

White-nose syndrome pitch to Smithsonian
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In the early spring of 2007, in a long, narrow, limestone cave near Albany, New York, a team of wildlife biologists discovered a disaster. Instead of the rows of peacefully hibernating bats they had expected, they found thousands of dead bats, with thousands more sick and struggling for survival. The bats, it was later discovered, were suffering from a previously unknown fungal infection, one that attacked bat muzzles, ears and wings. The infection seemed to so disturb hibernating bats that they burned up their fat reserves, making it impossible for them to survive the winter. The disease, dubbed white-nose syndrome, moved quickly: Biologists found that it killed up to 97 percent of the bats in affected caves, and by this past summer, the disease had spread to nine Northeastern states. With more than half the bat species in the United States at risk, including four endangered species, biologists fear white-nose syndrome will trigger the largest mammalian extinction event in recent history.

Dr. Hazel Barton, a professor at Northern Kentucky University, is one of a small group of experts working overtime to stop the spread of white-nose syndrome. Barton, a young researcher whose accent belies both her British upbringing and her southern home, is gregarious, irreverent, and so dedicated to caving that she has a map of South Dakota's Wind Cave tattooed on her bicep. During her underground adventures, she studies the numerous and almost entirely unknown microbes that live in caves around the world; she and her team have discovered a microbe that can break down contaminants used in plastic manufacturing, and antibiotic-producing microorganisms that could tackle multi-drug resistant strains of bacteria.

With the outbreak of white-nose syndrome, Barton's esoteric skills are being put to immediate and very practical use. "There aren't that many researchers who do cave microbiology, and there are even fewer who do research in the kind of caves this fungus likes to live in," she says. Kentucky is considered extremely vulnerable to invasion by white-nose -- it may be only a matter of time before the disease hits the iconic Mammoth Cave National Park -- so Barton and her students are deep in the caves of her home state, trying to understand how both humans and bats contribute to the spread of the disease. In cooperation with wildlife officials, Barton is also developing protocols that cavers and tourists will use to disinfect clothing and equipment -- cleaning routines designed to stop the disease without affecting other cave life. Her work, she hopes, will help contain the disease and protect countless bats in the United States and beyond.

I think Barton would serve as a charming central character in this story, and her work is a genuinely hopeful angle on an otherwise gloomy but crucial subject. She's invited me to accompany her and her team as they continue their work in Kentucky this year.