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# LETHAL BAT DISEASE IS SPREADING

*Impacts to Agriculture, Forestry, and Human Health Are Possible*

*One or More Bat Species May Disappear*



*Bats exhibiting white-nose syndrome in a New York cave.*

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**A BIOLOGICAL MELTDOWN** is occurring in our midst. The survival of North American bats, including several federally listed endangered species, is at stake. The loss of insect-eating bats could also trigger explosive increases in insect populations, with serious repercussions for agriculture, forestry, and possibly even human health.

A deadly, newly emergent disease called “white-nose syndrome” has swept several eastern states over the last two winters, killing bats at hibernating sites at rates up to 100 percent. The estimate of total bat deaths to date is over one million.

White-nose syndrome was first documented near Albany, New York in the winter of 2006–07. Since then it has spread rapidly throughout the state, and to neighboring Vermont, Massachusetts, and Connecticut. This winter, the disease has been discovered in five new states: New Jersey, Pennsylvania, New Hampshire, West Virginia, and Virginia (see map, page 3). If current trends continue, the disease could soon hit

some of the most significant bat caves in the world, located in the South and Midwest.

Among the bat species at risk are the federally listed Indiana bat, Virginia big-eared bat, and gray bat. Winter surveys this year indicate Indiana bats have declined significantly in New York, where the species had been staging a recovery. Virginia big-eared bats are especially vulnerable to an epidemic like white-nose syndrome; their entire global population winters in only a few caves in West Virginia and nearby states.

Bats play a vital role in healthy, balanced ecosystems. They consume enormous quantities of insects, including many that humans find problematic, such as mosquitoes and crop-eating moths and beetles. Research has shown that where bats are present, they significantly reduce damage to crops. Without bats, agricultural losses and costs to protect crops would rise. Importantly, pesticides and other environmental toxins have been suspected as a cause of bat population declines generally.

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Increased use of pesticides to offset losses of bats would lead to a disastrous spiral effect with escalating harms to both wildlife and people.

A massive, all-out effort to address white-nose syndrome is needed immediately. After two years of investigation, researchers are close to concluding that the cause of the illness is a previously unknown *Geomyces* fungus that invades the skin of bats, creating fuzzy white spots around their muzzles and on other parts of their bodies. However, it is still not known how the pathogen spreads, nor how to stop bats from contracting and dying from it. The disease is spreading rapidly, threatening bat populations across the country.

While government biologists have worked valiantly to determine the cause and scope of white-nose syndrome, they have worked in the absence of committed funding and adequate resources to confront the crisis. There is still no dedicated position for white-nose syndrome coordination. As the syndrome spreads, pushing vul-

nerable and even once common species to the brink of extinction, wildlife and land management will become increasingly challenging and expensive. Some biologists fear an ecological chain reaction, as once-numerous bats disappear and insect populations burgeon—with unknown consequences for other species, including humans.

Swift, significant action is needed now. Resources must be mobilized to confront this crisis, while there is yet a chance of quelling it. There is no time to lose, for the sake of America's wildlife heritage, and for our own well-being.

*Information sheet compiled by:*

Mollie Matteson  
Center for Biological Diversity  
PO Box 188  
Richmond, Vermont 05477  
802-434-2388  
[mmatteson@biologicaldiversity.org](mailto:mmatteson@biologicaldiversity.org)



*Bats dead from white-nose syndrome on floor of cave in New York.*



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# BAT CAVES AND MINES WITH WHITE-NOSE SYNDROME, EASTERN UNITED STATES

