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## **Bats in the News - Replacing a Mammoth Bat Gate**



Volunteers and professionals were once again swarming about the entrance to Hubbards Cave near McMinnville, Tennessee. They were, The Associated Press reports, “slogging through mud, dragging steel beams down steep inclines and helping to build a 30-foot steel gate inside the mouth” of the giant cave. The goal was to replace a historic bat-friendly gate to continue protecting one of North America’s largest populations of endangered gray myotis.

Tina and Bruce Ventura came all the way from Marquette, Michigan, to spend their vacation helping the Tennessee Nature Conservancy build the new gate. They’ve worked on other bat gates, the couple told AP, but this is the largest by far. “This isn’t just any old gate-building,” Tina Ventura said. “It’s famous because it’s so big. To come on vacation from Michigan, we wouldn’t have come to a smaller one.”

The Venturas joined a team that included other volunteers, Nature Conservancy employees, Bat Conservation International, the U.S. Fish and Wildlife Service, the National Speleological Society, the Tennessee Wildlife Resources Agency, the Tennessee Division of State Natural Areas and the American Cave Conservation Association.

The gate keeps humans from entering the cave and disturbing the bats while they hibernate from May to September. Cave Specialist Jim Kennedy of Bat Conservation International told The AP that the estimated 520,000 gray bats that hibernate in Hubbards Cave need the constant 45- to 46-degree temperature in the cave for their winter hibernation. “The temperature allows bats to drop their respiration and heart rate and body temperature to a low level so their stored fat lasts longer,” he said.

BCI has a long history with Hubbards Cave. Founder Merlin Tuttle first visited it in 1962 and found just a few thousand bats. But eight years later, he discovered a hidden sanctuary, a winter refuge for about 250,000 gray myotis. That was too many bats in too small a space and the population was collapsing. The bats mostly shunned the rest of the cave because it was so often visited by cavers and others.

By 1984, barely 88,000 gray myotis were hibernating in Hubbards Cave. The Nature Conservancy’s Tennessee Chapter responded to Tuttle’s concerns by purchasing the cave. The Nature Conservancy, with help from Tuttle, Bob Currie of the U.S. Fish and Wildlife Service, Roy Powers of the American Cave Conservation Association, countless cavers and others, built what was then the world’s largest cave gate with 110 tons of steel and concrete.

The protection has been a spectacular success, dramatically increasing the hibernating population and clearly demonstrating the value of bat-friendly gates. But the original gate was an early design that has now been improved, plus the huge structure was beginning to show its age.

Work on the new gate did not disturb the bats. The AP said, because they had awakened from hibernation and left.

Powers, the gate engineer for both the old and new gates, said the horizontal slats that make up the gate are placed 5 3/4 inches apart, allowing the bats enough room to spread their wings and fly in and out of the cave. The design gives the bats easier access than the original gate, he told AP.

Powers, who has built bat gates throughout the eastern United States for more than 25 years, said the week that it took to build this gate is a large reduction in construction time. “The old gate took six weeks to put up,” he said. “The new design makes it better for the bats, and it's easier to put up.”

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