

## Introduction

Rabies is a viral disease which is typically transmitted through animal bites. It belongs to the genus *Lyssavirus*, which translates from Greek to mean “virus of rage or madness.” These viruses commonly afflict the central nervous system and result in behavioral changes and permanent damage resulting in death. It is particularly common for carnivores, including canids, to spread the virus. It affects all mammal species but in the wild occurs most commonly in raccoons, skunks, foxes, and bats. In New Jersey, the raccoon makes up the largest host reservoir of rabies virus.

## Species Affected

Rabies can affect all mammals. It is spread most by raccoons, skunks, foxes, and bats. Rabies can also be spread by unvaccinated domestic animals, the most common being feral cats. Most other animals die shortly after infection and do not spread the disease readily.

## Clinical Signs

There are no obvious changes to the physical appearance of animals infected with rabies. The most apparent sign of rabies infection is a change in behavior. Animals with rabies can exhibit aimless wandering, incoordination, lethargy, and paralysis or they can exhibit a rage-like state that results in attacking nearby objects, people, and animals and self-mutilation.

## Transmission

Transmission occurs via saliva and most typically through animal bites. It is also possible for saliva to enter an open wound through direct contact. Some species, such as bats, commonly bite or even scratch victims unknowingly, which is a suspected cause of most rabies deaths in the US.

## Diagnosis

Rabies diagnosis is not accurate through examination of clinical signs. Wild animals suspected of rabies must be dispatched and

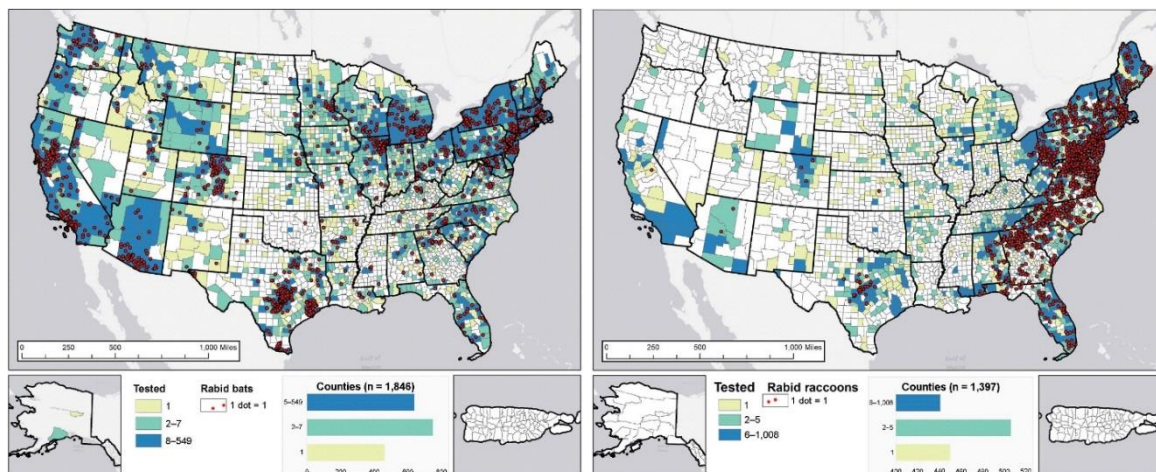
submitted for testing. Laboratory methods for diagnosing rabies include a direct fluorescent antibody test, a direct rapid immunohistochemical test, or an LN 34 real-time reverse transcriptase PCR assay.

## Epidemiology

The rabies virus is a member of the order *Mononegavirales* and the family *Rhabdoviridae*. The genus of the rabies virus is *Lyssavirus*. It is suspected that *Lyssavirions* originated from populations of bats, which also represent the largest number of rabies virus cases among wildlife in the United States and the largest number of human deaths caused by rabies infections per animal. In New Jersey, the

largest number of rabies cases in humans come from raccoon bites.

In the United States, there have been vast changes in the number of rabies-caused human deaths as well as host species for the virus over the past century. Prior to the 1960's 100 or more people were dying annually from rabies virus infections, mostly from domestic animals such as dogs. With the expansion of rabies vaccination and animal control programs, both the number of rabies-caused deaths and the primary hosts for the rabies virus have changed. Now, only one or two people die per year from rabies in the US, and 90% of the reported cases of rabies in animals occur in wildlife, not pets.



Bats tested for rabies in the US in 2018.

Raccoons tested for rabies in the US in 2018.

Journal of the American Veterinary Medical Association 256, 2; [10.2460/javma.256.2.195](https://doi.org/10.2460/javma.256.2.195)

## Surveillance/Management

Rabies is considered a Nationally Notifiable Disease (NND) and as such is one of the most surveyed diseases among wildlife, livestock and people in the United States. As part of the NND Surveillance System, rabies cases must be reported to state and federal officials to be tracked nationally by the Center for Disease Control and Prevention. Surveillance occurs in people, domestic animals, and wildlife when they present with clinical signs consistent with rabies.

[Is Rabies in Your State?](#) | [Rabies in U.S.](#) | [Rabies](#) | [CDC](#)

## What to Do/ Who to Contact

If you see an animal, particularly a **raccoon**, **skunk**, **fox**, **bat**, or **feral cat** exhibiting aimless wandering, incoordination, lethargy, and paralysis or exhibiting a rage-like state that results in attacking nearby objects, people, and animals and self-mutilation you should keep your distance and avoid contact between the animal and yourself, your family, and pets. Contact your local animal control specialist.

People who are bitten by, or have had contact with saliva from an animal should immediately notify the local health department (LHD): [Department of Health | Local Public Health | For The Community \(nj.gov\)](#)

## FAQ

Can humans catch rabies virus?

- Yes. Rabies is a fatal disease if medical attention is not acquired promptly. If you were bitten by an animal, or handled live **raccoons**, **skunks**, **foxes**, or **bats** you may be at risk of rabies.
- From the Center for Disease Control:
  - o If you've been in contact with any wildlife or unfamiliar animals, particularly if you've been bitten or scratched, you should talk with a healthcare provider or public health professional to determine your risk for rabies or other illnesses. Wash any wounds immediately with soap and water and then plan to see a healthcare provider. (It's important to know that, unlike most other animals that carry rabies, many types of bats have very small teeth which may leave marks that disappear quickly. If you are unsure, seek medical advice to be safe).

What if I was not bitten?

- Rabies is transferred through saliva which can enter any open wounds on your hands. If you handled **raccoons**, **skunks**, **foxes**, or **bats** and **feral cats** with open wounds you may be at risk of rabies.

## Additional Information:

[Public Veterinary Medicine: Public Health: Rabies surveillance in the United States during 2018 in: Journal of the American Veterinary Medical Association Volume 256 Issue 2 \(\) \(avma.org\)](#)

[NJ Animal Rabies Cases 2021](#)

[NJ Health Rabies FAQ](#)



**Office of Fish and  
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