



Bat Exclusion

Method used by The Wisconsin Bat Program

A PROVEN SOLUTION

Do you have bats that you would like to remove from your living space? The following description is the widely accepted, non-lethal approach for excluding bats from your home. Killing the bats you will find does not solve the root problem which involves locating and sealing the actual access point that the bats are using. The remaining bats and future bats will still find their way into your attic or similar roosting space until you locate and seal all access points. Bats are NOT rodents and therefore will NOT chew their way into your house if you close off the opening. They use only existing openings.

As you may already know, bats are extremely beneficial to have in your neighborhood and many property owners spend a lot of effort trying to attract bats to their area by providing artificial roosts for them. If you have bats in your home you are half-way to experiencing the benefits of these insect-eating mammals without having to share your living space. The first step is already done; you have the bats interested in your location. The second step involves providing these bats with alternative roosting options that allows them to remain on the property without having access to your home. Finally, after a successful exclusion, the bats you saved will have a good chance of staying nearby. Why should you care if they stay? A single bat can eat 1,000 or more mosquito-sized insects in one hour

and the equivalent of the bat's own body weight per night. As that is just a single bat, you can imagine what a colony of 20 to 100 bats can eat in one night.

Bats will NOT attack you while you are enjoying an evening on your porch. Instead, they are enjoyable to view as they capture 100's and 1,000's of insect pests that would normally be interrupting your relaxing night outside. They conduct this service to you for free. You simply need to provide these bats with an alternative place to live that is not in your home. Like bird houses, a bat house is relatively easy to build yourself, inexpensive to purchase, and readily available from a variety of organizations.

Let's get started with the process.

First of all, timing is important when excluding bats from the home. Do not attempt to exclude bats during the summer months when the colony is established and the young are unable to fly. Bat exclusions should not be conducted from May 1st through August 31. Exclusions occurring during this time period will separate mothers from their pups, leaving the pups to die of starvation. Frantic mothers, searching for an opening to reach their pups, may enter your living space and be more difficult to deal with than what you started with. By trapping the flightless young inside, you may also have created another unexpected

problem involving the smell of dead animals.

Step 1: OBSERVE

Where are the bats entering?

At sunset or just before sunrise, have one or more persons located around the house observe where the bats are exiting the building. Observers should be able to see the entire structure without turning their heads; bats can exit and take flight in a matter of seconds. Make observations



Bat Guano

for several nights. This will ensure that all or most exit-points are identified. Pay special attention to areas in which bats commonly find access to your home: corners, eaves, louvers, loose siding, window air conditioners, and loose or damaged screens. Search the building for other various structural defects needing maintenance as the bats may search for alternative openings to their former roosting site after exclusion. It may take a second year of observation to ensure you have located all possible entry points.

Visible signs such as staining and guano (bat droppings) will also help identify openings. The body oils of bats can cause



Bat guano in front of garage

staining on the main access areas of the building, though you will need to look carefully because it is not always obvious. One of the best ways to find an opening is somewhat counter-intuitive: looking down instead of up. Guano found on the ground indicates bat activity from their opening above. When you find a concentration of these small droppings on the ground next to the foundation, you will often have a better chance of finding the access point.

Step 2: INSTALL

Can we still keep the bats here in my yard by putting up a bat house?

YES. Want to provide bats with a home, just not your own? We recommend installing an alternative roost, commonly referred to as a "bat house", in the general vicinity of the entry-points. If you exclude in the fall, installing the bat house a year before the exclusion or during the start of summer, provides the best chance for



Two types of bat houses

success. As bats come and go, they will become familiar with the structure. Upon exclusion, this familiarity will provide the best possible chance for the successful inhabitation of the bat house by the recently excluded bats. If you are interested in purchasing or building bat houses, contact the Wisconsin Bat Monitoring program. The program staff can help you decide on where to purchase the best bat house design with proven success. The Wisconsin Bat Monitoring program can also give you instructions for building your own bat house. Read our information pamphlet titled: "Building a Bat House" to learn how to build and locate your bat house. Location and design are critical pieces as bats are more difficult to attract to a bat house than birds are to a bird house.

Step 3: EXCLUDE

- 1. One-way doors**
- 2. One-week wait,**
- 3. Seal all of the holes.**

After all openings have been discovered, install one-way exits. These exits will allow bats to leave, but will not allow them to re-enter. Keep in mind the time of year as you do not want to trap the flightless young inside. Avoid excluding bats between May 1st and August 31st.

One-way exclusion devices can be created using plastic netting with one-sixth inch (0.4 centimeter) or smaller mesh. Shape the plastic netting so that it covers the opening entirely and extends at least two feet below it. Using staples or duct tape, attach the top and side edges of the



Applying screen for one-way door

plastic netting to the building, leaving the bottom edge open. Be conscious of the netting's tautness; you should be able to slide your hand into the bottom opening though not so loose that the bats may easily crawl back up the opening. At sunset the following night, some of the bats will escape through the open, bottom portion. Leave the netting up for five to seven days; this will ensure that all bats have exited the building. After all bats have been excluded, you may then seal the openings permanently with appropriate construction materials.



Space on bottom for bats to escape

Remember that bats will not chew their way back inside your house. So, after you've found and sealed all of the access points you will have successfully excluded the bats from your living space.

Other materials can be used to create one-way exits, such as plastic sheeting or PVC pipe. Install the plastic sheeting in the exact manner as the plastic netting. A portion of PVC pipe, which should be similar in size to a tube of caulk, can be inserted into the opening. Seal the



PVC one-way door

remaining portion of the opening that surrounds the outer rim of the pipe.

Clean-up

After the bats have been successfully excluded, most people will want to clean the guano out of the building. When cleaning enclosed spaces, there is one simple precaution you should take in protecting yourself from being exposed to a disease known as histoplasmosis. Histoplasmosis is a respiratory disease caused by a fungus that can grow on accumulations of bird and bat guano and may become airborne if disturbed during the cleaning process. The fungus is not necessarily present at your site; however it is best to approach any clean-up with some safety measures. Symptoms of histoplasmosis usually appear within 3 to 17 days after exposure, and may resemble a cold or chronic cough. The risk of histoplasmosis can be reduced and even prevented by wearing a face mask and gloves while working. Wash all clothes and equipment after cleaning out the previously occupied space. If you want nothing to do with a possible risk to your health there are professional cleaning services that can do this for you. Search online or in your phone directory for a local business. There are also a number of exclusion professionals that deal specifically with bat removal in the State of Wisconsin if you are not comfortable with the do-it-yourself method.

Summary

This is how you conduct widely accepted, non-lethal approach to excluding bats from your living space.

1. Observe your building around sunset or sunrise to detect all locations bats are using for access.
2. Install a bat house prior to conducting exclusion in order to maintain the beneficial insect-eating service of the bats in your back yard.
3. Install a one-way door over the opening(s) and wait a week until all of the bats have left.
4. Permanently seal the access points with appropriate materials.
5. Enjoy a night on your deck or patio and watch your relocated colony of bats eat 100's to 1,000's of mosquito-sized insects.
6. Let us know how it worked out as we would like to hear your success story about relocating bats from your attic to their own bat house.
7. For additional information on bats of Wisconsin check out our bat website.

Wisconsin Bat Monitoring Program

<http://wiatri.net/inventory/bats>

Bat Access points to your living space

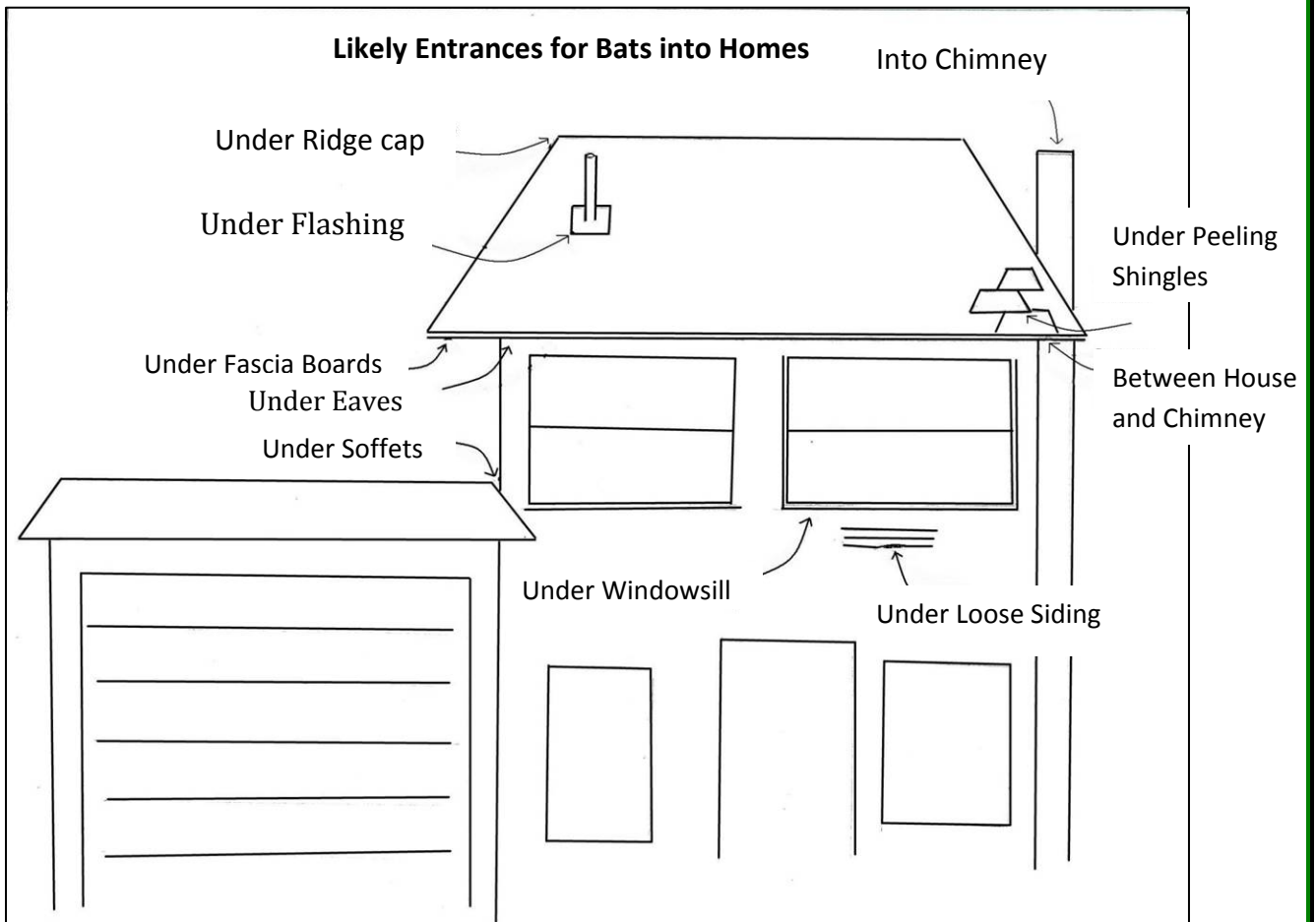


Figure 1: There are several common entry points for bats to find their way into your home. Check for guano piles and stains around these points first in locating the entry points.

Exit Only

One-way Doors for Bat Exclusion

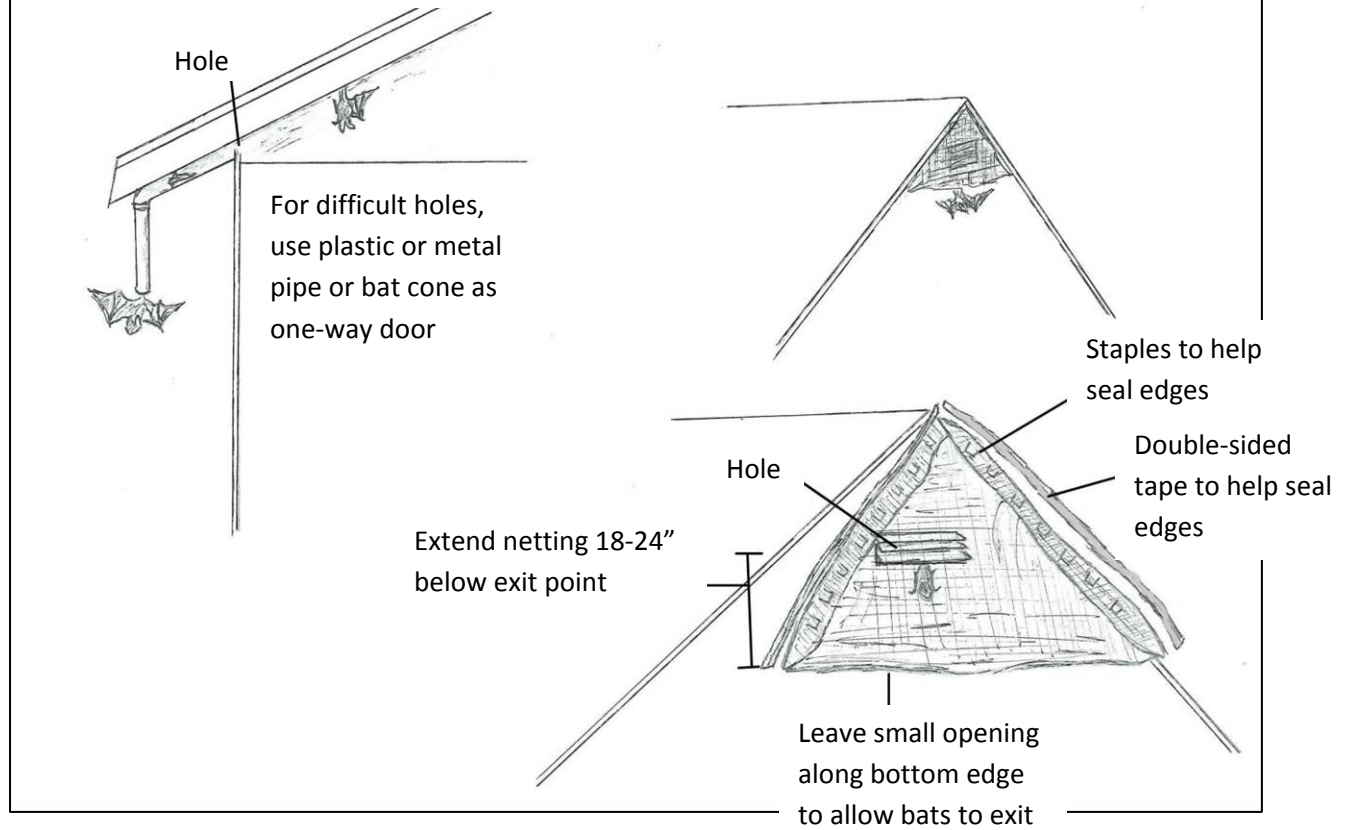


Figure 2: Two common one-way door designs: PVC tube for a small oddly-shaped hole, and netting or mesh for larger holes.

