

# Bats on the Golf Course

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Before undertaking a program to encourage and increase a bat population on your course, some of the myths surrounding these warmblooded mammals must be dispelled and expressed to the golfing population.

Bats are generally quite harmless to people. They are quite shy and will avoid human contact. They will not become tangled in your hair as seen in many "B" movies. If handled, however, they will bite. Bats are capable of contracting and carrying the rabies virus, but they are no more susceptible to this disease than a house cat or dog. In fact, they are less apt to contract the virus because they do not interact with other mammals that can transmit the disease. According to the Audubon Society, if a random sample was taken of all bats in a given area, less than 1/2 of one percent would be found to be infected. Dr. Merlin D. Tuttle, author of America's Neighborhood Bats, states that "in more than four decades, public health records indicate that only sixteen people in the United States and Canada have died from bat-borne diseases. Placed on perspective, this means that the odds of anyone dying of a disease transmitted by a bat are less than one in a million. In contrast, in the U.S. alone more than ten people die annually from dog attacks, not to mention dog and cat transmitted diseases."

Bats have body lengths of three to six inches and wingspans varying from eight to sixteen inches. As they fly, they navigate by emitting pulses of sound through the mouth. These are reflected back to their sensitive ears giving the bat the location of an object, as well as its texture and other characteristics. The general thinking that bats are blind is yet another myth. Bats have keen eyesight on which they rely for long-distance orientation. They become active at dusk and can be observed by watching the sky for birdlike figures that flap their wings very quickly yet fly slowly and erratically. They are often found near water features as this habitat provides the insects needed for their food. As a nocturnal animal, the bat eats when the insects are out, in contrast to birds

which feed during the day. Having a population of bats on the golf course should have an immediate appeal to most people because of their enormous capacity for consuming insects especially mosquitoes. A single brown bat, the most widespread species in North America, can eat three to seven thousand mosquitoes each night. Other insects

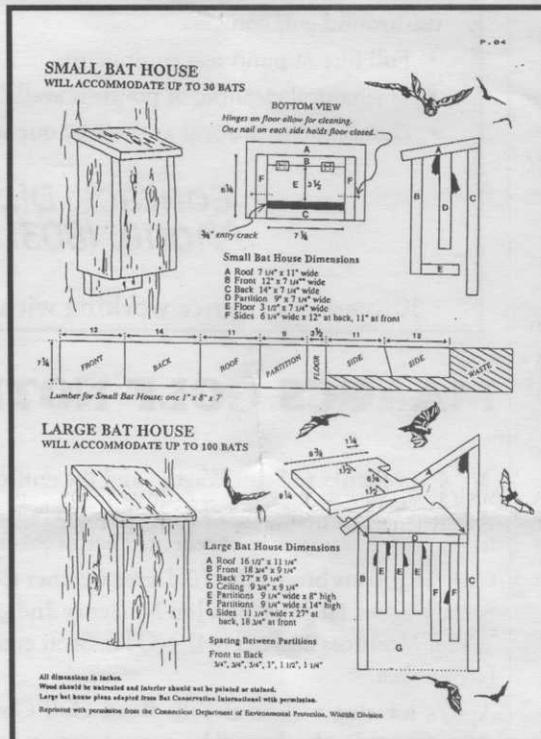
Bat houses have narrow openings at the bottom for bats to enter and rough surfaces for them to hold onto. The box should be fastened to the side of a building or tree and be twelve to fifteen feet above the ground.

During the winter months bats migrate south or to nearby caves for a period of hibernation because most species cannot survive freezing temperatures. As they return, they will seek out sites for nesting, so it is important to have the boxes installed by early April. The interior of the box should stay very warm and should be placed where it will receive the maximum amount of sun, especially in the morning. If your location cannot provide enough sunlight to warm the interior to at least eighty degrees you may want to add tar paper or dark colored shingles to the roof. Cooler locations may not be ideal for nursery colonies, but they may attract a colony of bachelors which prefer cooler temperatures. A year to a year and a half is the common waiting period for bats to inhabit a new house. If it is not occupied within two years, change the location of the box. You will know when the house is being utilized by the appearance of guano or bat droppings on the ground below. The house is open at the bottom to elimi-

nate the need for cleaning and to prevent birds from nesting. If bats live on your course and the house is appropriately located, they will find it.

The following building plans were reprinted from the Audubon cooperative Sanctuary System, Bat Conservation International, and the Connecticut Department of Environmental protection and are typical of most bat house dimensions.

As with all habitat enhancement projects, it is important to educate and explain to golfers the importance of this program. Post information or use your club newsletter to alleviate any apprehension that there may be about bats on the golf course. Most people will welcome a population when they understand the role these animals play in your pest management program.



consumed are cut worm moths, corn borer moths, and potato beetles. That is a pretty effective insecticide that should be an addition to any IPM program.

Unfortunately bats are feeling a housing crunch with their favorite old hollow trees, barns, and old houses disappearing. Nearly 40 percent of America's bats are on the Endangered Species List. Human disturbance will often result in an adult bat abandoning their young. Bats only raise one pup per year so their populations do not increase quickly. Golf courses can play a major role in ensuring the survival and growth of bat species in your area. Bats prefer sites that are within a quarter mile of streams, lakes, or wetlands making golf courses ideal for the installation of bat boxes. This habitat provides the insect population needed for food.