



## Finding Indianas in Ohio's National Forest

*Indiana bat counts are up on the Wayne National Forest and new tools and partners were used in the biennial winter census.*



Kari Kirschbaum is shown here with a harp net during the 2006 bat hibernaculum survey in front of a mine opening where she caught an Indiana bat. Also shown are 114 Indiana bats in one cluster and another cluster of 9 Indiana bats.

Now in its fourth year, the Wayne has taken their biennial Indiana bat hibernaculum winter census to new levels. Not only did the Wayne have new partners this year, but used new tools to examine potential habitat for the endangered bat, first identified in Indiana, hence the name.

Since discovering the Wayne's only known Indiana bat hibernaculum in an abandoned limestone mine in 1999, the hibernating population has, overall, grown. Studies show that Indiana bats have narrow microclimatic requirements for hibernation. They need temperatures between 39 and 46°F and about 95% humidity. Only a few of the available caves and mines provide that specific habitat. Wildlife

Biologist Katrina Schultes explained, "We installed 4 dataloggers to monitor temperature and humidity inside different parts of the hibernaculum, plus one datalogger outside to track outdoor ambient conditions." She said these are downloaded each summer.

Last fall, armed with topographic maps marked with mine entry locations from the Wayne's Abandoned and Inactive Mine Inventory database, Wayne biologists Kari Kirschbaum and Katrina Schultes examined over 50 mine portals for potential winter or fall bat habitat. With the help of a small dedicated group of seasonal employees and volunteers, they surveyed 14 mine portals during the bat fall swarming season using a combination of bat detectors, mistnets, and harp traps (see photo).

During the fall, several species of bats engage in a social activity called 'swarming', in which bats fly into and out of mine (and cave) openings. The bats are looking for mates and investigating potential hibernation quarters. Out of 674 bats captured at 10 of the mine portals, one Indiana bat was captured at each of 2 sites. Schultes noted that any of these sites could prove to have suitable underground conditions for Indiana bat hibernation, so they wanted to investigate the sites further.

ODNR's Division of Mineral Resources Management (DMRM) equipped the Wayne with a new tool that allowed them to do just that: a map of the underground limestone mine

complex. Suddenly Wayne biologists were privy to information about how vast Indiana bat winter habitat potentially was, all lying unseen below ground! The mine complex turns out to be extensive and intricate. With expert help from Harold Plance, a mine inspector with DMRM, Schultes said they learned a lot about underground mine features and reading mine maps. We were also able to safely investigate several new portals and previously unexplored parts of the mine complex.

Partners James Kiser, biologist with Fuller, Mossbarger, Scott and May Engineers, Inc, John MacGregor, biologist with Kentucky Department of Fish & Wildlife Resources, and Sarena Selbo from the local U.S. Fish & Wildlife Service field office helped count 224 Indiana bats hibernating in our now-established 'Indiana Bat Room'. Numbers were down by about 100 bats this year from 2005, possibly due to unseasonably warm winter weather (November-mid January), which caused the bats to temporarily seek alternate colder quarters. However, the numbers of other bat species hibernating in the mine were up, for a total count of 1,684 bats of 5 species.

Schultes added, "Although our investigations of new parts of the mine this year did not turn up additional hibernating populations of Indiana bats, we identified new places to monitor for them in the future and found opportunities for Indiana bat habitat improvement, both below and above ground." Schultes said to stay tuned to the same bat channel for future bat updates!

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