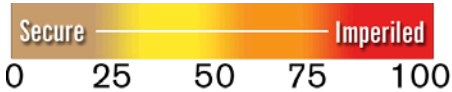
Lepus californicus

Black-tailed Jackrabbit

Class: Mammalia

Order: Lagomorpha

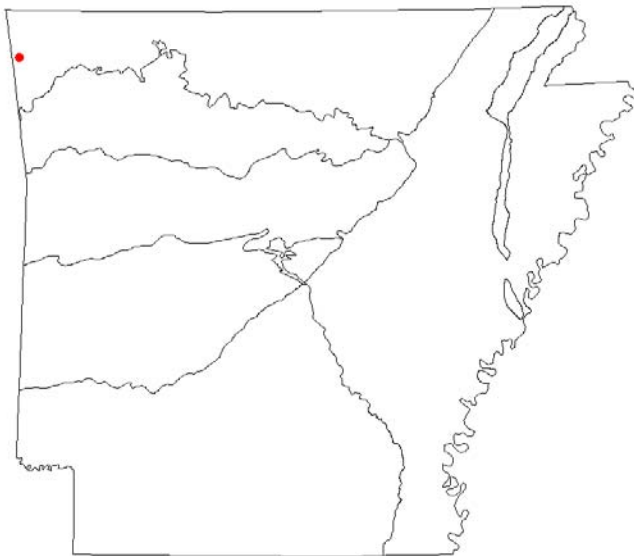
Family: Leporidae

Priority Score: **21** out of 100

Population Trend: Unknown

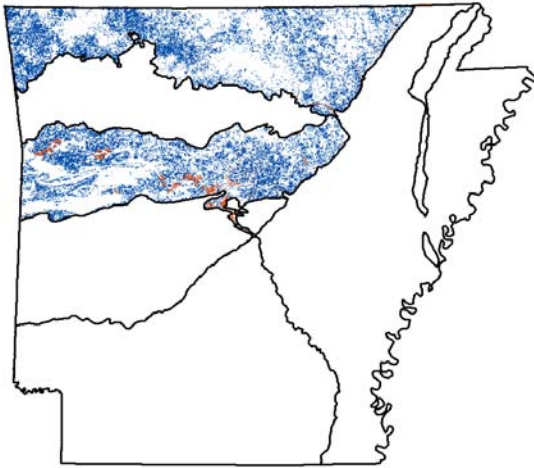
Global Rank: G5 — Secure

State Rank: S1S2 — Critically imperiled in Arkansas (uncertain rank)

**Distribution****Occurrence Records**

Ecoregions where the species occurs:

Ozark Highlands Boston Mountains Arkansas Valley Ouachita Mountains South Central Plains Mississippi Alluvial Plain Mississippi Valley Loess Plain



Habitat Map



Habitats

Crop Land

Ozark-Ouachita Prairie and Woodland

Pasture Land

Weight

Marginal

Suitable

Suitable

Problems Faced

Urbanization with habitat loss.

Threat: Habitat destruction or conversion
Source: Agricultural practices

Data Gaps/Research Needs

Determine habitat suitability at potential reintroduction sites.

Survey hunters to obtain observation information.

Threat: Habitat destruction or conversion
Source: Urban development

Conservation Actions

Encourage conservation easements on open land.

Reintroduce jackrabbits to Arkansas.

Importance Category

Medium

Medium

Habitat Protection

Population Management

Monitoring Strategies

More information is needed before a monitoring strategy can be developed.

Comments

Common in western U.S. Inhabits open plains, fields and deserts, open country with scattered thickets or patches of shrubs. Rests by day in shallow depression (form).

(Natureserve 2005, Sasse and others 2004, Sealander and Heidt 1990)

2007 : S Rank changed from S3 to S1S2.

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Mustela frenata

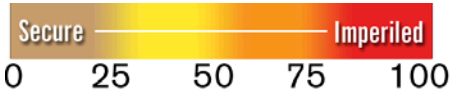
Long-tailed Weasel

Class: Mammalia

Order: Carnivora

Family: Mustelidae

Priority Score: **15** out of 100



Population Trend: Unknown

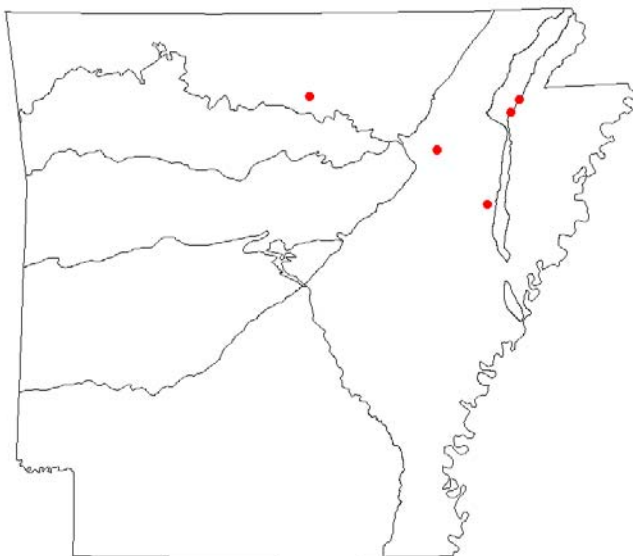
Global Rank: G5 — Secure

State Rank: S3 — Vulnerable in Arkansas



Distribution

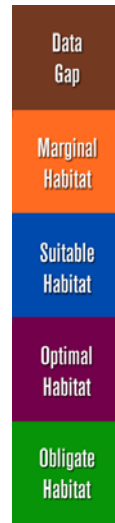
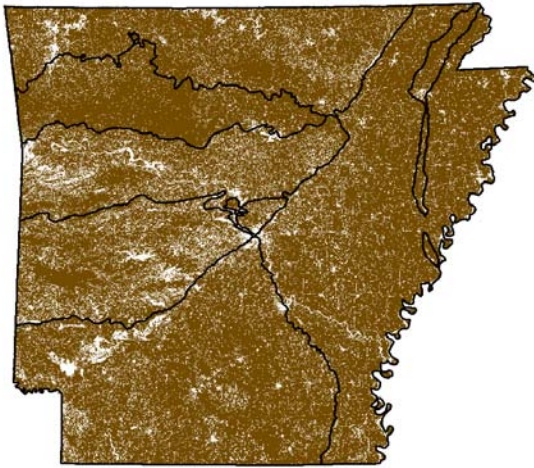
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Mustela frenata
Long-tailed Weasel

Habitats	Weight
Crop Land	Data Gap
Crowley's Ridge Loess Slope Forest	Data Gap
Cultivated Forest	Data Gap
Interior Highlands Calcareous Glade and Barrens	Data Gap
Interior Highlands Dry Acidic Glade and Barrens	Data Gap
Lower Mississippi Alluvial Plain Grand Prairie	Data Gap
Lower Mississippi Flatwoods Woodland and Forest	Data Gap
Lower Mississippi River Dune Woodland and Forest	Data Gap
Lower Mississippi River Dune Woodland, Pond, and Forest	Data Gap
Lower Mississippi River High Bottomland Forest	Data Gap
Lower Mississippi River Low Bottomland Forest	Data Gap
Lower Mississippi River Riparian Forest	Data Gap
Ouachita Montane Oak Forest	Data Gap
Ozark-Ouachita Dry Oak and Pine Woodland	Data Gap
Ozark-Ouachita Dry-Mesic Oak Forest	Data Gap
Ozark-Ouachita Large Floodplain	Data Gap
Ozark-Ouachita Mesic Hardwood Forest	Data Gap
Ozark-Ouachita Pine/Bluestem Woodland	Data Gap
Ozark-Ouachita Pine-Oak Forest/Woodland	Data Gap
Ozark-Ouachita Prairie and Woodland	Data Gap
Ozark-Ouachita Riparian	Data Gap
Pasture Land	Data Gap
West Gulf Coastal Plain Calcareous Prairie and Woodland	Data Gap
West Gulf Coastal Plain Dry Pine-Hardwood Flatwoods	Data Gap

Habitats

Weight

West Gulf Coastal Plain Large River Floodplain Forest	Data Gap
West Gulf Coastal Plain Mesic Hardwood Forest	Data Gap
West Gulf Coastal Plain Pine-Hardwood Forest	Data Gap
West Gulf Coastal Plain Red River Floodplain Forest	Data Gap
West Gulf Coastal Plain Sandhill Oak and Shortleaf Pine Forest and Woodland	Data Gap
West Gulf Coastal Plain Small Stream/River Forest	Data Gap
West Gulf Coastal Plain Wet Hardwood Flatwoods	Data Gap

Problems Faced

Unknown

Threat:
Source:

Data Gaps/Research Needs

Conduct status survey.

Conservation Actions

Importance Category

More data are needed to determine conservation actions.	Medium	Data Gap
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Monitoring Strategies

More information is needed before a monitoring strategy can be developed.

Comments

Found in a wide variety of habitats, usually near water. Favored habitats include brushland and open woodlands, field edges, riparian grasslands, swamps, and marshes. Dens are in abandoned burrows made by other mammals, rock crevice, brushpile, stump hollow, or space among tree roots; one individual may use multiple dens. Tolerant of close proximity to humans.

Natureserve 2005, Sasse and others 2004, Sealander and Heidt1990. Hall, E. Raymond. 1981.

2007: S rank changed from S2 to S3.

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Myotis austroriparius

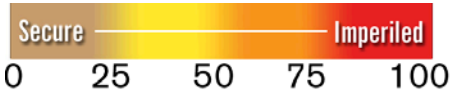
Southeastern Bat

Class: Mammalia

Order: Chiroptera

Family: Vespertilionidae

Priority Score: **24** out of 100



Population Trend: Decreasing

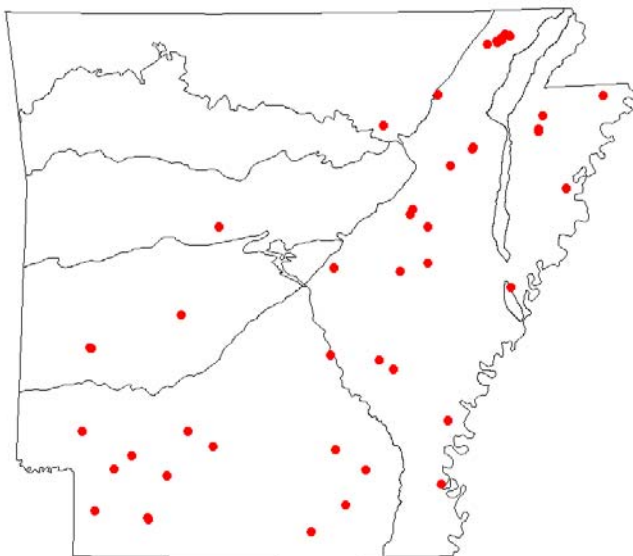
Global Rank: G4 — Apparently secure species

State Rank: S3 — Vulnerable in Arkansas



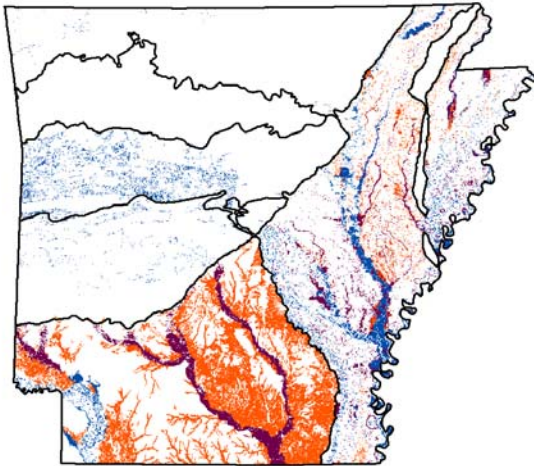
Distribution

Occurrence Records

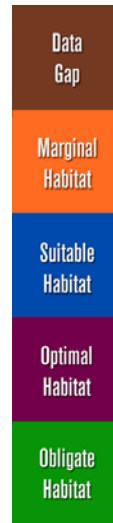


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Weight

Lower Mississippi Flatwoods Woodland and Forest	Optimal
Lower Mississippi Flatwoods Woodland and Forest	Marginal
Lower Mississippi River Bottomland Depression	Optimal
Lower Mississippi River High Bottomland Forest	Suitable
Lower Mississippi River Low Bottomland Forest	Optimal
Lower Mississippi River Riparian Forest	Suitable
West Gulf Coastal Plain Large River Floodplain Forest	Optimal
West Gulf Coastal Plain Mesic Hardwood Forest	Suitable
West Gulf Coastal Plain Red River Floodplain Forest	Suitable
West Gulf Coastal Plain Small Stream/River Forest	Marginal
West Gulf Coastal Plain Wet Hardwood Flatwoods	Marginal

Problems Faced

Fragmentation of habitat.	Threat: Habitat fragmentation Source: Conversion of riparian forest
Loss of habitat.	Threat: Habitat destruction or conversion Source: Conversion of riparian forest
White-nose Syndrome (in mine-hibernating populations).	Threat: Extraordinary predation/parasitism/disease Source: Parasites/pathogens
Wind power development.	Threat: Collision with man-made structures Source: Commercial/industrial development

Data Gaps/Research Needs

Address data gaps identified by national white-nose syndrome plan.

Determine presence of white-nose syndrome or the fungus that causes it in hibernacula.

Determine roosting ecology.

Conservation Actions

	Importance	Category
Encourage landowners to leave roost trees.	Low	Habitat Protection
Implement conservation actions recommended by national white-nose syndrome plan.	Low	Threat Abatement
Restore bottomland hardwoods.	High	Habitat Restoration/Improvement

Monitoring Strategies

Monitor impacts of white-nose syndrome on populations.

More information is needed before a monitoring strategy can be developed.

Comments

General Description: A bat with dull, somewhat woolly pelage, gray to orange or russet above, tan to white below; hairs have little contrast between tip and base; hairs between the toes extend to or beyond the claw tips; calcar is unkeeled; forearm length is 36-41 mm, ear averages 15 mm, foot averages 10 mm.

(ANHI 2003, Baker and Ward 1967, Benz and others 1997, Crump 2003, Crump 2003A, 2003C, 2003D, 2003H, Davis and others 1955, Foster and others 1978, Graves and Harvey 1974, Harvey and others 1991, Heidt and others 1996, Hofmann and others 1999, LaVal 1970, McAllister and others 1995, McDaniel and Gardner 1977, Mumford and Cope 1964, NatureServe 2005, Odegard 2003, ONHI 2003, Sasse and others 2004, Saugey and others 1993, Saugey 1989, Sealander 1956, Sealander and Heidt 1990, Steward 1988, Steward 1986).

2007: S rank changed from S2? To S3.

Additional information on the distribution and habitat use of this species in the state has been obtained through mist net surveys in eastern and southern Arkansas, highlighting the importance of habitat connectivity (Medlin Jr. and Risch 2008, Medlin and others 2010). The known distribution of this species by county has been expanded by several studies (Fokidis and others 2005, Medlin and others 2006, Tumilson and Robison 2010).

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Myotis grisescens

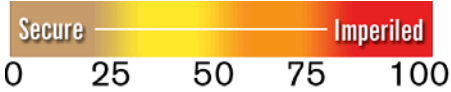
Gray Bat

Class: Mammalia

Order: Chiroptera

Family: Vespertilionidae

Priority Score: **16** out of 100



Population Trend: Increasing

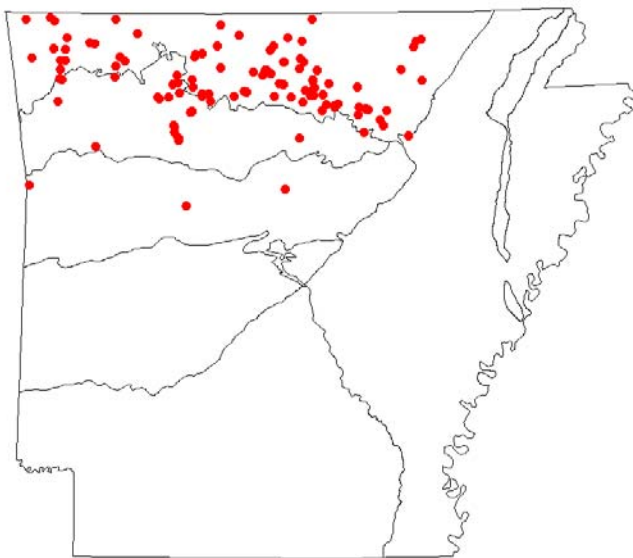
Global Rank: G4 — Apparently secure species

State Rank: S2S3 — Imperiled species in Arkansas (uncertain rank)



Distribution

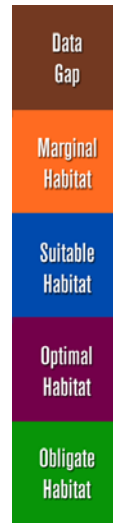
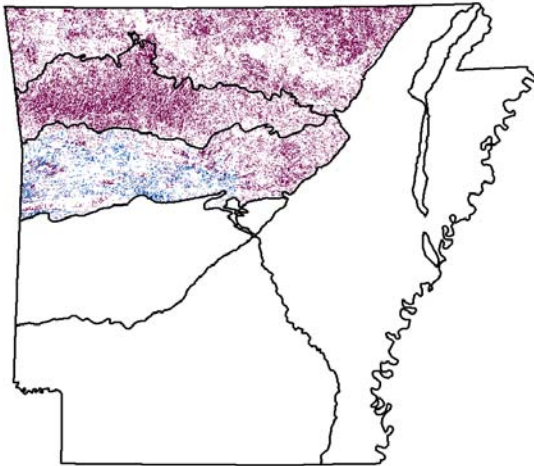
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Caves, Mines, Sinkholes and other Karst Features	Optimal
Ozark-Ouachita Large Floodplain	Suitable
Ozark-Ouachita Riparian	Suitable

Weight

Problems Faced

	Threat: Hydrological alteration Source: Dam
	Threat: Habitat disturbance Source: Recreation
White-nose Syndrome.	Threat: Extraordinary predation/parasitism/disease Source: Parasites/pathogens
Wind power development.	Threat: Collision with man-made structures Source: Commercial/industrial development

Data Gaps/Research Needs

- Address data gaps identified by national white-nose syndrome plan.
- Determine migration routes.
- Determine presence of white-nose syndrome or the fungus that causes it in hibernacula.

Conservation Actions

Implement conservation actions recommended by national white-nose syndrome plan.

Importance **Category**

High

Threat Abatement

Protect caves used by this species.

Medium

Habitat Protection

Monitoring Strategies

Continue monitoring caves in accordance with U.S. Fish and Wildlife Service recovery plan.

Monitor impacts of white-nose syndrome on populations.

Comments

A bat with unicolored dorsal fur (gray after the mid-summer molt, at other times sometimes chestnut brown or russet); paler below, with hairs darker basally; wing membrane (gray) connects to the foot at the ankle; calcar is unkeeled; total length 80-105 mm; forearm length 40-46 mm; ear length 14-16 mm; tail length 33-45 mm; hind foot 9-12 mm; mass 7-16 g (usually 8-10 g). wingspread 275-300. Distinct sagittal crest on skull.

Natureserve 2005, Sasse and others 2004, Sealander and Heidt, 1990)

2007: S Rank changed from S2 to S2S3.

An evaluation of the population trends of gray bat in the western portion of its range found that 79% of colonies were stable or increasing, and 9 of 14 actions required by the recovery plan in this region were entirely or partially completed. The dramatic decline in gray bat populations that led to its listing as endangered in 1976 may have halted, and gray bat populations appeared to be recovering (Sasse and others 2007). Pesticides, which were thought to be one of the reasons for the original decline, seem to still be present in gray bats in the state (Sasse 2005). Several counties have been added to the known distribution of this species in Arkansas (Sasse and Saugey 2008).

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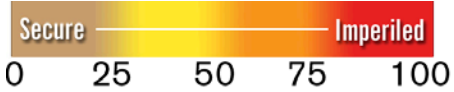
Myotis leibii

Eastern Small-Footed Bat

Class: Mammalia

Order: Chiroptera

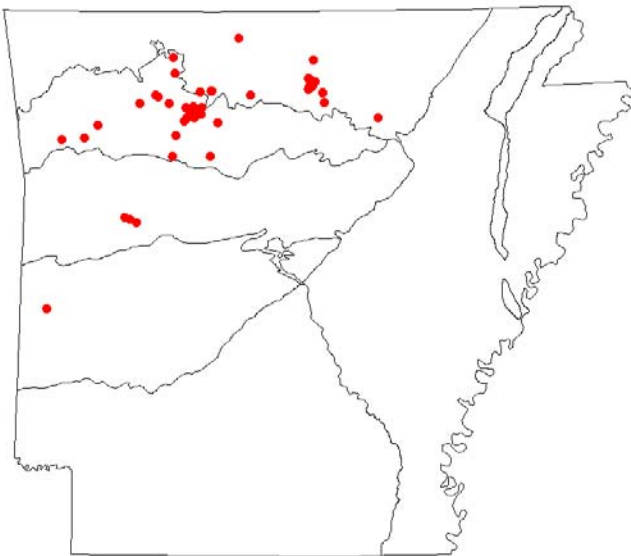
Family: Vespertilionidae

Priority Score: **27** out of 100

Population Trend: Unknown

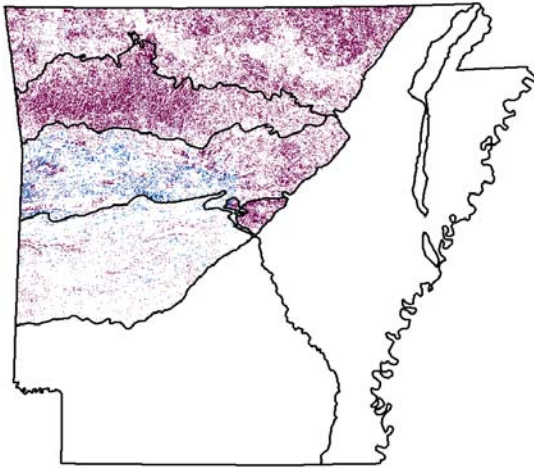
Global Rank: G4 — Apparently secure species

State Rank: S1 — Critically imperiled in Arkansas

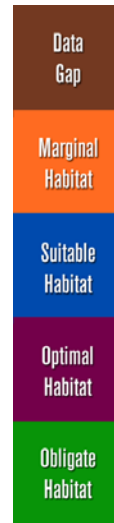
**Distribution****Occurrence Records**

Ecoregions where the species occurs:

Ozark Highlands Boston Mountains Arkansas Valley Ouachita Mountains South Central Plains Mississippi Alluvial Plain Mississippi Valley Loess Plain



Habitat Map



Habitats

Caves, Mines & Karst Habitat	Optimal
Ozark-Ouachita Cliff and Talus	Optimal
Ozark-Ouachita Dry Oak and Pine Woodland	Suitable
Ozark-Ouachita Mesic Hardwood Forest	Suitable
Ozark-Ouachita Riparian	Suitable

Weight

Problems Faced

White-nose Syndrome.

Threat: Extraordinary predation/parasitism/disease
Source: Parasites/pathogens

Wind power development.

Threat: Collision with man-made structures
Source: Commercial/industrial development

Data Gaps/Research Needs

Address data gaps identified by national white-nose syndrome plan.

Conduct surveys needed at caves that may be used during the fall swarming period.

Determine distribution by surveying for this species near exposed rock bluffs.

Determine presence of white-nose syndrome or the fungus that causes it in hibernacula.

Conservation Actions

Importance Category

Coordinate with the Arkansas Highway and Transportation Department to avoid disturbance of bridge roosting colonies.

Medium Threat Abatement

Implement conservation actions recommended by national white-nose syndrome plan.

High Threat Abatement

More data are needed to determine conservation actions.

Medium Data Gap

Monitoring Strategies

Monitor impacts of white-nose syndrome on populations.

Monitor status of bridge-roosting colonies.

Comments

This is a very small bat with tiny feet and a dark mask and dark ears. The tragus is long and pointed, and the tail reaches the edge of the interfemoral membrane. There are no prominent chin or nose flaps. The dorsal pelage is pale yellowish brown to golden brown. The ears are black, and the face has a black "mask." The belly hair varies from pale buff to whitish. The bases of the hairs on the back are blackish; wing and tail membranes are very dark brown. The base of the interfemoral membrane and under surfaces of wing membranes are sparsely furred. The calcar has a definitive keel. Sexes are similar; females have two mammae. Size is very small, with total length 72 to 84 mm, tail 30 to 39 mm, hind foot 6 to 8 mm, forearm 30-36 mm, and wingspread 212 to 248 mm; adult mass is 3 to 8 g. These bats generally roost in exposed cliff faces during the summer, but are known to roost in crevices between concrete guard rails on bridges. Status survey citation.

Ozark localities include several caves, utilized primarily as hibernacula (ANHI 2003, Crump 2003, Crump 2003A, 2003C, 2003D, 2003H, Davis and Lidicker 1955, Erdle and Hobson 2001, Harvey and others 1991, LaVal and LaVal 1980, McDaniel and Gardner 1977, McDaniel and others 1982, NatureServe 2005, Odegard 2003, ONHI 2003, Pitts and others 1996, Sasse and others 2004, Saugey and others 1993, Saugey and others 1989, Sealander and Heidt 1990, Wilhide and others 1998). 2007: No change in G or S Rank.

The known distribution of this species has been greatly expanded to include the entire Ozark and Ouachita regions (Sasse and others 2013).

Taxa Association Team and Peer Reviewers

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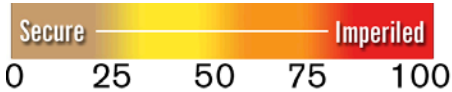
Myotis lucifugus

Little Brown Bat

Class: Mammalia

Order: Chiroptera

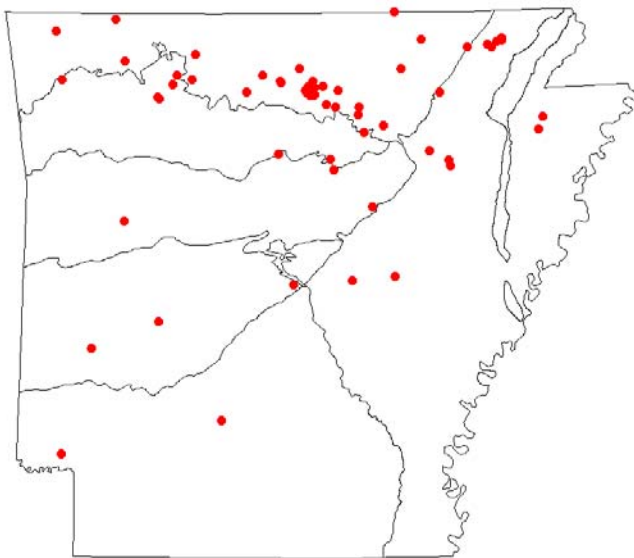
Family: Vespertilionidae

Priority Score: **33** out of 100

Population Trend: Decreasing

Global Rank: G3 — Vulnerable species

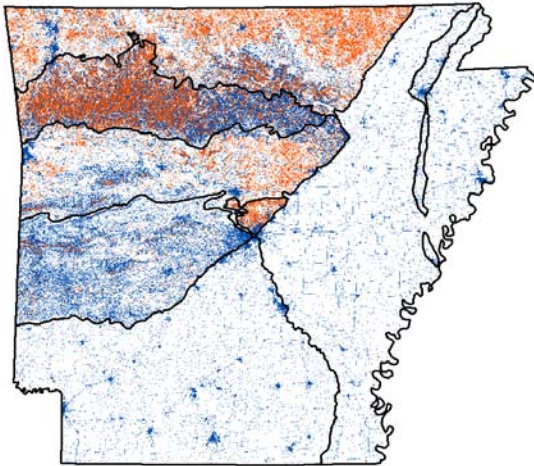
State Rank: S3 — Vulnerable in Arkansas

**Distribution****Occurrence Records**

Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Caves, Mines, Sinkholes and other Karst Features	Optimal
Ozark-Ouachita Cliff and Talus	Marginal
Ozark-Ouachita Pine-Oak Forest/Woodland	Suitable
Urban/Suburban	Suitable

Weight

Problems Faced

Human disturbance of bats in caves in winter.	Threat: Habitat disturbance Source: Recreation
White-nose Syndrome.	Threat: Extraordinary predation/parasitism/disease Source: Parasites/pathogens
Wind power development.	Threat: Collision with man-made structures Source: Commercial/industrial development

Data Gaps/Research Needs

Address data gaps identified by national white-nose syndrome plan.
Determine presence of white-nose syndrome or the fungus that causes it in hibernacula.
Determine summer habitat use.

Conservation Actions**Importance Category**

Implement conservation actions recommended by national white-nose syndrome plan.

High

Threat Abatement

Protect hibernacula.

High

Habitat Protection

Monitoring Strategies

Monitor impacts of white-nose syndrome on populations.

Monitor winter cave hibernacula.

Comments

This is a medium-sized brown bat that weighs between 5-12 grams. In the winter it hibernates in caves and in the summer roosts in forest trees and commonly in buildings (Sealander and Heidt 1990; Fletcher and others 1991). Though most winter hibernacula are found in the Ozarks, it has been known to winter in mines in the Ouachitas and during the summer can sometimes be found in forested areas far from known wintering sites (Fokidis and others 2005, Medlin Jr. and others 2006, Sasse and Saugey 2008, Sasse and others 2011).

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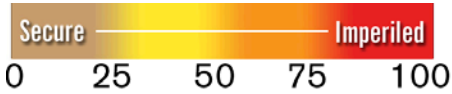
Myotis septentrionalis

Northern Long-eared Bat

Class: Mammalia

Order: Chiroptera

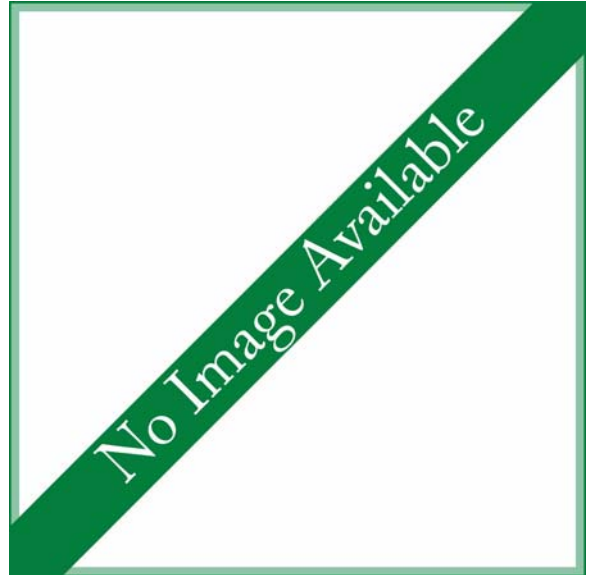
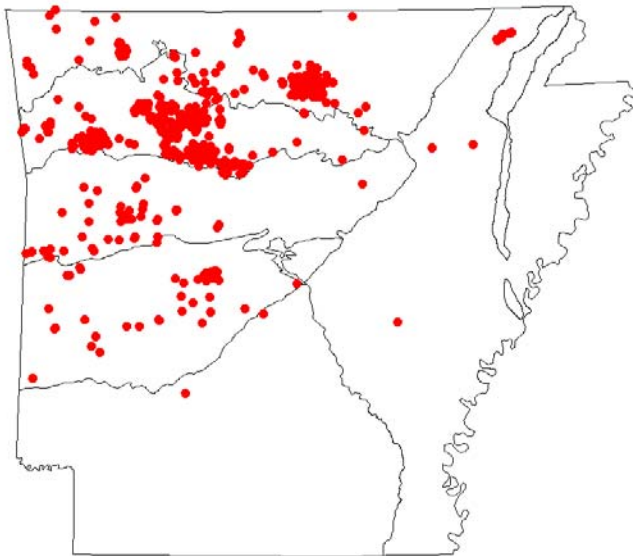
Family: Vespertilionidae

Priority Score: **63** out of 100

Population Trend: Unknown

Global Rank: G1G2 — Critically imperiled (uncertain rank)

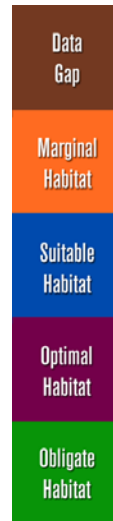
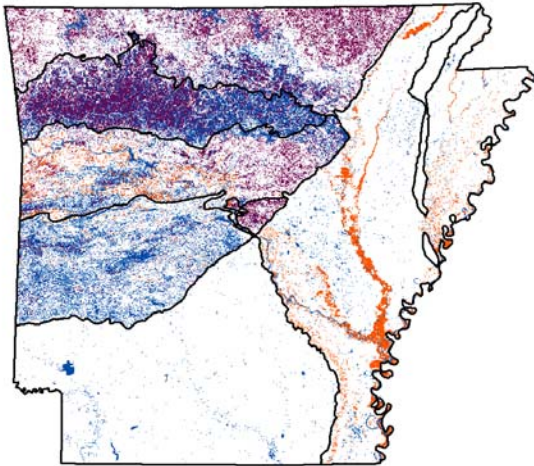
State Rank: S1S2 — Critically imperiled in Arkansas (uncertain rank)

**Distribution****Occurrence Records**

Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Caves, Mines, Sinkholes and other Karst Features	Optimal
Lower Mississippi River Riparian Forest	Marginal
Ozark-Ouachita Pine-Oak Forest	Suitable
Ozark-Ouachita Pine-Oak Forest/Woodland	Suitable
Ozark-Ouachita Riparian	Marginal
Ponds, Lakes, and Water Holes	Suitable

Weight

Problems Faced

White-nose Syndrome.

Threat: Extraordinary predation/parasitism/disease
Source: Parasites/pathogens

Data Gaps/Research Needs

Address data gaps identified by national white-nose syndrome plan.

Determine presence of white-nose syndrome or the fungus that causes it in hibernacula.

Determine roosting ecology in bottomland forests.

Determine spring and fall migration patterns.

Develop appropriate summer monitoring strategies.

Conservation Actions**Importance Category**

Implement conservation actions recommended by national white-nose syndrome plan.

High

Threat Abatement

Monitoring Strategies

Monitor impacts of white-nose syndrome on populations.

Monitor summer distribution and abundance using mist-net surveys.

Monitor winter populations at accessible sites.

Comments

The northern long-eared bat has been a common insectivorous bat in much of eastern North America, including Arkansas, which is located near the southwestern edge of its range. The species is predominantly found in the Ozarks and Ouachitas, though they have been observed in bottomland hardwood forests of northeastern Arkansas (Sealander and Heidt 1990, Fokidis and others 2005, Medlin Jr. and others 2006, Sasse and others 2014). This species hibernates in caves in winter and generally roosts in trees during summer months, though one Arkansas maternity colony was found in a private house (Grippio and Massa 2000, Jackson 2004, Perry and Thill 2007, Perry et al. 2008).

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Myotis sodalis

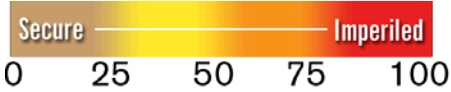
Indiana Bat

Class: Mammalia

Order: Chiroptera

Family: Vespertilionidae

Priority Score: **62** out of 100



Population Trend: Decreasing

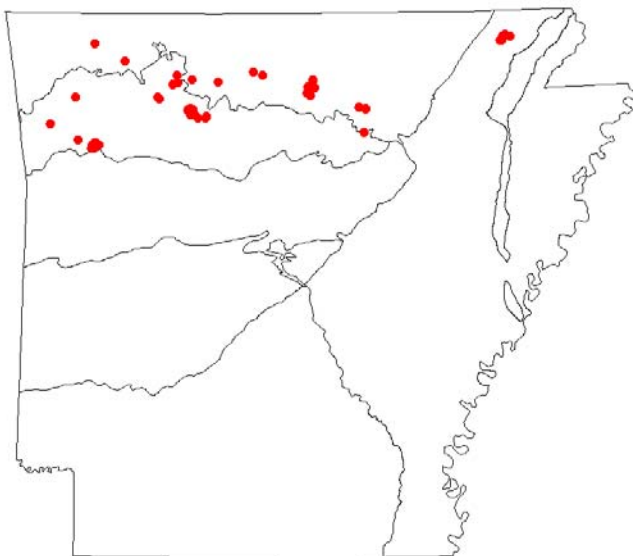
Global Rank: G2 — Imperiled species

State Rank: S1 — Critically imperiled in Arkansas



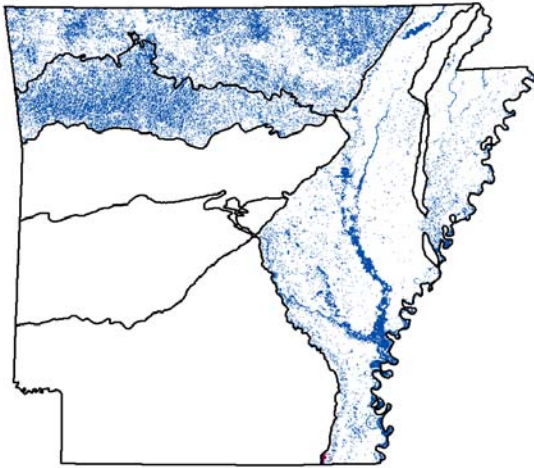
Distribution

Occurrence Records

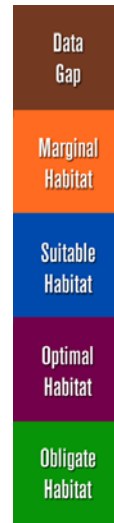


Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Caves, Mines, Sinkholes and other Karst Features	Optimal
Ozark-Ouachita Cliff and Talus	Marginal
Ozark-Ouachita Dry Oak and Pine Woodland	Optimal
Ozark-Ouachita Dry-Mesic Oak Forest/Woodland	Suitable
Ozark-Ouachita Mesic Hardwood Forest	Suitable
Ozark-Ouachita Riparian	Suitable
Ponds, Lakes, and Water Holes	Suitable

Weight

Problems Faced

Human disturbance of bats in caves during winter.

Threat: Habitat disturbance
Source: Recreation

White-nose Syndrome.

Threat: Extraordinary predation/parasitism/disease
Source: Parasites/pathogens

Wind power development.

Threat: Collision with man-made structures
Source: Commercial/industrial development

Data Gaps/Research Needs

Address data gaps identified by national white-nose syndrome plan.

Determine if additional maternity colonies are present, especially in the southern Ozarks.

Determine impacts of habitat management near hibernacula.

Determine migration patterns of female Indiana bats in spring and fall.

Determine presence of white-nose syndrome or the fungus that causes it in hibernacula.

Conservation Actions	Importance	Category
Implement conservation actions recommended by national white-nose syndrome plan.	High	Threat Abatement
Protect hibernacula.	High	Habitat Protection

Monitoring Strategies

Monitor impacts of white-nose syndrome on populations.

Monitor in accordance with U.S. Fish and Wildlife Service recovery plan.

Comments

General Description: Pelage very fine and fluffy, dull grayish chestnut above (hair tips slightly glossy; basal two-thirds blackish, followed by a grayish band and cinnamon tip), pinkish white underparts; membranes and ears blackish-brown; total length 75-102 mm; tail length 27-44 mm; wingspread 240-267 mm; length of head and body 41-49 mm; ear 10-15 mm, does not extend past end of nose when laid forward; forearm 36-41 mm; calcar obviously keeled (not always evident in dried study skins); hind foot small, 7-11 mm, hairs do not extend beyond toes; mass 5-11 g; greatest length of skull 14.2-15.0 mm, usually greater than 14.5 mm; length of maxillary toothrow 5.2-5.6 mm; complete sagittal crest usually present in adults;

Federally & State Endangered species. Ozark caves serve as hibernacula. No known maternity sites in Arkansas. (ANHI 2003, Baker and Ward 1967, Benz and others 1997, Black 1936, Black 1934, Brack and LaVal 1985, Brack 1983, Brady 1983, Britzke and others 2003, Callahan 1993, Callahan et al 1997, Carter 2003, Clark and others 1987, Clark and others 1987, Clark 1981, Clark and Harvey 1997, Clark and Harvey 1996, Clark and Harvey 1986, Cope and Humphrey 1977, Cope and others 1973, Cope and others 1991, Crump 2003, Crump 2003A, 2003C, 2003D, 2003H, Engel 1976, Fletcher 1985, Foster and others 1978, Gardner and others 1996, Gardner and others 1991, Gardner and others 1989, Gardner and others 1990, Gardner and Garner 1990, Graening and others 2001, Graves and Harvey 1974, Guthrie 1933, Hall 1962, Harvey 1975, Harvey 1991, Harvey 1984, Harvey 1987, Harvey 1996, Harvey 1997, Harvey 1975a, Harvey 1991, Harvey 1994, Harvey 1980, Harvey 1991, Harvey 1980, Harvey and Clark 1997, Harvey and others 1979, Harvey and others 1991, Harvey and McDaniel 1986, Heidt and others 1996, Heidt and others 1987, Humphrey 1978, Humphrey and others 1977, Humphrey and Cope 1977, Johnson and others 1998, Kiser and Elliot 1996, Kurta and others 1992, Kurta and others 1993, Kurta and Kennedy 2002, LaVal and LaVal 1980, MacGregor and others 1999, Martin 2001, Martin and others 2000, McDaniel and Gardner 1977, Menzel and others 2001, Mumford and Cope 1964, Myers 1964, NatureServe 2005, Odegard 2003, ONHI 2003, Pitts and others 1996, Sasse and others 2004, Saugey and others 1989, Sealander 1956, Sealander 1960, Sealander and Heidt 1990, Sealander and Young 1955, Steward 1988, Thomson 1982, Tumilson 2001, Wilhide and others 1998).

2007: S Rank changed to S1.

The known distribution of this species was expanded following the discovery of a maternity colony of this species in a bottomland hardwood forest (Brandebura and others 2006, Brandebura and others 2011).

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Notiosorex crawfordi

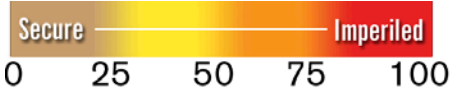
Crawford's Gray Shrew

Class: Mammalia

Order: Soricomorpha

Family: Soricidae

Priority Score: **19** out of 100



Population Trend: Unknown

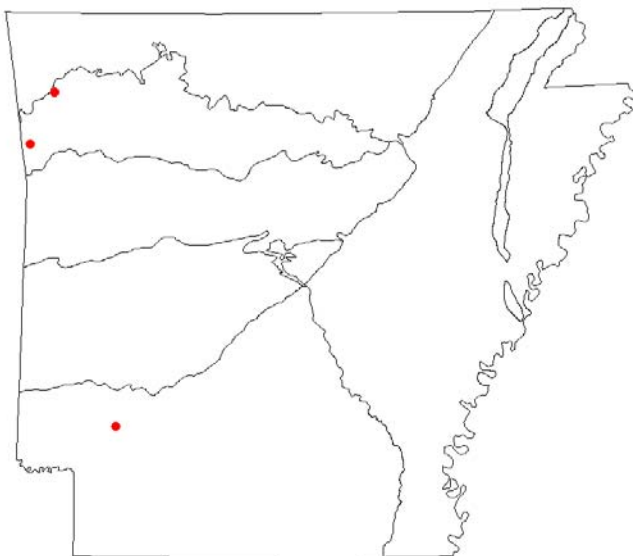
Global Rank: G5 — Secure

State Rank: S2 — Imperiled in Arkansas



Distribution

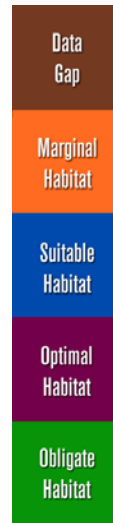
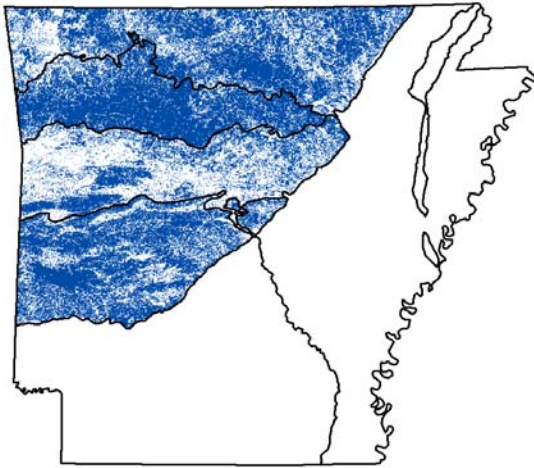
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Interior Highlands Calcareous Glade and Barrens	Suitable
Interior Highlands Dry Acidic Glade and Barrens	Suitable
Ozark-Ouachita Cliff and Talus	Suitable
Ozark-Ouachita Pine/Bluestem Woodland	Suitable
Ozark-Ouachita Prairie and Woodland	Suitable
West Gulf Coastal Plain Calcareous Prairie and Woodland	Suitable

Weight

Problems Faced

Unknown

Threat:
Source:

Data Gaps/Research Needs

Additional information about habitat relationships is needed.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

More information is needed before a monitoring strategy can be developed.

Comments

More commonly found in western United States. 2007: S Rank changed from S1? to S2.

(Natureserve 2005, Sasse and others 2004, Sealander and Heidt 1990)

Name revised from Desert Shrew.

Only a few specimens from Miller, Sebastian, and Ouachita counties have been collected in Arkansas in recent years, and a status survey indicates that they are rare even in good habitat in western Arkansas (Thomas 2005, Connior and others 2012).

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Reithrodontomys humulis

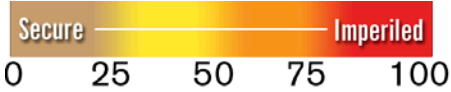
Eastern Harvest Mouse

Class: Mammalia

Order: Rodentia

Family: Cricetidae

Priority Score: 19 out of 100

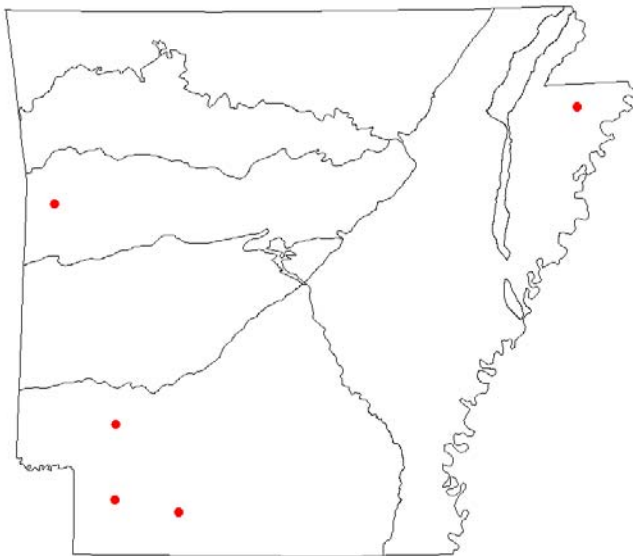


Population Trend: Unknown

Global Rank: G5 — Secure

State Rank: S2 — Imperiled in Arkansas

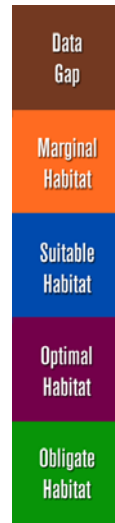
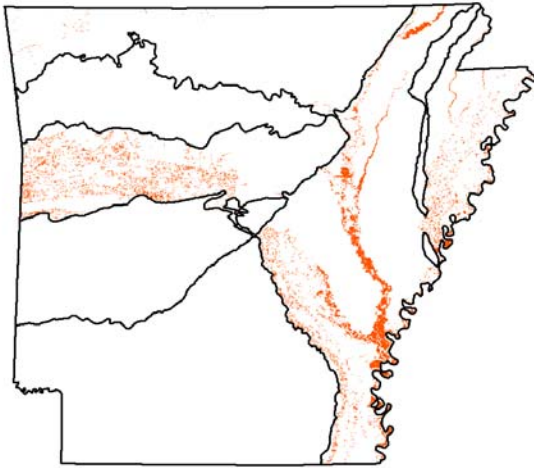
Distribution Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

- Lower Mississippi River Dune Woodland, Pond, and Forest
- Lower Mississippi River High Bottomland Forest
- Ozark-Ouachita Prairie and Woodland

Weight

- Marginal
- Marginal
- Suitable

Problems Faced

Unknown

Threat:
Source:

Data Gaps/Research Needs

Conduct status survey.

Determine habitat use relationships.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

More information is needed before a monitoring strategy can be developed.

Comments

Prefers old fields, marshes, and wet meadows. Climbs among herbaceous vegetation. Nests are placed in tangled vegetation under debris or above ground. (Natureserve 2005, Sasse and others 2004, Sealander and Heidt 1990)

2007: S Rank changed from S1? To S2.

A few additional specimens of this species have been located in recent years (Connior and others 2011, Connior and others 2012).

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Reithrodontomys megalotis

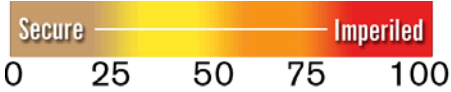
Western Harvest Mouse

Class: Mammalia

Order: Rodentia

Family: Cricetidae

Priority Score: **15** out of 100



Population Trend: Unknown

Global Rank: G5 — Secure

State Rank: S3 — Vulnerable in Arkansas



Distribution

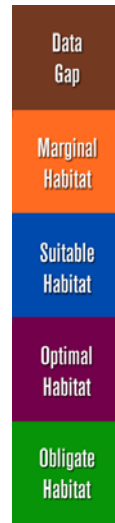
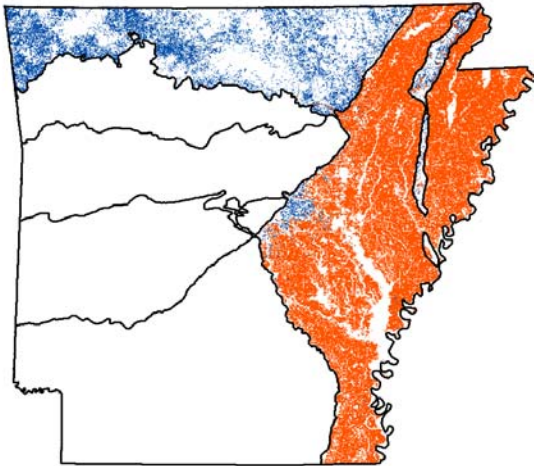
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plain
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Crop Land

Pasture Land

Weight

Marginal

Suitable

Problems Faced

Unknown.

Threat:
Source:

Data Gaps/Research Needs

Conduct status survey.

Conservation Actions

Importance Category

Restore native warm season grasses and forbs.

Low

Habitat Restoration/Improvement

Monitoring Strategies

More information is needed before a monitoring strategy can be developed.

Comments

Habitats include old fields, meadows, weedy roadsides, agricultural areas, grassy situations within pine-oak forest, and riparian borders. Prefers dense vegetative cover. Also may be found in shrubby, arid regions.

(Natureserve 2005, Sasse and others 2004, Sealander and Heidt 1990)

2007: Status changed from S3S4 to S3.

A museum specimen was collected in Sharp county in 1987, but only recently reported on is the first record of this species in the Ozark highland ecosystem (Connior and others 2012).

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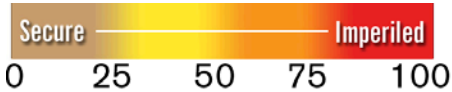
Reithrodontomys montanus

Plains Harvest Mouse

Class: Mammalia

Order: Rodentia

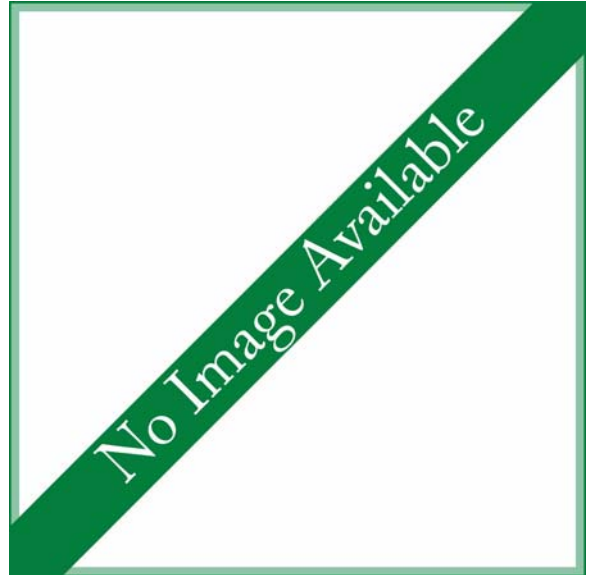
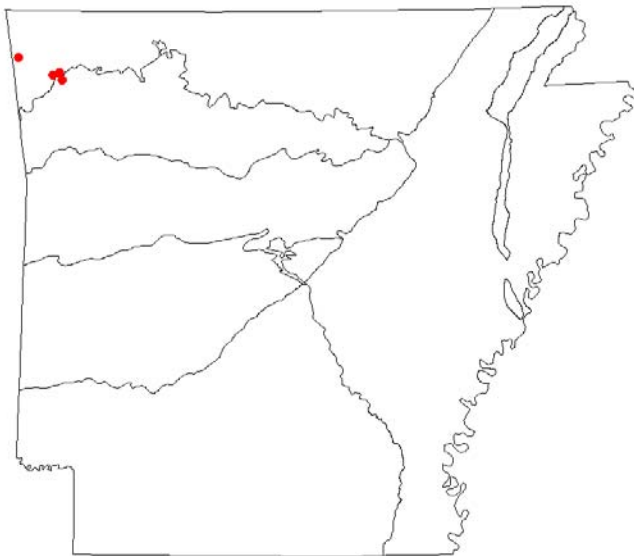
Family: Cricetidae

Priority Score: **23** out of 100

Population Trend: Unknown

Global Rank: G5 — Secure

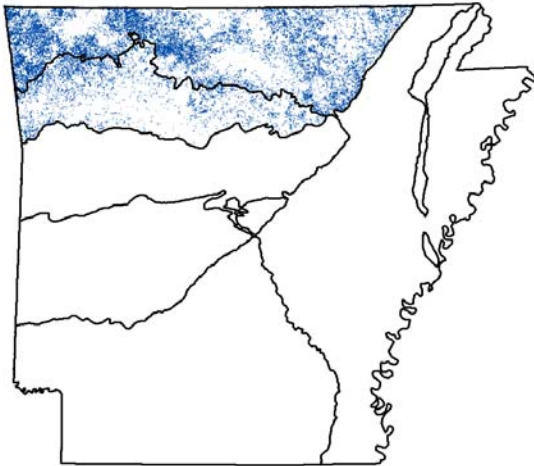
State Rank: S1 — Critically imperiled in Arkansas

**Distribution****Occurrence Records**

Ecoregions where the species occurs:

Ozark Highlands Boston Mountains Arkansas Valley Ouachita Mountains South Central Plains Mississippi Alluvial Plain Mississippi Valley Loess Plain

Habitat Map



Habitats

Ozark-Ouachita Dry Oak and Pine Woodland
 Pasture Land

Weight

Marginal
 Suitable

Problems Faced

Invasive non-native grasses.

Threat: Habitat destruction or conversion
 Source: Exotic species

Urbanization and habitat loss.

Threat: Habitat destruction or conversion
 Source: Urban development

Data Gaps/Research Needs

Determine if species is still present in Arkansas.

Conservation Actions

Importance Category

Encourage conservation easements on open land.	Medium	Habitat Restoration/Improvement
Restore native warm season grasses and forbs.	Medium	Habitat Restoration/Improvement

Monitoring Strategies

More information is needed before a monitoring strategy can be developed.

Comments

Occupies areas with less than 50 percent bare soil; weedy situations. Old hayfields, highway medians, cultivated fields (wheat, sorghum), grazed riparian woodland. May nest in grass on or above ground, in underground burrow, beneath rock in stony pasture, under log or discarded lumber, or in other object on or near ground.

(Natureserve 2005, Sasse and others 2004, Sealander and Heidt 1990)

2007: S Rank changed from S1? to S1.

Several specimens were recently captured in cool-season grass habitat at the Pea Ridge National Military Park in Benton county (Reddin 2014).

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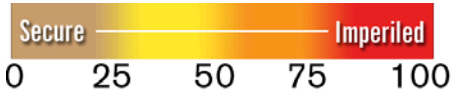
Sorex longirostris

Southeastern Shrew

Class: Mammalia

Order: Soricomorpha

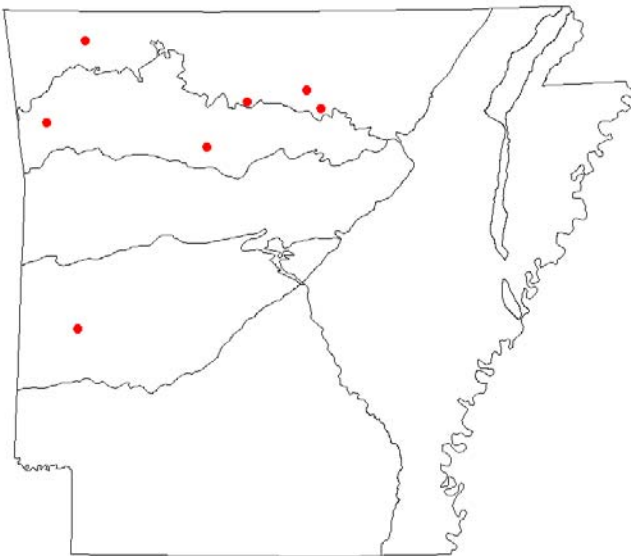
Family: Soricidae

Priority Score: **19** out of 100

Population Trend: Unknown

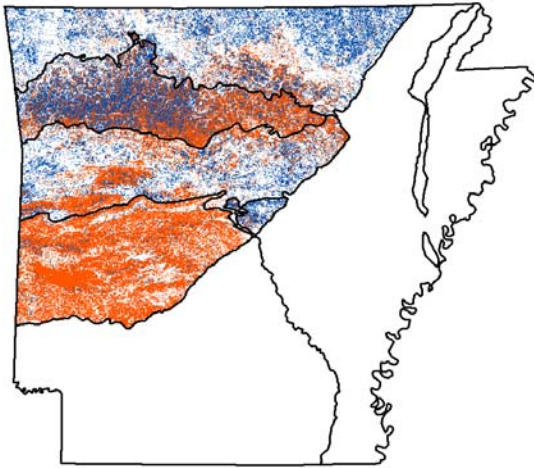
Global Rank: G5 — Secure

State Rank: S2 — Imperiled in Arkansas

**Distribution****Occurrence Records**

Ecoregions where the species occurs:

Ozark Highlands Boston Mountains Arkansas Valley Ouachita Mountains South Central Plains Mississippi Alluvial Plain Mississippi Valley Loess Plain



Habitat Map



Habitats

Caves, Mines, Sinkholes and other Karst Features	Marginal
Ouachita Montane Oak Forest	Suitable
Ouachita Mountain Forested Seep	Marginal
Ozark-Ouachita Mesic Hardwood Forest	Suitable
Ozark-Ouachita Pine/Bluestem Woodland	Marginal
Ozark-Ouachita Pine-Oak Forest/Woodland	Marginal
Ozark-Ouachita Prairie and Woodland	Suitable
Ozark-Ouachita Riparian	Suitable

Weight

Problems Faced

Unknown.

Threat:
Source:

Data Gaps/Research Needs

Records of this species in the state are sparse.

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium Data Gap

Monitoring Strategies

Continue to opportunistically compile records of collections in the state.

Comments

A smallish shrew with a sharply pointed snout, beady eyes, and small ears nearly hidden in the fine soft pelage; pelage brown above, cinnamon brown or ochraceous tawny below; five small unicuspidate teeth behind the upper incisors (the fifth is minute, the fourth generally is larger than [less commonly equal to] the third, and both of these are smaller than the first and second; tips of teeth are dark chestnut; feet are delicate, with slender weak claws; condylobasal length of skull 13.8-15.5 mm.

(Natureserve 2005, Sasse and others 2004, Sealander and Heidt 1990)

2007: S Rank changed from S2? to S2.

A status survey for this species was performed from 2007-2009, and after completing 17,983 trap nights at 329 locations with only 2 shrew captures, concluded that the species is rare in the state (Mikel and others 2010). It has also been recently collected from Pope County (Showen 2006).

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Spilogale putorius

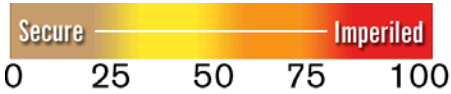
Eastern Spotted Skunk

Class: Mammalia

Order: Carnivora

Family: Mephitidae

Priority Score: **21** out of 100



Population Trend: Unknown

Global Rank: G4 — Apparently secure species

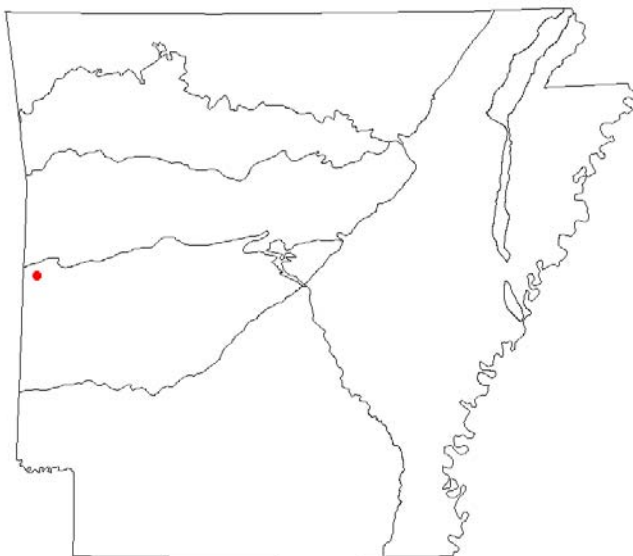
State Rank: S2S3 — Imperiled species in Arkansas (uncertain rank)



©Mundy Hackett

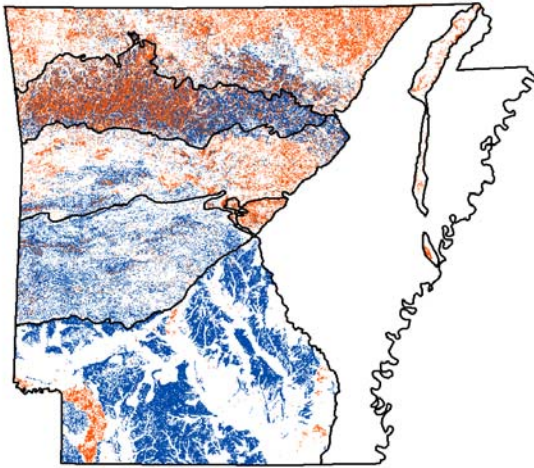
Distribution

Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain



Habitat Map



Habitats

Crop Land	Marginal
Ozark-Ouachita Cliff and Talus	Marginal
Ozark-Ouachita Dry Oak and Pine Woodland	Suitable
Ozark-Ouachita Dry-Mesic Oak Forest/Woodland	Suitable
Ozark-Ouachita Mesic Hardwood Forest	Marginal
Ozark-Ouachita Pine-Oak Forest/Woodland - Woodland Condition	Suitable

Weight

Problems Faced

High avian and terrestrial predation rates.

Threat: Extraordinary predation/parasitism/disease
Source: Predation

Data Gaps/Research Needs

Determine habitat use relationships in the Ozarks.

Determine home range in the Ozarks.

Conservation Actions

Manage shortleaf pine forests to provide a mixture of young stands with a woody vegetative understory and closed canopy.

Importance Category

Medium Habitat Restoration/Improvement

Monitoring Strategies

Monitor harvest of spotted skunk in fur dealer reports.

Comments

Prefers forested areas or habitats with significant cover. Also open and brushy areas, rocky canyons and outcrops in woodlands and prairies. When inactive or bearing young, occupies den in burrow abandoned by other mammal, under brushpile, in hollow log or tree, in rock crevice, under building, or in similar protected site. Occasionally reported in Arkansas fur sales records. Possibly in decline.

(ANHI 2003, Crump 2003, Crump 2003A, 2003C, 2003D, 2003H, Heidt and others 1996, NatureServe 2005, Odegard 2003, ONHI 2003, Peck and others 1985, Perry In Process, Sasse and others 2004, Sealander 1956, Sealander and Heidt 1990, Steward 1988).

2007: S Rank changed from S4 to S2S3.

A major study of the home range, habitat use, denning habits, and survival of this species was conducted in the Ouachitas and found that spotted skunks tend to prefer early successional forest habitats, probably due to high predation rates that can occur in more open areas (Hackett and others 2007; Lesmeister and others 2008a and 2008b; Lesmeister and others 2009, Lesmeister and others 2010, Lesmeister and others 2013).

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Synaptomys cooperi

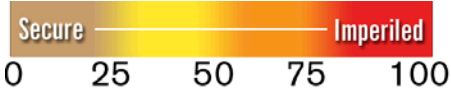
Southern Bog Lemming

Class: Mammalia

Order: Rodentia

Family: Muridae

Priority Score: **19** out of 100



Population Trend: Unknown

Global Rank: G5 — Secure

State Rank: S2 — Imperiled in Arkansas



Distribution

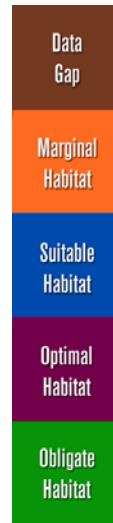
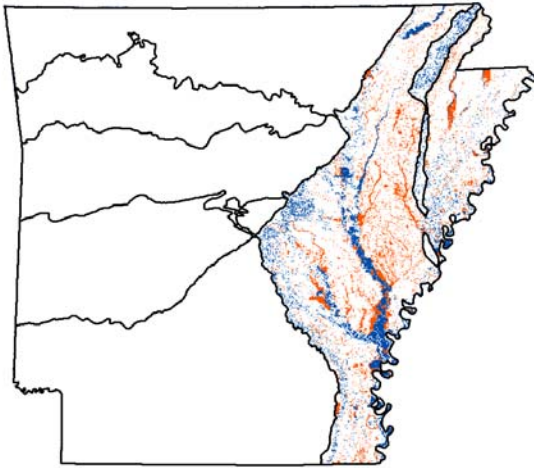
Occurrence Records



Ecoregions where the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plain
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Lower Mississippi Flatwoods Woodland and Forest	Marginal
Lower Mississippi River Bottomland Depression	Suitable
Lower Mississippi River High Bottomland Forest	Marginal
Lower Mississippi River Low Bottomland Forest	Marginal
Lower Mississippi River Riparian Forest	Suitable
Lower Mississippi River Riparian Forest	Suitable
Pasture Land	Suitable

Weight

Problems Faced

Habitat loss and conversion.

Threat: Habitat destruction or conversion

Source: Agricultural practices

Data Gaps/Research Needs

Confirm museum specimen identification.

Determine effects of isolation on genetic diversity.

Determine habitat use relationships.

Conservation Actions**Importance** **Category**

More data are needed to determine conservation actions.

Medium

Data Gap

Monitoring Strategies

More information is needed before a monitoring strategy can be developed.

Comments

Prefers boggy habitat but also common in marshes, meadows, and upland forests with thick humus layer (especially when conditions not hot and dry); areas with intermixture of herbaceous/shrubby vegetation. Occupies burrow systems usually 6-12 inches deep and surface runways (e.g., beneath sphagnum and among roots of shrubs). Young are born in nests placed on the surface in grassy vegetation or in underground burrows.

(Natureserve 2005, Sasse and others 2004, Sealander and Heidt 1990)

2007: S Rank changed from S2S3 to S2.

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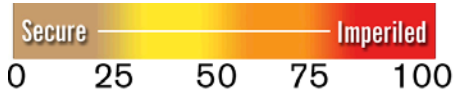
Taxidea taxus

American Badger

Class: Mammalia

Order: Carnivora

Family: Mustelidae

Priority Score: **16** out of 100

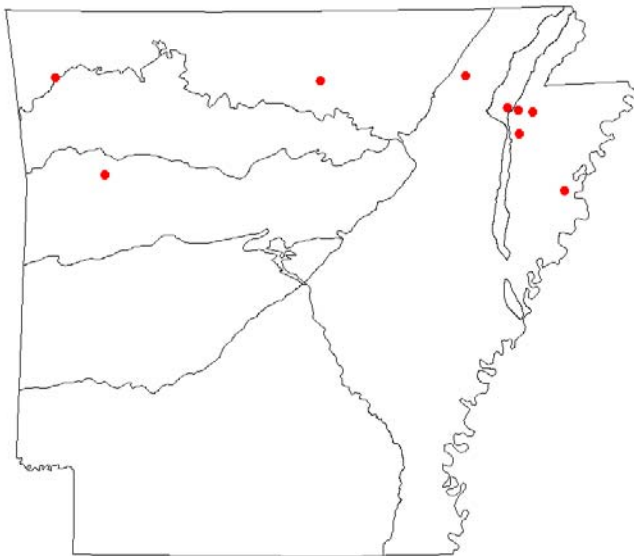
Population Trend: Increasing

Global Rank: G5 — Secure

State Rank: S1S2 — Critically imperiled in Arkansas (uncertain rank)

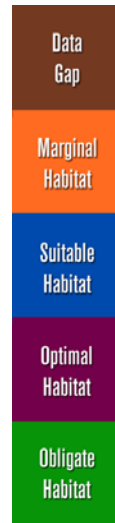
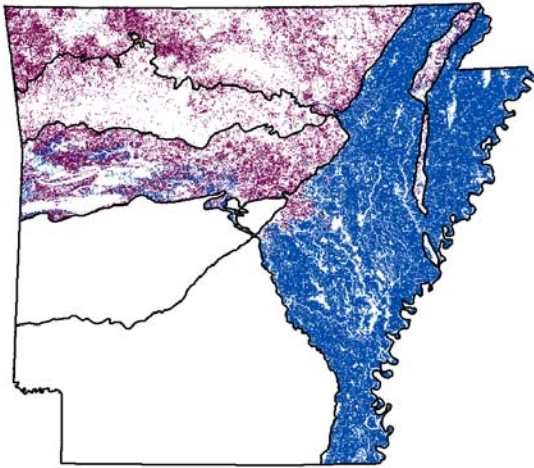
**Distribution**

Occurrence Records

Ecoregions where
the species occurs:

- Ozark Highlands
- Boston Mountains
- Arkansas Valley
- Ouachita Mountains
- South Central Plains
- Mississippi Alluvial Plain
- Mississippi Valley Loess Plain

Habitat Map



Habitats

Crop Land

Ozark-Ouachita Riparian

Pasture Land

Weight

Suitable

Suitable

Optimal

Problems Faced

Unknown.

Threat:
Source:

Conservation Actions

More data are needed to determine conservation actions.

Importance Category

Medium

Data Gap

Monitoring Strategies

More information is needed before a monitoring strategy can be developed.

Comments

A heavy-bodied, short-legged mammal with long fore claws, long fur (longest on the sides), and a short bushy tail; upperparts are yellowish gray to reddish brown, with a white middorsal stripe extending from the snout to the neck or shoulders in the north and usually to the rump in the south; black patches are present on the face and cheeks; underparts are buffy, except for the whitish chin, throat, and mid-ventral region; feet are dark brown to black; head and body length 42-72 cm, tail length 10-15.5 cm, mass 4-12 kg. Rarely encountered in northern Arkansas. Recent records may indicate that a population has been established in Arkansas.

(Natureserve 2005, Sasse and others 2004, Sealander and Heidt 1990)

2007: S Rank changed from SA (accidental) to S1S2.

A recent review of the status of this species in Arkansas found that it was expanding in the northeastern portion of the state along Crowley's Ridge (Tumlison and others 2012).

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