



Indiana Bat

Summer Life History Information for Michigan

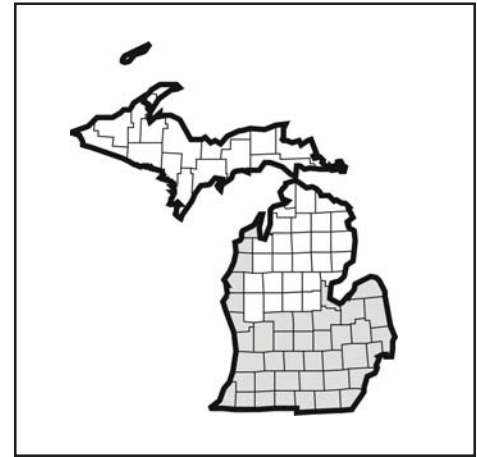
Since listing as endangered in 1967, the range-wide Indiana bat population has declined by nearly 60%. Several factors have contributed to its decline including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, fragmentation of forest habitat, and loss and degradation of forested habitat, particularly stands of large, mature trees.

In Michigan, summering Indiana bats roost in trees in riparian, bottomland, and upland forests from approximately April 15 to September 15. Indiana bats may summer in a wide range of habitats, from highly altered landscapes to intact forests. Roost trees are typically found in patches of forests of varying size and shape, but have also been found in pastures, hog lots, fence rows, and residential yards.

Male Indiana bats are dispersed throughout the range in the summer, roosting individually or in small groups, but may favor areas near hibernaculum. In contrast, reproductive females form larger groups, referred to as maternity colonies. Female Indiana bats exhibit strong site fidelity to summer roosting and foraging areas, tending to return to the same summer range annually to bear their young. These traditional summer sites are essential to the reproductive success and persistence of local populations.

Indiana bats are known to use a wide variety of tree species for roosting, but structure (i.e., crevices or exfoliating bark) is probably most important in determining if a tree is a suitable roost site. Roost trees generally are dead, dying or live trees (e.g. shagbark hickory and oaks) with peeling or exfoliating bark which allows the bat to roost between the bark and bole of the tree, but Indiana bats will also use narrow cracks, split tree trunks and/or branches as roosting sites. Southern Michigan maternity roost trees are typically in open areas exposed to solar radiation. Roost trees vary considerably in size, but those used by Indiana bat maternity colonies usually are large relative to other trees nearby, typically greater than 9 inches dbh. Male Indiana bats have been observed roosting in trees as small as 3 inches dbh.

Maternity roosts of the Indiana bat can be described as “primary” or “alternate” based upon the proportion of bats in a colony consistently occupying the roost site. Maternity colonies typically use 10–20 different trees each year, but only 1–3 of these are primary roosts used by the majority of bats for some or all of the summer. It is not known how many alternate roosts must be available to assure retention of a colony within a particular area, but large, nearby forest tracts appear important. Although the Indiana bat appears to be adaptable to changes in its roosting habitat, it is essential that a variety of suitable roosting trees exist within a colony’s summer area to assure the persistence of the colony.



Indiana bat range in shaded areas.