

Why protect bats?

Bats are on the decline with 50% of American bat species in severe decline or already listed as Endangered. Their loss jeopardizes entire ecosystems.

Bats eat large quantities of insects such as mosquitoes, beetles, moths, grasshoppers, and locusts. Many of these insects are harmful to crops, forests and humans. Without the benefit of insect-eating bats, farmers would have to apply more pesticides to protect their crops and more insecticides would need

to be used to protect the public from disease carrying mosquitoes.

Bats reproduce at a very slow rate. Most species in the Nevada give birth to and nurse only one pup per year.

Bats avoid contact with humans and other animals that could potentially harm them. Consequently less than half of one percent of bats contract rabies. They normally only bite out of self defense and should not be handled.



California leaf-nosed bat. Photo by Jason Williams.

Houses for artificial roosts can be either purchased or constructed. For more information, contact your local Department of Wildlife or Bat Conservation International office.



Artificial bat house can be purchased or made to encourage bat roosting.

CREATE BAT HABITAT

- ✓ Leave older and dead trees for roost sites
- ✓ Provide clean, open water in ditches, ponds and lakes
- ✓ Construct backyard ponds and stock tanks with at least a seven foot length so bats can take water on the wing
- ✓ Avoid use of pesticides. This kills their food items and pups are very sensitive to pesticides
- ✓ Avoid caves, mines or abandoned buildings where bats may have maternity roosts or where they are hibernating. If you wake a hibernating bat it could die from starvation
- ✓ Provide and maintain hedge rows, windbreaks, and trees along forest edges
- ✓ Bridges can provide excellent summer roost habitat. When bridges are constructed or rebuilt, bat specifications can be incorporated

A Local Colony

A large colony of Mexican Free-tailed bats has adopted a bridge in Reno as their summer roost where they can give birth to their pups. This is one of the largest known colonies of bats in the state. Every summer these bats take up residence under this bridge, which spans the Truckee River. The females give birth to only one pup per year and nurse their young for several weeks. The colony consists of approximately 100,000 bats including those born here every year. These bats do not hibernate in Nevada but fly as far as Mexico for the winter to feed on insects. Each bat can eat at least 1000 small insects per night and the entire colony consumes approximately 75 tons of night-flying insects in Nevada during the summer.



Need a caption for this image.

Habitat Conservation

Although the spotted bat is Nevada's only bat species listed as "Threatened", several species are declining in number and some at a rapid pace. Habitat destruction, disturbance at hibernation and maternity colonies, and the use of pesticides all have been responsible for this decline.

Habitat enhancements for bats are easy and inexpensive. These aerial allies eat thousands of insects a night many of which are forest and crop pests. Many of the bats in Nevada feed on mosquitoes that can carry diseases such as the West Nile Virus.

Nevada Bat Conservation

Twenty three native species of bats in Nevada depend on humans for protection and habitat conservation.

The Nevada Bat Working Group is made up of state, federal, and private

wildlife scientists dedicated to the preservation, protection, management and restoration of Nevada's bat fauna. This group of dedicated people put together the first bat conservation plan in the western U.S. This plan outlines life history of each of the 23 species of bats that occur in Nevada, in addition to conservation measures for certain habitats and water, bridge construction for bats, and preservation measures. Check for a copy of the plan at libraries across the state. An educational video on bats in Nevada will also be available in the near future.

Nevada Department of Wildlife's Wildlife Diversity Bureau is currently conducting research on all bat species in Nevada. Radio telemetry is now small enough for bats to carry on their backs. Radio telemetry, bat detectors and night vision equipment allow biologists to study bats and learn more about important foraging, hibernation and roosting locations. These tools also help biologists document habitat use, identify breeding sites, determine how far some species migrate, and observe rarely documented behavior.



Townsend's Big-eared Bat (John Geibhardt)

Bat guano and its associated bacteria has many uses such as fertilizer, detoxifying industrial wastes in lakes and streams, producing gasohol and antibiotics.

The study of bat echolocation has assisted scientists in navigational aids for the blind.

Living With Bats

There are bats in Nevada adapted to all sorts of habitats. There may be a colony of bats living somewhere in your neighborhood and you may not even know it. You probably don't even notice the thousands of insects including mosquitoes they eat every night! Human-bat interaction is almost non-existent, due mainly to their nocturnal habits and the bats indifference toward humans. The best way to avoid direct contact is not to touch them. If a bat accidentally flies into your house turn off the lights and open the doors and windows. The bat will find its way outside where it can find insects. Bats are not blind but can see as well as humans. Never hit bats with anything to injure them. This will not only hurt the animal but delay or avoid any exit to the outdoors. Bats groom often and are for the most part clean and carry diseases far less than ground dwelling mammals.

Bats In Your Home

During the summer bats sometimes choose the attic of a house, chimney or eaves in which to roost. Mother bats select very warm sites for a summer roost because their pups are born hairless and cannot fly.

If you don't want bats roosting in or around your house there are exclusion plans, which can be obtained from Bat Conservation International or Nevada Department of Wildlife.

Nevada bats are born during the summer months so avoid exclusion during this period. Bats leave their summer roost in the fall to migrate or hibernate so this would be the best time to bat-proof your home. A bat house can be placed to provide an alternate site for the colony. Placement for the bat house is important as far as aspect and temperature are concerned. not come into contact often with other warm-blooded mammals to contract diseases. The incident of rabies in bats is very low compared to other mammals (one half of one percent) in the US.

The Long-Eared Bat

The long-eared Myotis bat is an example of one of our more common and widely distributed of the mouse-eared genus of bats. Found in nearly all of Nevada's counties, this species is primarily a forest-associated animal and often raises it's young in the security of hollow tree snags or under exfoliating pieces of tree bark. This Myotis species often gleans insects from surrounding vegetation and can also catch flies, moths and beetles by aerial pursuit. Its jet-black ears are some of the longest in its genus, measuring nearly half of its total body length. Try to imagine a human with those proportions.



Pallid Bat

The Pallid bat is a large tan to white colored bat, which frequently scoops up its prey on the ground. Its prey consists of large insects including scorpions, centipedes,

grasshoppers, crickets and beetles. These bats usually roost in small colonies of a r o u n d twenty bats in buildings and rock crevices also caves, mines and tree cavities.



This bat gateway installed on a mine in Nevada to protect the largest known maternity colony of Pallid bats in Nevada. These gates are installed to protect hibernating bats as well as colonies of females giving birth. The first few weeks following the birth of pups is a very vulnerable time. Photo by Jason Williams.

Where To Learn More About Nevada Bats?

- ✓ **Nevada Department of Wildlife (NDOW)**
Contact your local office or access the web site at www.ndow.org
- ✓ **Local Libraries** - Nevada Bat Conservation Plans can be obtained at most local libraries
- ✓ **Bat Conservation International (BCI)**
BCI provides information on bat box building education, living safely with bats and conservation. Contact them at (512) 327-9721 or www.batcon.org

The photos that are featured in this brochure unless otherwise specified were provided and taken by Scott Altenbach, Researcher, University of New Mexico, Albuquerque NM.

NEVADA BATS Our Aerial Allies



photo by Scott Altenbach

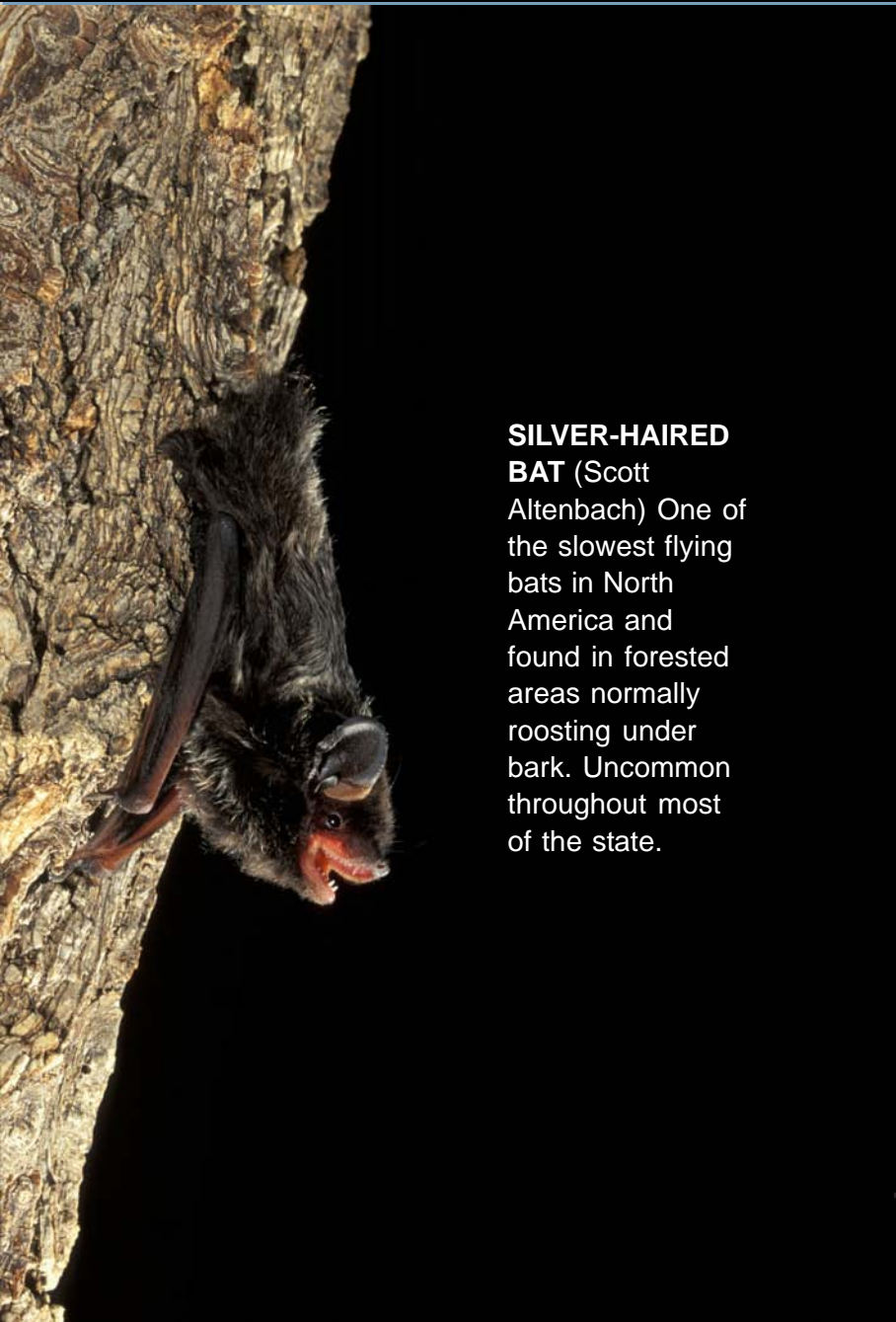


Bats of Nevada



YUMA BAT (Scott Altenbach) The Yuma bat has a preference for habitat with open water, and it is often found in treeless areas. The Yuma bat commonly forages above the surface of the water. Females can give birth the summer following their own birth.

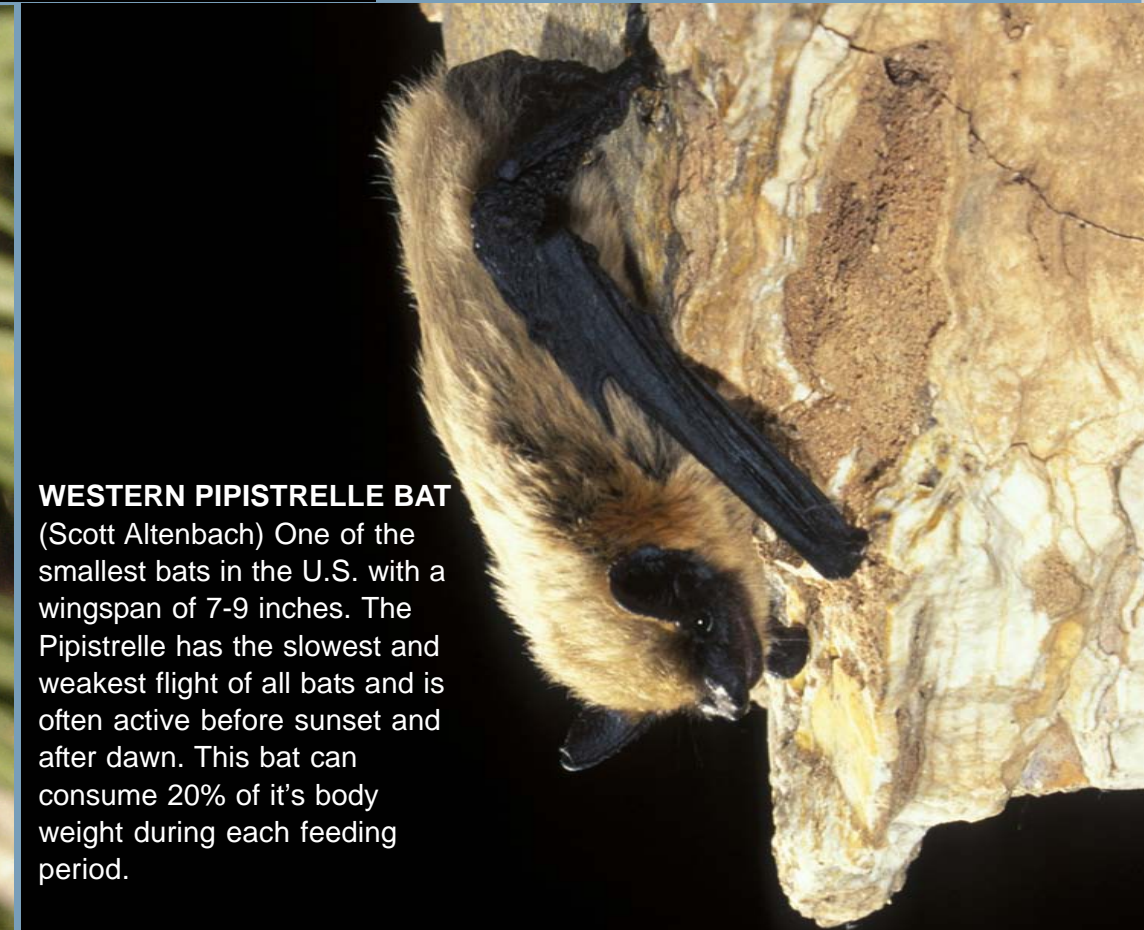
Nevada is home, to 23 different species of bats.



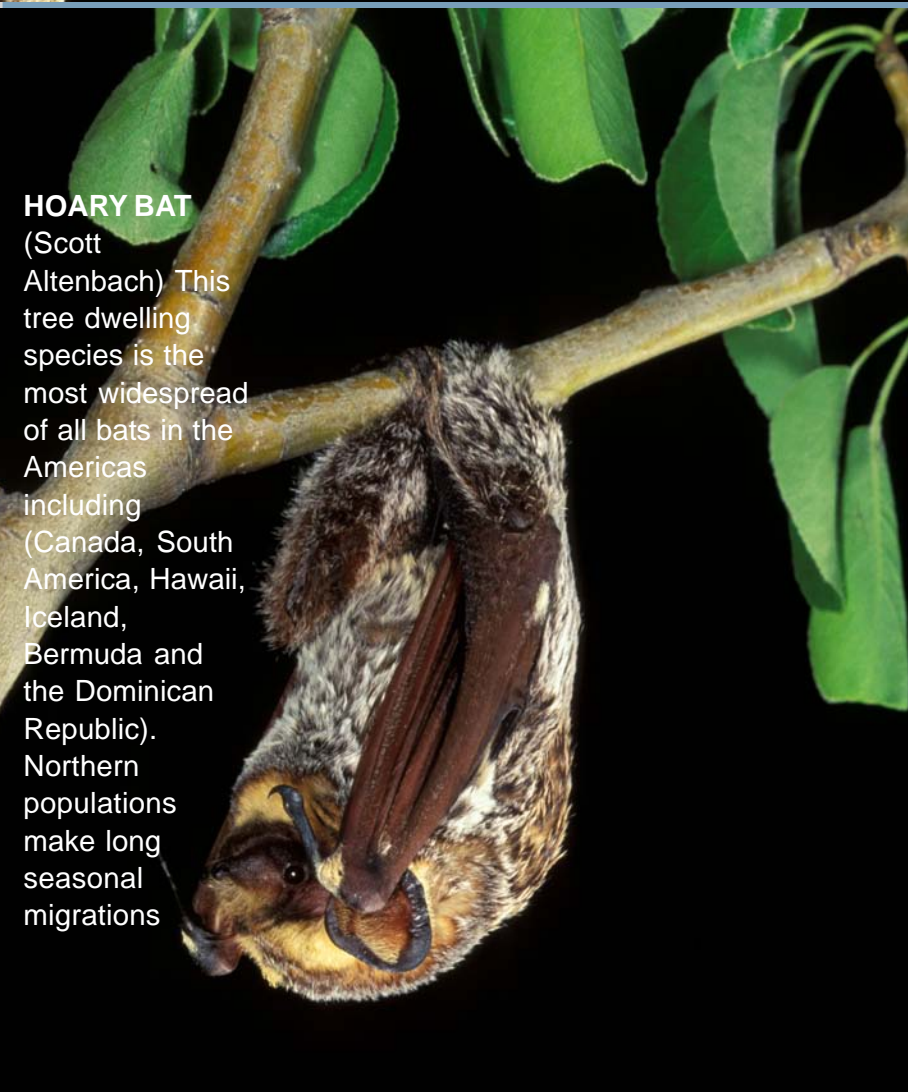
SILVER-HAIRED BAT (Scott Altenbach) One of the slowest flying bats in North America and found in forested areas normally roosting under bark. Uncommon throughout most of the state.



TOWNSEND'S BIG-EARED BAT (John Geibhardt) These big-eared bats give birth to one large pup, which is 25 % of the size of its mother. They are found in desert habitat, Pinion Juniper up to coniferous/deciduous forest and live up to 15 years.



WESTERN PIPISTRELLE BAT (Scott Altenbach) One of the smallest bats in the U.S. with a wingspan of 7-9 inches. The Pipistrelle has the slowest and weakest flight of all bats and is often active before sunset and after dawn. This bat can consume 20% of its body weight during each feeding period.



HOARY BAT (Scott Altenbach) This tree dwelling species is the most widespread of all bats in the Americas including (Canada, South America, Hawaii, Iceland, Bermuda and the Dominican Republic). Northern populations make long seasonal migrations

LONG-EARED MYOTIS (Scott Altenbach) This bat is very long lived with a record of 22 years. The long-eared Myotis was named for its jet black ears which measure nearly half of its total body length. It is found in almost all of Nevada's counties and prefers forested habitats.



PALLID BAT (Scott Altenbach) The lightest color bat in Nevada can be pure white to buff color. This bat often scoops up large prey on the ground including centipedes and scorpions. The Pallid is common in arid habitats with rocky outcroppings

YELLOW BAT (Jason Williams) These bats use trees and leafy vegetation in which to roost and hunt insects. In the Las Vegas area they utilize palm trees for roosts and hibernation.



Bats eat large quantities of insects such as mosquitoes, beetles, moths, grasshoppers, and locusts.



SPOTTED BAT (Scott Altenbach) The spotted bat is threatened in Nevada. It is normally found singly or in small colonies. This strikingly colored bat is closely associated with rock cliffs and has only one pup.