

Making Ripples

“Hope for Native Bats”

by Amanda Bancroft

A decade ago, the introduced fungus *Pseudogymnoascus destructans* (White-Nose Syndrome) began to severely reduce populations of native bats in Canada and the United States. But on May 20th, scientists and conservations gathered outside the historic Mark Twain Cave Complex in Hannibal, Missouri, to release 150 bats which had been successfully treated for White-Nose Syndrome.

From an article on Nature.org, “In 2012, Dr. Christopher Cornelison and several colleagues at Georgia State University found that a common North America bacterium had the ability to inhibit the growth of some fungi. Dr. Cornelison, U.S. Forest Service wildlife biologist Dr. Sybill Amelon and research plant pathologist Dr. Daniel Lindner have been conducting laboratory research on the application of this bacterium, and this past winter conducted field trials in Missouri and Kentucky caves. The recent field trials are the most promising sign yet that White-Nose Syndrome can be fought and that America's bats can be saved.”

White-Nose Syndrome is able to invade the bats’ bodies during their hibernation, when their immune system is inactive. It causes irritation and possibly dehydration in these slumbering bats, waking them up prematurely, and consequently leading to the depletion of the fat reserves they rely on to survive the winter. The bats actually die of starvation. White-Nose Syndrome can kill up to 100 percent of the bats in any infected cave. Spelunkers and cave visitors are thought to have accidentally introduced the fungus into previously unaffected caves, by transporting it on their shoes and gear.

We can thank bananas for the discovery of the new treatment. A bacterium that inhibits the growth of *Pseudogymnoascus destructans* also helps prevent banana mold. Dr. Cornelison wondered if the bacterium could work for bats, and not just bananas. It doesn’t cure the disease, but it does save the bat’s life.

There are several species of bats here in Northwest Arkansas that will be happy about the good news. These include: the little brown bat, the gray bat, Keen’s bat, the Indiana bat, the silver-haired bat, the big brown bat, the red bat, the hoary bat, Townsend’s big-eared bat, and the eastern pipstrelle (the most common and abundant statewide). Arkansas hosts fifteen bat species in total.

Our three endangered bat species are the Ozark Big-Eared Bat, the Indiana Bat, and the Gray Bat. Besides White-Nose Syndrome, the Arkansas Game & Fish Commission notes that there are other reasons for bat decline. Natural disasters like cave-ins and flooding are harmful to bats. Human disturbance of maternity colonies, vandalism, cave commercialization, pesticide poisoning, disturbance by spelunkers and bat banding research teams, and the use of bats as laboratory animals are all problematic. The Ozark Big-Eared Bat is also under attack by

predators at cave entrances, such as feral house cats and bobcats, snakes, raccoons and screech owls. Despite these concerns, some bat populations are making a comeback, and the successful treatment of White-Nose Syndrome means more bats for Arkansas.

Amanda Bancroft is a Master Naturalist and volunteers with her husband Ryan for their solar-powered online educational center on how to make a difference with everyday choices at: www.RipplesBlog.org.