A partnership proves the value of teamwork in protecting the federally endangered Indiana bat.

Strength in Numbers

Photos courtesy Dr. Tim Carter and Joe Kath

Discovered in Indiana in 1928, the Indiana bat (*Myotis sodalis*) is a federally endangered species whose distribution is associated with cavernous limestone areas in the Midwestern and eastern United States.

Reported from 27 states, including Illinois, this bat was officially listed as an endangered species by the U.S. Fish and Wildlife Service in 1967. With a weight of 1/4 to 1/3 ounce and a wing-span of 9.5 to 11 inches, these animals hibernate from October to April in large, dense clusters numbering in the thousands. Caves and abandoned mines where temperatures range from 37 to 43 degrees Fahrenheit, and relative humidities are 65 to 99 percent, make optimal hibernacula.

Bats arrive at their hibernation sites between August and October where they mate. Female Indiana bats store sperm throughout hibernation, and leave for their summer grounds in early spring carrying a developing fetus. One pup is born in June or July and is raised within a maternity colony, usually under the loose bark of a hardwood tree within a stream corridor. Young are able to fly after several weeks and begin to forage for moths, beetles, flies and mosquitos. The life-span of an Indiana bat in the wild can reach 14 years.

In spite of recovery efforts by state and federal biologists, Indiana bat populations continue to decline because of habitat loss, environmental pollution and toxins, and disturbance at key roost sites. The current population estimate in North America is approximately 380,000 animals—nearly 60 percent lower than when surveys began in the 1960s. If scientists cannot determine appropriate methods to reverse this trend, the Indiana bat may become extinct by 2025.

Representing the most compromised of North America's terrestrial mammals, bats have been forced to use artificial or modified habitat to survive. Abandoned mine lands now offer a proverbial "refuge of last resort" for many bat species, most notably the Indiana bat. Recent efforts at the UNIMIN Corporation's "Magazine Mine" to protect resources critical to bat reproduction and hibernation have promoted a conservation ethic greatly benefitting the Indiana bat. The Magazine Mine currently supports at least 33,000 wintering Indiana bats and is the largest known hibernaculum of this federally endangered species ever documented in Illinois.

The success at Magazine Mine has been possible because of partnership between industry, nonprofit organizations and state and federal governmental agencies. A willingness by biologists, government administrators, industry representatives and private citizens to work together can—and does—have a direct impact on the survival of our nation's flora and fauna.

—**Joe Kath**, Terrestrial Endangered Species Project Manager, DNR Division of Natural Heritage