

# Artificial bat cave built to combat killer disease (Update)

September 14 2012, by Randall Dickerson

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(AP)—Conservationists have built an artificial bat cave deep in the Tennessee woods to see if it can be a blueprint for saving bats who are dying by the millions from a fungus spreading across North America.

The \$300,000 project by The Nature Conservancy is believed to be the first manmade hibernating structure for bats in the wild. Unlike natural caves, it will be cleaned annually to keep the fungus that causes white-nose syndrome from reaching lethal levels.

"We talked with other people, waiting for one of them to call us crazy and no one did," said Gina Hancock, director of the Tennessee chapter of the conservancy.

The cave is assembled from prefabricated concrete sections. At 78 feet (23.7 meters) long and 16 feet (4.8 meters) wide, it is about the size of a single-wide mobile home. It has an 11-foot-(3.3-meter) tall ceiling that is textured so bats can cling to it.

Most of the cave was then covered with at least 4 feet (1.2 meters) of soil. All that can be seen from the surface is an air intake that serves as the bat entrance. It looks like a concrete septic tank set on its end with the bottom cut out.

The artificial cave is placed near a natural cave with an established hibernation population of gray bats. The plan is to coax some of them to the new digs by emitting ultra-sonic bat calls on loudspeakers.

White-nose syndrome, named for the sugary smudges found on affected bats' snouts, prompts bats to wake from hibernation and die when they fly into the winter landscape in a futile search for food. First detected in upstate New York in 2006, the fungal infection has killed more than 5.7 million bats as it spread from the Northeast.

The genius of the artificial cave is that it can be cleaned annually to keep the fungus from reaching lethal levels.

Cory Holliday, Tennessee program director of caves and karst for the conservancy, said it would be impossible to keep the fungus out of the new cave.

"The fungus will do what the fungus will do," Holliday said.

Holliday said in natural caves, fungus levels in new roosting areas are relatively low. The prevalence increases in the second year and spikes in the third year.

Each spring, after the bats have dispersed from hibernation, workers will open a door set into the wall of the artificial cave, remove the guano and pressure wash-the ceiling and walls with a solution of water and Formula 409.

If all goes as planned, the clean cave would resemble the first-year environment of a new roosting area in a natural cave.

The fake cave could hold perhaps 250,000 bats. Holliday said he would be delighted if 1,000 show up this winter. He said the winter of 2013-2014 will provide the first solid test of the concept.

The cave is designed to be easily replicated with precast culvert sections that slide together and are then sealed. The earth uphill from the cave is

graded so rainwater will flow through a pipe into a basin in the cave floor, overflowing it to help keep humidity at around 85 percent. The basin also gives the bats a water source.

The project was built on land the conservancy bought and then deeded to the Tennessee Wildlife Resources Agency. It is near the Tennessee-Kentucky border, just south of the Fort Campbell U.S. Army post.

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