

NATURAL RESOURCES-WILDLIFE  
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JAMES R. KITTS

# Bats

Bats are not birds. In the entire animal kingdom, bats are the only true flying mammals. Bats possess fur not feathers, jaws with teeth not beaks; they bear live young rather than laying and incubating eggs, and the females nurse the young.

Many wild animals are poorly understood, and this leads to fear. Probably few other animals are as misunderstood as bats. Most of the fear and misunderstanding stems from folklore and legend that has little basis in fact. Bats normally do not attack humans, do not fly into people's hair, and do not possess supernatural powers. Because they can carry rabies, however, they are a public health concern and should never be handled with bare hands.

Bats do have eyes, but locate prey and other objects in their flight path by echolocation. They send out supersonic cries up to approximately 48,000 cps (cycles per second) constantly while in flight. These cries may be as few as 10 per second during normal flight to 50 per second while pursuing an insect. This unique system actually led to the development of the radar and sonar presently used by pilots and mariners.

Minnesota is home to seven species of bats, all of which are rather small and weigh from 2/10 of an ounce to slightly over 1 ounce. Four of these bat species (little brown, Keen's little brown, big brown, and pipistrel) are colonial and can be found roosting in groups in caves, hollow trees, and buildings. These animals typically feed over open fields, along woodland edges or over lakes and streams.

The remaining three species (silver-haired, red, and hoary) lead solitary lives and are commonly called tree bats, reflecting their preferred habitat. They characteristically roost in trees, feed in or around forested areas, and migrate south for the winter.

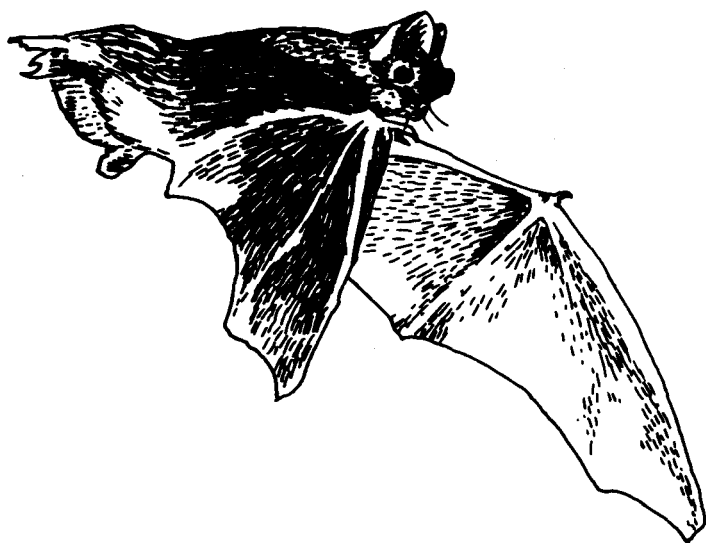
All species of bats in Minnesota are insectivores, meaning their food is exclusively insects: mostly beetles, moths, flies, midges, and mosquitoes. The larger insects are captured in the bat's cupped tail and transferred to its mouth while in flight.

Bats are beneficial to humans because they consume enormous numbers of flying insects. Some species do, however, roost in large colonies, and if the roost is a man-made structure, their accumulated urine odors, droppings, mites, and lice may cause problems.

## CONTROL Bat Proofing

Bats are very persistent but have little capacity to chew or scratch through modern building materials. Excluding bats is the most efficient, cost-effective control. To do this properly, it is necessary to locate and block all entry/exit points. Bats enter buildings through a variety of locations including unprotected vents, broken windows, split siding, chimneys or other openings. The small species of bats are able to crawl through openings 3/8 of an inch wide.

Locate potential entry/exits by brightly illuminating the roost at night and observing from the outside. If this is not possible, reverse the procedure and observe from inside on a bright day. All openings



should be blocked: larger ones with sheet metal or 1/4-inch hardware cloth. Narrow cracks can be plugged with steel wool, oakum, tow or other packing or insulation material, then sealed with an exterior caulking compound.

Be certain all bats are out of the area to be bat proofed before the work is completed. Normally, while bats are active, the entire colony will depart from the roost within 20-30 minutes once the first bat exits. When a colony has been disturbed or harassed, the normal routine may not be followed. It would be wise to leave at least one well-used exit temporarily open. After a few days and after all bats have departed for the evening, close the remaining opening. It will be necessary to watch the building at dusk for several days to see if some openings were overlooked. Any remaining openings may then be easily located and closed.

### Population Reduction

Since bats are beneficial, they should not be killed if another solution is possible. If there is no alternative, professional pest control operators can apply lethal chemicals or fumigate the roost area. Bat proofing the structure is still a necessary followup.

There are no effective poison baits for bats since they feed primarily on flying insects.

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