

Finding summer homes: Student finds roosts for federally endangered Virginia big-eared bat

August 20 2013, by Jennifer Sicking



A Virginia big-eared bat. Credit: ISU/Courtesy photo

An hour and a half hike up a rugged, snow and ice covered mountain trail led Joey Weber to new information and to help start a habitat conservation effort.

One mile up Grandfather Mountain in North Carolina, Weber crawled into caves where Virginia big-eared [bats](#) spend their winters in hibernation. The Indiana State University biology graduate student worked with Joy O'Keefe, assistant professor of biology and director of the Center for Bat Research, Outreach, and Conservation, to find the summer homes where the cave-dwelling bats raise their young in a project funded by the North Carolina Department of Transportation.

"It's the only population known in North Carolina," Weber said of the federally endangered species, which is found in five states - North Carolina, Kentucky, Virginia, West Virginia and Tennessee. "No one knows where they go to raise their young."

That is no one knew until Weber and a crew of technicians found them.

Weber captured 19 bats in three caves on Grandfather Mountain and attached tiny [radio transmitters](#) to their backs. When the weather warmed, Weber and a team of technicians tracked the bats to caves at the base of Beech Mountain, eight miles away. They found one transmitter in scat after the bat ran afoul of an owl. Another bat they tracked to the basement of an unfinished million dollar house in a golf course community.

"We used to call that bat The Princess," Weber said.



Joey Weber captures a Virginia big-eared bat in a cave on Grandfather Mountain in North Carolina. Credit: ISU/Courtesy Photo

It was the first time maternity roosts have been found in North Carolina.

"It's just exciting to follow an endangered species that is so small and cryptic and to find their caves," Weber said. "We knew that whatever information we found would be important for the conservation of the species."

In the primary maternity roost for the bats, 292 called it their home. In the caves on Grandfather Mountain, (state and federal) biologists had counted 400 bats during the winter.

"If the 292 bats in the maternity roost are all females then either the population is bigger than what we thought it was or bats are migrating to this cave from other winter sites. It is possible there are a lot of males in the primary summer cave, which would be unusual for a maternity roost of bats," he said.

"It is critical to protect the land where the bats roost in order to sustain the North Carolina population of this species," O'Keefe said. "Bats in this colony will be faithful to these roosts year after year, but are likely to abandon the roosts if there is too much disturbance nearby."

Weber and O'Keefe notified U.S. Fish and Wildlife Service, the North Carolina Department of Transportation as well as the North Carolina Wildlife Resources Commission of their findings. They are working with those organizations plus the Blue Ridge Conservancy to raise funds to purchase the 150 acres surrounding the caves to protect the habitat for the bats.

Weber also presented his findings during the North American Society for Bat Research and International Bat Research Conferences in Costa Rica.

In the fall, Weber plans to be back in the mountains and in the caves to deploy bat detectors to see if bats use the caves on Beech Mountain for winter hibernation. In the spring, he'll track the bats again to attempt to discover their migratory path and find where the bats forage for insects.

"There's just not a lot known about the Virginia big-eared bats," Weber said. "It's another exciting aspect of the project, you can find out so much that is new to help conservation."

But their findings also alarmed the team. The area surrounding the bats' summer caves is under development. Only 12,000 to 20,000 Virginia big-

eared bats remain in the five states.

"If something was to happen to the primary [caves](#) where the bats dwell, it could take out hundreds," he said.

Provided by Indiana State University

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