

**LITERARY  
NONFICTION**  
nonfiction that uses  
literary techniques

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Joel Sartore/National Geographic Creative

A close-up photograph of a brown bat's face, showing its eyes, nose, and mouth. The bat's mouth is slightly open, revealing its teeth. The background is dark, making the bat's features stand out.

# ALKING THE BAT KILLER

America's bats are being destroyed by a terrible disease. Meet the amazing humans determined to save these extraordinary and important creatures. **By Kristin Lewis**

**As You Read**

How does the author make you care about the plight of bats?

**P**icture yourself as a little brown bat. You are tiny—half the size of an iPhone. Yet you are one of the most feared and misunderstood creatures on Earth. For thousands of years, humans have **detested** you, calling you a demon and a bloodsucker and a monster. But you are none of those things. What you are is extraordinary. You can fly as fast as a car. You can swallow 1,000 insects in less than an hour. Your highly sensitive ears allow you to hunt at night, a silent shadow swooping down from the sky. You can catch a moth with such precision that you'll swallow the body in mid-air, leaving nothing behind but the wings.

Right now, though, it is not moths that are in danger.

It is you.



It's a cold winter day in an abandoned mine in New Jersey. You and the hundreds of other bats in your colony are sleeping, upside down and stuck to the walls like dark globs of glue. You've been here for weeks, hibernating just as you do every winter.

Suddenly, you are jolted awake.

You feel strange.

You are very, very thirsty.

And hungry.

So hungry!

Other bats are waking up too. And some are lying on the ground, not moving. They all have a strange white fuzz on their noses and wings—like a dusting of powdered sugar.

You don't know what's happening. All you know is that you need food or you will die. You fly out of your cave. But your belly is so painfully empty that flying is an agony.

You crash to the ground.

## A MYSTERIOUS DISEASE

You are the victim of a disease called white-nose syndrome (WNS). This disease first appeared in New York State in 2006. Since then, it has spread across North America like a tsunami of death.

In some places, scientists have journeyed into caves and mines where bats hibernate only to

## WHERE IN THE U.S. IS WHITE-NOSE SYNDROME?



White-nose syndrome is named for the white fuzz that grows on the bats' noses.

stumble over piles of **carcasses**. In most areas, though, bats have simply vanished. They likely starved (after all, there are almost no insects for them to eat in the winter). Or, in their weakened states, they became easy meals for birds and raccoons.

At first, scientists were baffled. But they soon discovered the **culprit**: a fungus.

This fungus grows in cool, moist places—like the caves and mines where many types of bats hibernate. It occurs naturally in Asia and Europe. No one

knows how the fungus got to America, but humans are likely to blame. Some **spores** probably came by boat or plane—perhaps on someone's shoe, jacket, or backpack.

However it got to America, the fungus is here now. And for bats that hibernate, it's a disaster.

At least 25 of the 47 species of bats in North America do hibernate, from about November to April. Like bears, bats prepare for hibernation by eating a lot in order to store up fat in their bodies.

Then, during hibernation, they go into a state called **torpor**, during which their heart rates and body temperatures drop to save energy. They remain in torpor for several weeks at a time,

waking up briefly to do things like drink water before going back to sleep.

The fungus disrupts this cycle. As it spreads across their bodies, it causes the bats to become **dehydrated**, which makes them wake up far more often than they should. Being awake so often, they soon burn through their fat stores and become **emaciated** and sickly. Some fall to the ground, dead. Others leave to look for food only to find the world locked in a winter freeze they cannot endure.

Scientists call this condition white-nose syndrome after the fuzzy white spots that appear on the bats' noses. The devastation has been horrific.

WNS has spread to 33 states as well as seven provinces in Canada. At least 6 million bats are presumed to have died. In some bat colonies, more than 90 percent of the bats have been wiped out. Other colonies have disappeared entirely. Several species have become threatened or endangered.

And now, WNS is attacking you.

### THE BAT WOMAN

You are lying on the ground. A human approaches. You're scared that this human is a predator coming to eat you. But that's not what happens. Gently, this human picks you up and places you in a small box.

You are brought to Milford, New Jersey, to the home of a woman named Jackie Kashmer. Kashmer is a bat **rehabilitator**, or "rehabber." She has dedicated her life to helping sick and injured bats like you.

Kashmer's home sits at the top of a hill surrounded by farms and woodlands. If you could fly through the house, you would know right away that Kashmer loves animals. You'd see the two small white dogs that lick her face, the food left on her back porch for stray cats, and the turtle pool she's building in her backyard.

But Kashmer's life centers on bats like you.

"People think, oh, bats are just little flying rats; they don't have personalities," she says. "But they do. Some are timid. Some are bullies."

Kashmer has worked as a volunteer rehabbing animals for more than 30 years. Fifteen years ago, she decided to focus on bats. She got a license from the state. And she built a house a few steps from her back porch that is designed just for your needs. There is a large refrigerator for hibernation and a netted enclosure to fly around in. A sign

on one door reads "Bat Motel."

There are hundreds of bats here—little brown bats like you, and also big brown bats, silver-haired bats,



Jackie Kashmer, left. Below, Kashmer holds a little brown bat.



### Bat Hero

Jackie Kashmer runs the New Jersey Bat Sanctuary. Many bats in her care are released back into the wild once they have recovered. Bats unlikely to survive in the wild, such as those with wing injuries, remain with her in captivity. Kashmer even has a bat hotline that people can call if they come across a bat in need.



These are bats!

## BAT CAVES

Biologists check on the bats in Hubbard's Cave in Tennessee. That dark patch on the cave wall is a cluster of about 300,000 gray bats in hibernation. One of the ways scientists are helping to stop the spread of WNS is by closing caves to the public. This lowers the chance of humans accidentally spreading the fungus.

and free-tailed bats. The free-tails, which Kashmer rescued from a zoo in Florida, have their own room painted with trees and flowers.

## BY YOUR SIDE

When you arrive in this special place, Kashmer gets to work. She carefully removes the fungus from your nose and body with a mixture of water and vinegar. She knows that this stings your delicate skin, but it must be done to save your life. When she holds you, you make small squeaks that tell her you are **petrified**. This breaks her heart. You bite her, your teeth piercing her glove. But she

doesn't mind. She knows you're scared.

She checks your wings, looking for holes and tears the fungus may have caused. She is happy to find your wings intact.

When Kashmer is done cleaning you, she places you in a mesh box with a warming light. She sits next to you with a pile of fresh mealworms. With tweezers, she squishes their heads to make them easier for you to eat.

At first, you won't eat them. Mealworms are not your natural food. You would prefer some tasty mosquitoes. But eventually you eat. Your belly fills. Kashmer places a cloth over the box. Your


world grows dark and shadowy, just how you like it.

You sleep.

For the next few weeks, Kashmer will wake up early every morning and go to her day job. Every night, she will rush home to take care of you

## SO MISUNDERSTOOD

Throughout history, many humans have hated and feared bats. With their pointy ears, human-like faces, and **nocturnal** habits, bats were considered an omen of bad luck and even death. In myths and folktales, bats are often associated with demons and the souls of the restless dead. Dracula, Europe's



most famous vampire, took the form of a bat and feasted on human blood.

In the United States, bats have long been seen as pests, like mice or roaches. Sensational reports of bats attacking people fueled the fear. But such stories were either exaggerated or made up. Only three of the more than 1,300 species of bats on Earth feed on blood—and none of them currently live in the U.S. What’s more, so-called vampire bats feed mainly on the blood of cows, horses, and

birds—not of humans. (Vampire bats don’t actually suck blood; they bite flesh and then lap up the blood that spills out.)

In fact, bats are afraid of humans and tend to avoid them.

It’s true that bats, like any mammal, can get rabies—a disease deadly to humans if not treated. So only trained professionals should touch bats. If humans come in physical contact with a bat—or think they might have—they should see a doctor to be safe.

## FEAR OF NIGHT

So where does all this bat fear come from?

“People tend to be afraid of

things that they don’t know or understand,” says Dr. Gary McCracken, a bat expert and evolutionary biologist from the University of Tennessee. “And bats are kind of different, right? They are active at night. People in the olden days were afraid of the night.”

Indeed, humans are wired to have a natural fear of nighttime. For early humans, nighttime was when animal attacks were more likely. Same with attacks from enemies. Being anxious about the dark has helped humans survive by keeping them alert and careful.

Now, of course, electricity lights up the nighttime. But for thousands of years, this was not the case. It’s no surprise that many myths and legends involve monsters that lurk in the shadows. And as creatures of the night, bats became a symbol of the terrifying unknown.

## SPECIAL AND IMPORTANT

Today, the reputation of bats is starting to change. Rehabbers like Kashmer as well as scientists and conservationists are working to help the public understand why bats are special and important.

For example, bats have the ability to echolocate [EKOH-loh-kayt]. They can “see” in the darkness using not their eyes but their ears. As they fly, bats make sounds that humans can’t hear. These sounds



## HOW CAN YOU HELP BATS?

### 1 Never disturb a bat during hibernation.

Caves, trees, mines, and other places where bats hibernate should be human-free during the winter.

### 2 Call the nearest rehabber if you find a bat in need.

Your state’s conservation department should be able to connect you with a licensed rehabilitator.

### 3 Learn about their amazing ways.

Bats are incredible creatures that play an important role in their ecosystems. The more we know about them, the better we’ll be able to protect them.

### 4 Go on a bat walk.

Many cities in America have bat walks. You can go out at dusk with an expert who will show you where bats fly and feed.

### 5 Support conservation efforts.

Bats need support not only to battle WNS, but also to keep their habitats protected.

# THE AMAZING BAT



bounce off trees, buildings, cars, and other animals, creating echoes that bats use to form a detailed “sound map” in their brains.

The ability to echolocate makes bats expert night hunters. They eat a huge number of insects. Without bats, the number of insects buzzing around would skyrocket. There would be more mosquitoes that could spread diseases. There would be more moths feasting on corn and more flies eating the fruits and vegetables that humans grow.

## HOPE FOR BATS

So what can be done to save bats from WNS?

Scientists hope that bats in North America will develop a resistance to the fungus, the way that bats have in Europe and Asia, where the fungus has existed for thousands of years. Already there are some signs that this might be happening. In the meantime, experts say the most important thing humans can do for bats is to preserve their habitats and leave them undisturbed during hibernation.

As for you, the little brown bat? You spend a few months living with Kashmer. You get used to her and no longer fear her. You look forward to your mealworm dinners.

Then, one warm evening, Kashmer carries you outside. Your instincts kick in and you take flight.

Kashmer watches as you disappear into the twilight. The sight fills her with joy.

Of course, you don’t know that.

All you know is that you are strong and free. ●

## Writing Contest

Research a species of bat that lives in your region or state. In a video, podcast, or essay, explain why the bat is important, what threats it faces, and how it can be protected. Send your work to **Bat Contest**. Five winners will get *The Case of the Vanishing Little Brown Bats* by Sandra Markle.

Get this activity online.

