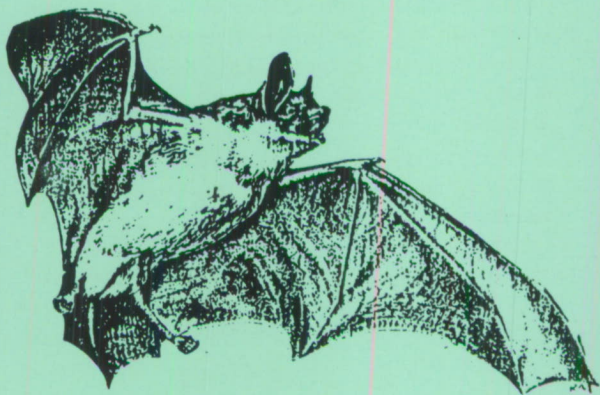


---

# Bats and Rabies

*understanding and preserving  
a valuable mammalian  
resource*



**Illinois Department of Natural Resources**

DIVISION OF NATURAL HERITAGE  
ONE NATURAL RESOURCES WAY  
SPRINGFIELD, IL 62702-1271



---

---

## Illinois' Bats & Public Health Concerns

Bats are mammals, not birds, and belong to a specialized group that includes nearly 1,000 species worldwide. All mammals, including bats, are susceptible to rabies infection, and some select groups of mammals may actually serve as natural reservoirs for this persistent virus.

- **Rabies**-Rabies group viruses (family *Rhabdoviridae*, genus *Lyssavirus*) target the victim's central nervous system resulting in a fatal inflammation of the brain, and sometimes, the spinal cord. Infected bats can become lethargic, and in latter stages, become paralyzed. The cycle of rabies in bats is separate from the cycle of rabies in most terrestrial animals. Occasionally there is some transmission of bat strains of rabies to isolated "spill-over" populations of mammals, but this is rather rare. For the most part, North American insectivorous ("insect eating") bats do not create epidemic outbreaks. For example, despite the presence of over 20 million bats at Bracken Cave in central Texas, surrounding landowners encounter no more rabid wildlife than would be found elsewhere. This trend is typical around bat concentrations nationwide.

## Facts: Rabies Infection & Transmission

Reliable data on wildlife rabies are scarce in many areas of the globe. Due to this fact, it is often difficult to assess the full impact of this lethal virus on both human and animal health. Overall, rabies would be considered a uniformly fatal infection once symptoms occur so prevention is absolutely critical.

---

---

When necessary, immunization against rabies is effective in preventing the infection, if administered soon after exposure.

Rabies is typically contracted when the saliva of an infected animal comes in contact with the victim via bites or scratches with teeth or claws.

Wild animals most commonly found to be rabid in the United States are foxes, raccoons, skunks, and insectivorous bats. Almost 75 percent of the rabid animals found in Illinois in recent years have been insectivorous bats. The terrestrial animal in Illinois which may act as a reservoir for rabies and which was involved in an increase in rabies in the 1970's and 1980's is the skunk.

As many as 25,000 Americans receive post-exposure treatment each year as a result of contact with animals (domestic and wild) suspected of being rabid. For many years in the United States, there were 0-1 human rabies cases per year but that has increased to 4-6 human cases per year in recent years (1991-1995) so the trend is progressing upward. The low level of human rabies in the United States is due to rabies vaccination of domestic pets. The Centers for Disease Control & Prevention (CDC) reports that from 1980 to the mid 1990s, 28 human rabies cases have been diagnosed in the United States. Variants of rabies virus associated with bats have been identified from 15 of these 28 cases. Considering the 200 million people inhabiting our nation, clearly these numbers are quite small but an awareness of when the risk of rabies exists is critical.

Insectivorous bats infected with the rabies virus may become lethargic and allow themselves to be handled by people. Preventing bat-associated rabies in people is simple, people need to avoid contact with bats - **DO NOT PICK UP OR TOUCH BATS**. Despite humanitarian instincts, should you see a bat on the ground - **DO NOT PICK IT UP OR TOUCH THE BAT**. (Of course, this practice should be followed with any disabled wild animal.) Stay clear of the animal and notify your local animal control department, police department, or natural resources office.

---

---

## Rabies Prevention & Treatment

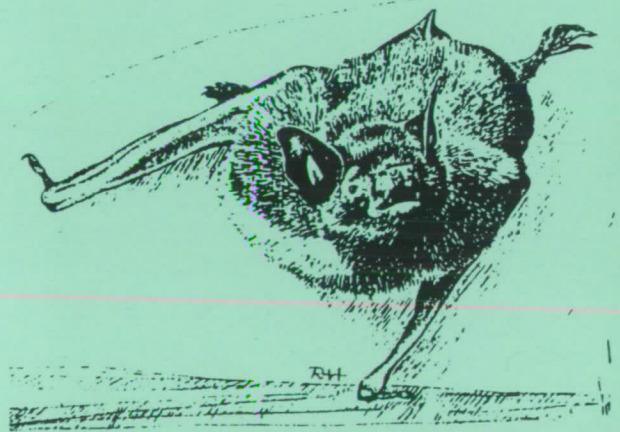
Control of rabies among wildlife reservoirs is quite difficult. To reduce the chances of rabies being spread from one area to another, State Wildlife Codes do address issues such as the importation, distribution, relocation, and harboring of wild animals, however; the most effective methods of preventing human rabies infection are to practice the following steps:

- Avoid touching or feeding any wild or stray animal. In addition, do not "adopt" wild or stray animals, including young. Any wild animal, including bats, that can be caught is more likely than others to be sick/infected, and should therefore not be handled. Do not be fooled by wild animals that move slowly and do not flee in your presence.
- If bitten or scratched, wash the affected area immediately with soap and water for 10 minutes. Seek immediate medical attention.
- Do not chase an animal that has attacked a person-contact your local police or animal control officer.
- Animal control may be able to capture the suspect animal for quarantine and/or testing (this applies primarily to dogs and cats). If a domestic animal is involved, you will need to provide animal control officials with a thorough description of the animal if they are to capture it. In addition, locate all people and pets exposed to the suspect animal so that they can be treated and/or quarantined.
- Call your local health department and notify them of all people bitten or otherwise exposed to the animal in case they may need treatment.
- People should not allow their pets to roam freely and should keep their pets up-to-date on their rabies vaccinations.

---

---

Remember that pets may escape from the house and be bitten by wild animals which may be rabid. These domestic pets could therefore bring rabies home to their owners. Therefore, it is very important for owners of pets to keep their animal's rabies vaccinations current. State law requires people to vaccinate their dogs for rabies, and many local governments also require rabies vaccination of cats. If you should happen to see bite wounds on your pet that may be from a wild or stray animal, take your pet to the veterinarian who may recommend a booster rabies vaccination.



If a person has been bitten by an animal, the need for rabies post-exposure treatment is based on the species of the biting animal, the prevalence of rabies in the geographic area, the availability of the animal for testing or quarantine, and for dog or cat bites only, whether the bite was provoked or unprovoked. If an individual has contact with a bat and the bat escapes, he/she should contact their physician for advice on whether rabies vaccination is appropriate. The physician may wish to obtain consultation from the local health department. If an individual has direct contact with a bat and the bat remains captive, contact your local animal control office to arrange for rabies testing.



---

Treatment of animal bites to prevent rabies involves a series of shots which may be administered in the arm. If the person has not previously received the rabies vaccine, shots are administered in the hip and at the site of the bite wound. Treatment is no longer administered by shots in the abdomen. If the individual has not previously received rabies vaccination, they will receive both Rabies Immune Globulin and Rabies Vaccine. Each component works in conjunction to create immunity and prevent the onset of rabies infection. While effective in preventing infection, immunization must be started as soon as possible, prior to the onset of symptoms. The incubation period for full onset of human rabies is usually between 3 and 8 weeks. Early stage symptoms of rabies infection commonly include: abnormal sensations around the site of exposure, fever, nausea, sore throat, muscle stiffness, sensitivity to sound, light, and temperature, and increased salivation.

## Bats & Rabies: A Need For Intervention?

Because healthy bats perform important ecological functions, their population reduction as a means of rabies control is not a consideration, except in very unusual circumstances.

Bats that are typically tested for rabies by health departments are sick and injured specimens that have had human and/or pet contact, and are potential rabies suspects. As would be expected, the frequency of infection in these samples will be higher than those found in bat populations as a whole. Nationwide, approximately 5% of the bats submitted for testing prove to be rabid; in comparison, testing the general bat population usually results in rabies infection rates of less than 1%. In situations where bats from a colony suspected of harboring the rabies virus are tested, typically only one bat from the colony is infected. Therefore, destruction of an entire colony is not recommended, except in very isolated instances.

---

## Bat Conservation & Management

It is reasonable to believe that the threat of rabies infection is low for anyone who properly vaccinates all family pets and does not handle wild or unfamiliar animals.

In Illinois, bats feed exclusively on insects. It has been reported that a single bat can consume up to 3,000 insects per night. Similarly, a single bat can devour over 140 mosquitos in less than 15 minutes and up to 900 insects within an hour. Widespread, sustained population reduction of mammals, including bats, to eliminate rabies is simply not justified for ecologic, economic, and ethical reasons.

All species of bats found in Illinois are protected under the State of Illinois' Wildlife Code. For information concerning acceptable bat exclusion techniques ("bat-proofing") please contact the Illinois Department of Natural Resources, Division of Natural Heritage in Springfield, Illinois at (217)785-8774.



---

## **Illinois Department of Natural Resources**

**Division of Natural Heritage**

**524 South Second Street**

**Springfield, Illinois 62701-1787**



**This brochure was prepared with the valuable assistance of the Illinois Department of Public Health.**

Cover and Inset Illustrations by: Roslyn A. Alexander, D.V.M., BSc.  
Copyright, 1974.

-----

The Department of Natural Resources does not discriminate on the basis of race, color, sex, national origin, age, or handicap in admission to, or treatment or employment in the programs or activities in compliance with the Illinois Human Rights Act, the Illinois Constitution, Title VI of the 1964 Civil Rights Act, Section 504 of the Rehabilitation Act of 1973 as amended, and the U.S. Constitution. The Equal Employment Opportunity Officer is responsible for compliance and may be reached at 217/782-7616.

*Printed by Authority of the State of Illinois*