Broad Incidental Take Permit and Broad Incidental Take Authorization for Wisconsin Cave Bats

Conservation Plan 8/25/2016

The department has issued this broad incidental take authorization (used by state agencies) and broad incidental take permit (used by non-state agencies and individuals), as provided for under s. 29.604, Wis. Stats., to allow for the incidental taking of state listed cave bats in Wisconsin that may occur as a result of specific public health concerns, bat removals, building demolitions, tree cutting, bridge demolitions, miscellaneous building repairs and wind energy development projects.

This permit and authorization cover the above activities only if the associated minimization measures are followed and take is reported (where required). These measures must be followed when a bat is present or suspected to be present (e.g., evidence of bat presence, Endangered Resources Review). Please note that the northern long-eared bat is currently listed as threatened in Wisconsin and threatened with 4(d) rule at the federal level by the United States Fish and Wildlife Service (USFWS, http://www.fws.gov/Midwest/endangered/mammals/nleb/index.html). For the activities listed above, this Conservation Plan includes both state and federal requirements. The state cannot permit or authorize take of a federally listed species, however this Conservation Plan was written to incorporate both state and federal requirements.

For activities not listed above, contact the Wisconsin Department of Natural Resources' Endangered Resources Review Program (DNRERReview@wi.gov) for more information on state and federal requirements. Please note that building demolition, tree cutting, bridge projects, miscellaneous building projects and wind energy development typically require a full Endangered Resources Review http://dnr.wi.gov/topic/ERReview/Review.html to determine impacts to other wildlife species as well.

An incidental take permit or authorization is typically issued on a project-by-project basis, however a broad incidental permit and authorization were created for this situation so that neither an application nor a permit fee are required. An individual following the minimization measures listed below is automatically covered by this broad incidental take permit or authorization. Take will be minimized by following specific minimization measures and the Department has concluded that the projects covered under this permit or authorization are not likely to jeopardize the continued existence and recovery of the state population of these bats or the whole plant-animal community of which they are a part; and has benefit to the public health, safety or welfare that justifies the action.

Project Location

Statewide

Project Information

This permit and authorization cover specific public health concerns, bat removals, building demolitions, forestry activities, bridge demolitions, miscellaneous building repairs and wind energy development projects as described in *Minimization Measures.*

Species Information

This permit and authorization cover all cave bats currently listed in Wisconsin (NR 27.07, Wis. Admin. Code):

- Big brown bat (*Eptesicus fuscus*) – State Threatened
  The big brown bat is a large insectivorous bat, weighing 15.0-26.0 grams. Fur color is russet to dark brown, and the muzzle is black and hairless. In summer, big brown bats commonly roost in artificial structures such as barns, but these bats will also use crevices in trees and rock faces. Big brown bats migrate short distances to caves and mines where they will hibernate for the winter.
- Eastern pipistrelle (*Perimyotis subflavus*) – State Threatened
  The eastern pipistrelle is Wisconsin's smallest bat weighing 4.0-8.0 grams. Fur color ranges from golden brown to reddish brown, and the wing membrane is black with red forearms. The eastern pipistrelle is an insectivorous bat. In summer, these bats commonly roost in the branches of deciduous trees disguised as a leaf. This species migrates short distances to caves and mines in the fall where they hibernate over the winter.
- Little brown bat (*Myotis lucifugus*) – State Threatened
  The little brown bat is a medium-sized member of the genus *Myotis*. This insectivorous bat weighs 5.0-12.5 grams, and has tan, reddish-brown or dark brown fur. This species commonly uses artificial structures such as attics and barns as summer roosting sites, but will also roost in crevices and cavities of trees. In fall, little brown bats make local long-distance migrations of up to 279 miles to caves and mines where they will hibernate for the winter.
- Northern long-eared bat (*Myotis septentrionalis*) – State Threatened and Federally Threatened
  The northern long-eared bat is dark brown with a gray belly, weighing 5.0-8.0 grams and is insectivorous. In summer this bat roosts in trees behind loose bark and in cracks/crevices/holes along the trunk of the tree. It rarely roosts in artificial structures. Unlike most of the state's bats, this species commonly forages in forest interior. In fall the northern long-eared bat migrates to caves and mines where they will hibernate for the winter.

Likely Impact to Species

Although minimization measures to protect the big brown bat, eastern pipistrelle, little brown bat and northern long-eared bat are incorporated into this broad incidental take permit and authorization, it is not possible to fully avoid incidental take of these species in all situations. Due to the nature of activities covered under this permit and authorization, it is difficult to determine the exact number of individuals that could be taken as a result of the project; however take will be minimized by following specific minimization measures. The Department has concluded that the take allowed for under this permit or authorization is not likely to jeopardize the continued existence and recovery of the state population of these bats or the whole plant-animal community of which they are a part.

Alternative Actions

The following alternatives were considered for this permit and authorization:

Alternative 1: Do not allow for any take of cave bats.

> This alternative was determined to not be feasible, due to the large number of affected activities, and is not an appropriate public health decision.

Alternative 2: Do not allow for any take of cave bats during the summer roosting period but allow for some take throughout the remainder of the year.

This alternative was determined to not be feasible, due to the large number of affected activities that occur during the summer roosting period, and is not an appropriate public health decision.

Alternative 3: Allow for some take of cave bats, with minimization measures in place, during the summer roosting period and throughout the remainder of the year.

This option was the preferred alternative because it addresses public health concerns; protects a large number of bats; and allows for most affected activities to continue as planned, or with minimal modifications.

Minimization Measures

This permit and authorization cover the activities listed below only if the associated minimization measures are followed and take is reported (where required). These measures must be followed when a bat is present or suspected to be present (e.g., evidence of bat presence, Endangered Resources Review). Please note that the northern long-eared bat is currently listed as threatened in Wisconsin and threatened with 4(d) rule at the federal level by the United States Fish and Wildlife Service (USFWS, http://www.fws.gov/Midwest/endangered/mammals/nleb/index.html). For the activities listed below, this Conservation Plan includes both state and federal requirements. The state cannot permit or authorize take of a federally listed species, however this Conservation Plan was written to incorporate both state and federal requirements.

For activities not listed below, contact the Wisconsin Department of Natural Resources' Endangered Resources Review Program (DNRERReview@wi.gov) for more information on state and federal requirements. Please note that building demolition, tree cutting, bridge projects, miscellaneous building projects and wind energy development typically require a full Endangered Resources Review http://dnr.wi.gov/topic/ERReview/Review.html to determine impacts to other wildlife species as well.

Note: Take covered under this permit/authorization must be reported within 5 working days (where required below). Take not reported within 5 working days is not legally covered and is in violation of the Wisconsin Endangered Species Law (s. 29.604, Wis. Stats.). Reports can be submitted via email (DNRBats@wi.gov), phone (DNR Bat Hotline: 608-266-5216) or mail (Wisconsin Department of Natural Resources, Bureau of Natural Heritage Conservation, Bat Reporting, P.O. Box 7921, Madison, WI 53707-7921).

A. Health Exceptions

The landowner, rather than the DNR, is allowed to determine if they believe there is a health risk under this section (Section A).

Centers for Disease Control and Prevention (CDC) protocols should be followed for all situations where rabies or histoplasmosis is a possibility or may become a possibility if action is not taken (see Appendix 1).

Additionally, exclusions completed from June 1 through August 15 must be reported to the Department by submitting a Health Exemption Form in order to be covered under this permit or authorization. The landowner is responsible for completing and submitting the form, which is available online (http://dnr.wi.gov/topic/erreview/itbats.html). This form must be completed and submitted to the Department within **5 working days of start of work**.

If an activity qualifies as a health exception, it is exempt from timing minimization measures, and maximum take limits, but exclusions done during the non-exclusion period for human health reasons must still minimize take by following the approved exclusion protocols listed in Appendix 5. Exclusion practices used that are not described in Appendix 5 are in violation of this permit/authorization.

B. Bat Removals and Exclusions

Exclusion is defined as the process of allowing a colony of bats to leave the structure but not re-enter (i.e., use of one-way doors, see Appendices 2 and 5). Physically removing the colony of bats is not included in the definition of exclusion and is not covered under this section of the permit/authorization. Bats may be removed from the living space of a building at any time (see B.1. below).

Approved exclusion practices may be reviewed in Appendix 5. Exclusion practices used that are not described in Appendix 5 are in violation of this permit/authorization

If bats must be handled or transported for any reason during the exclusion process, the person conducting the exclusion must possess a valid Endangered/Threatened (E/T) Species Permit (http://dnr.wi.gov/topic/endangeredresources/permits.html). By obtaining the E/T Permit, the pest control operator can assure the landowner that practices used by the pest control company are in accordance with state law and no fines should incur while exclusion is completed. If bats must be handled during the exclusion, an E/T Permit holder (i.e. a rehabilitator or licensed pest control operator) may be contacted to handle the bats.

Practices that cause intentional take of the bats (i.e., sticky traps, sealing the entry/exit points to the roost with bats inside, large-hole netting that traps bats) are not considered exclusion methods, are not covered under this permit/authorization and are in violation of Wisconsin's Endangered Species Law (s. 29.604, Wis. Stats.).

1. Living Space or Place of Work

   A living space is defined as a place of residence that is routinely and consistently inhabited. A living space does not include attics that are empty or used as storage.

   If individual bats (5 or fewer) enter a living space or place of work, reasonable attempts must first be made to remove or exclude the bats alive and unharmed (see Appendix 2). If individual bats cannot realistically be removed unharmed, up to 5 bats may be killed for the purpose of removing them from a living space or place of work. No more than 5 bats may be killed within any 24 hour period and a maximum of 10 bats may be killed from June 1 – August 15 (**take report recommended – see "Note" above**).

   Removals and exclusions from June 1 – August 15 are allowed in hospitals, medical clinics, day cares centers, nursing homes, assisted living facilities and restaurants.

2. Storage Areas, Attics, Barns, etc.

   Bats found in storage areas, attics, barns, etc., may be excluded from the area August 16 – May 31 (see Appendix 2). Exclusion may not occur from June 1 – August 15 unless a health exemption report form is filed (see Section A).

3. In an effort to help curb the spread of white-nose syndrome (WNS), bat exclusion professionals and pest control operators must follow these guidelines concerning cleaning equipment (NR 40, Wis. Admin. Code.):

- Equipment used outside of Wisconsin should be thoroughly cleaned and disinfected before use in Wisconsin following the protocols in Appendix 4.
- Equipment used at multiple sites within Wisconsin should be cleaned thoroughly and disinfected between uses following the protocols in Appendix 4. Materials that come in direct contact with bats such as bat cones or exclusion devices should not be used at multiple sites and should be discarded after use.

C. Building Demolition

1. Building demolition occurring from June 1 – August 15:
   - If there is no evidence of bat presence (see Appendix 3), there are no restrictions.
   - If there is evidence of bat presence (see Appendix 3), bats must be excluded from the building 5-7 days prior to demolition. Exclusion is not required if the building is unsafe to enter. (**report required for unsafe buildings – see "Note" above**)
2. Building demolition occurring from August 16 – May 31 does not have any restrictions however if bats are present, reasonable attempts should be made to prevent take by excluding bats from the building prior to demolition.

D. Tree Cutting

Northern long-eared bats are federally protected in trees that are known maternity roosts (from June 1 – July 31) and in areas where known hibernacula could be impacted (including tree removal within 0.25 miles of a hibernacula entrance). If you will be cutting trees, please have an Endangered Resources Review http://dnr.wi.gov/topic/ERReview/Review.html conducted to determine if known northern long-eared bat maternity roosts or hibernacula exist near your project. If the Endangered Resources Review states that these areas do not exist near your project, there are no restrictions for tree cutting; however special consideration should be given to protecting snags or dying trees, particularly from June 1 – August 15.

E. Bridge Projects

The process for assessing transportation project impacts to listed species and the associated minimization measures will follow existing protocols.

1. Bridge repairs or demolition occurring from August 16 – May 31 do not have any restrictions. If bats are present, reasonable attempts should be made to prevent take by excluding the bats from the structure prior to demolition.
2. Emergency bridge repairs or demolition occurring from June 1 – August 15 are covered under this permit or authorization but must be reported within 5 working days (**report required – see "Note" above**).
3. Non-emergency bridge repairs or demolition may not occur from June 1 - August 15 unless bats are excluded prior to April 1 to prevent bats from using the bridge during the maternity period.

F. Miscellaneous Building Projects (e.g., roofing, painting, siding)

1. Projects occurring where there is no evidence of bat presence (see Appendix 3) do not have any restrictions.

2. Projects occurring from June 1 – August 15 where there is evidence of bat presence (see Appendix 3):
    - For roofing projects during this time period, bats must be excluded from the building 5-7 days prior to the project. Take must still be minimized during the course of the project by following the approved exclusion protocols listed in Appendix 5. Exclusion practices used that are not described in Appendix 5 are in violation of this permit/authorization.
    - If painting or siding and bats are found behind shutters or siding, set the shutters or siding down and leave the area, once the bats have left continue with repairs.
3. Projects occurring from August 16 – May 31 where there is evidence of bat presence (see Appendix 3):
    - Full bat exclusions do not need to be conducted prior to the project, however take must still be minimized during the course of the project by following applicable exclusion protocols listed in Appendix 5. Exclusion practices used that are not described in Appendix 5 are in violation of this permit/authorization.
    - If painting or siding and bats are found behind shutters or siding, set the shutters or siding down and leave the area, once the bats have left continue with repairs.

G. Wind Energy Development

Wind energy projects typically affect tree bat species (not currently listed) and only impact cave bat species in certain situations (e.g., projects located near cave bat hibernacula may increase the occurrence of impacts to cave bats especially during fall migration in August and September). Further, there is not enough data at this time to determine the impact of potential mortality to local bat populations. Because of this uncertainty and the scope of impacts, no additional actions, above those currently requested by the Department, will be required of this industry at this time.

Mitigation

For every take of a cave bat that occurs, reasonable attempts must be made to prevent future take in the same area (e.g., exclusion of bats from the area, sealing of siding or eaves after bats are gone).

Responsible Parties

Landowners are responsible for all actions and costs incurred as a result of following this Broad Incidental Take Permit or Authorization.

Funding

Landowners are responsible for all costs incurred as a result of following this Broad Incidental Take Permit or Authorization.

Appendix 1: Health Information

Appendix 2: Removing and Excluding Bats

Appendix 3: Determining Bat Presence

Appendix 4: Cleaning and Disinfection Protocols for Bat Exclusion Professionals

Appendix 5: WDNR Exclusion Protocol

Appendix 1: Health Information

The following information was created by the Center for Disease Control and Prevention (CDC): http://www.cdc.gov/rabies/bats/contact/index.html. This information should be followed when handling or testing bats for rabies or histoplasmosis.

Recent data suggest that transmission of rabies virus can occur from minor, seemingly unimportant, or unrecognized bites from bats. Human and domestic animal contact with bats should be minimized, and bats should never be handled by untrained and unvaccinated persons or be kept as pets.

In all instances of potential human exposures involving bats, the bat in question should be safely collected, if possible, and submitted for rabies diagnosis. Rabies postexposure prophylaxis is recommended for all persons with bite, scratch, or mucous membrane exposure to a bat, unless the bat is available for testing and is negative for evidence of rabies.

Postexposure prophylaxis should be considered when direct contact between a human and a bat has occurred, unless the exposed person can be certain a bite, scratch, or mucous membrane exposure did not occur.

In instances in which a bat is found indoors and there is no history of bat-human contact, the likely effectiveness of postexposure prophylaxis must be balanced against the low risk such exposures appear to present. Postexposure prophylaxis can be considered for persons who were in the same room as a bat and who might be unaware that a bite or direct contact had occurred (e.g., a sleeping person awakens to find a bat in the room or an adult witnesses a bat in the room with a previously unattended child, mentally disabled person, or intoxicated person) and rabies cannot be ruled out by testing the bat. Postexposure prophylaxis would not be warranted for other household members.

If you woke up because a bat landed on you while you were sleeping or if you awakened and found a bat in your room, you should try to safely capture the bat and have it tested. The same precautions should be used if you see a bat in a room with an unattended child, or see a bat near a mentally impaired or intoxicated person.

The small teeth of the bat can make a bite difficult to find. Be safe and in these situations, try to safely capture the bat, have the bat tested, and seek medical advice.

Appendix 2: Removing and Excluding Bats

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

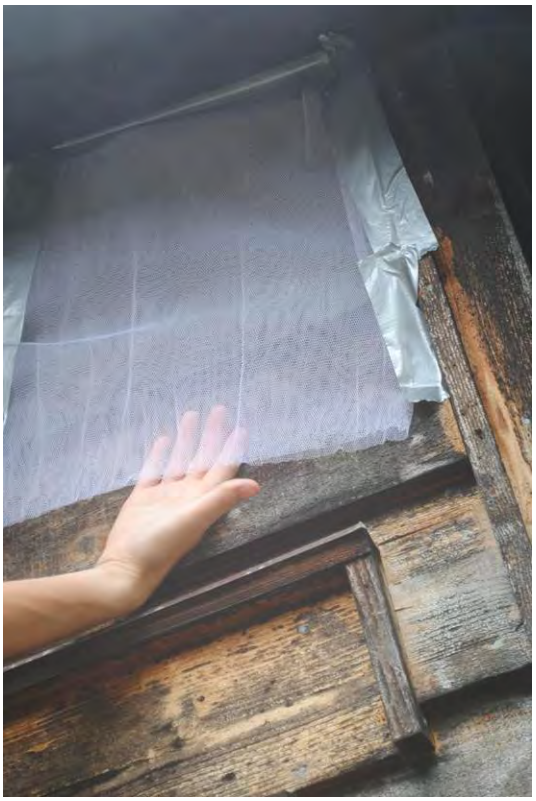
1. One-way doors 2. One-week wait, 3. Seal all of the holes.

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

PVC one-way door

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

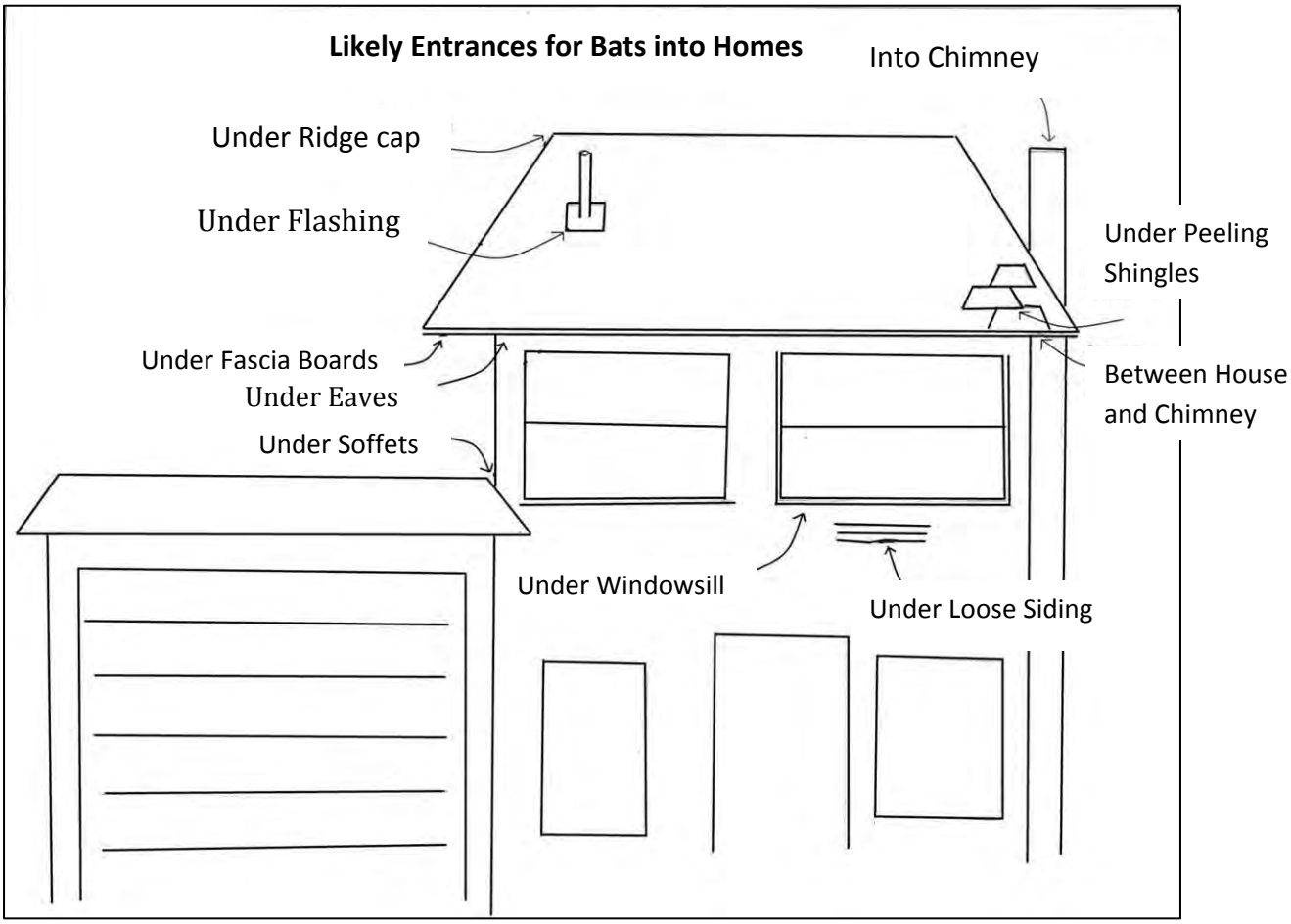


Figure 1: There are several common entry points for bats to find their way into your home. Check for guano piles and stains around these points first in locating the entry points.

Exit Only

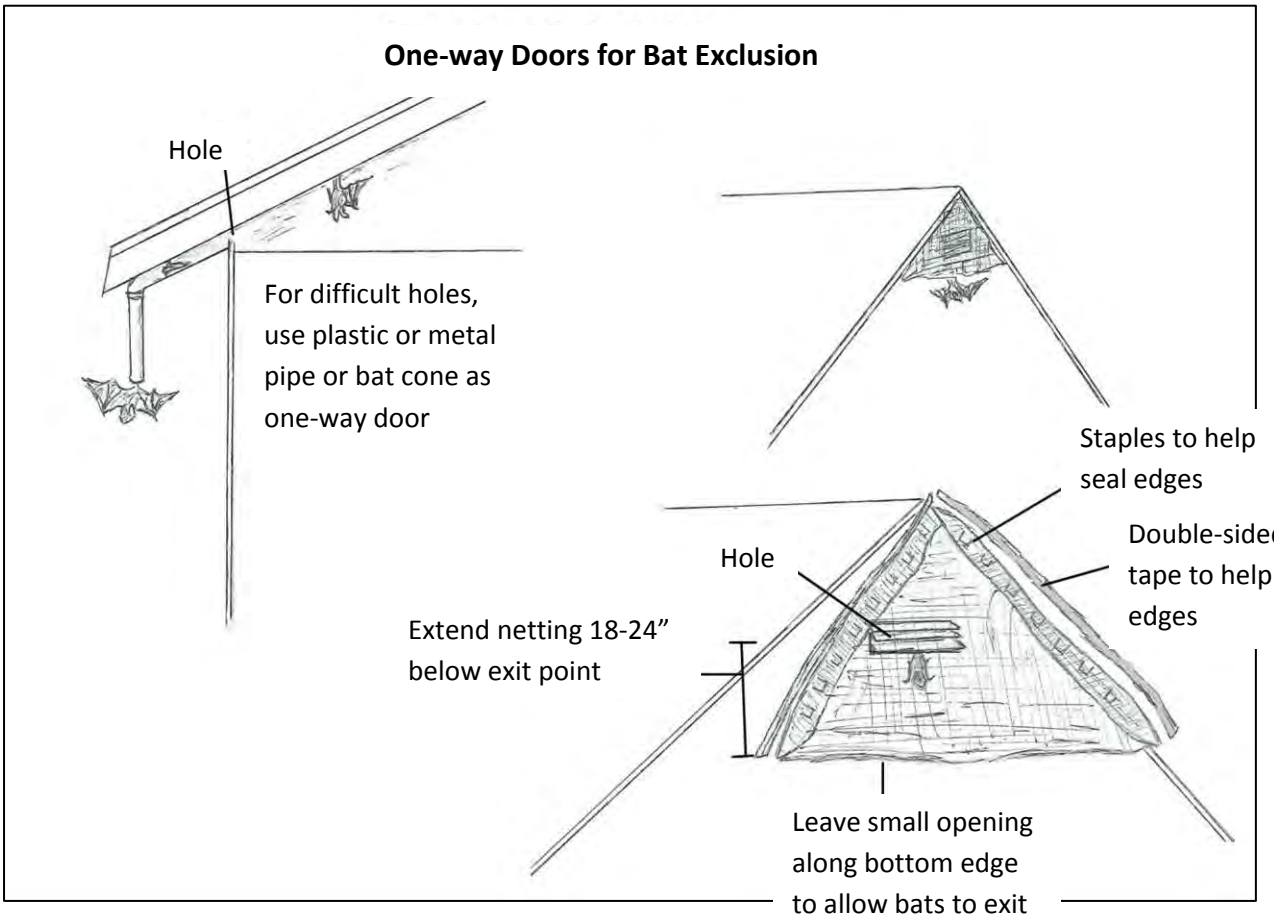


Figure 2: Two common one-way door designs: PVC tube for a small oddly-shaped hole, and netting or mesh for larger holes.

Appendix 3: Determining Bat Presence

1. Take note of places where bats are likely to enter your home. Bats can enter through holes smaller than a quarter in size. Places like fascia boards, where two buildings meet, between the building and a chimney, under loose shingles, under ridgecaps, under windows, through vents into attics, under flashing, under eaves and under loose siding are all common places for bats to enter.

2. Look for evidence on the ground. Bats will defecate while they roost, and piles of guano usually indicate where bats are roosting.

3. Look for evidence on the building itself. Places where bats enter and exit often have stains from urine and skin oils on the siding and holes. These can be good indications of where bats are entering.

4. Monitor in the evening. Even if no visible signs occur, bats may still be roosting in a building. Observe the building at dusk to see if any bats fly out of openings. Listening at this time can also alert the observer to the presence of bats. Bats will often become very vocal 5-10 minutes before they take flight to forage. Bats make an audible buzzing and clicking while they are roosting.

Appendix 4: Cleaning and Disinfection Protocols for Bat Exclusion Professionals

The WDNR is requiring cleaning of all equipment and clothing that comes in contact with cave bats and their habitat at any point during the year in an effort to control human transmission of white-nose syndrome. The fungus that causes white-nose syndrome, *Pseudogymnoascus destructans* was listed as prohibited invasive species in 2011 under NR. 40, and allow for the following control measures.

All equipment and clothing that is used outside of the state of Wisconsin and at multiple sites within the state during exclusion must be cleaned according to the protocols listed in appendix 4. Protocols are in accordance with U.S. Fish and Wildlife Service white-nose syndrome decontamination procedures: http://whitenosesyndrome.org.

1. Use of disposable equipment and coverings (coveralls and booties) is highly recommended.
2. All equipment used during the exclusion process should be thoroughly scrubbed or brushed to remove all organic material.
3. Once scrubbed of organic material, clothing and equipment must be sealed in a plastic container or bag to be transported to a suitable site for cleaning. Anything that can be disposed of must be sealed in a plastic trash bag and discarded.
    a. All equipment and clothing that can be **completely submersed** must be washed with Woolite in wash cycle, rinsed, then
        i. submersed in hot water (>131 degrees F) for a minimum 20 minutes
        ii. soaked in 1:10 bleach solution for a minimum of 10 minutes,
        iii. soaked in 1:128 Lysol IC Quaternary Disinfectant Cleaner for a minimum of 10 minutes.
    b. All equipment that **cannot be completely submerged** in a solution or hot water must be scrubbed to remove all organic material and wiped with disinfecting wipes (see list below) so that the entire surface is disinfected.
4. All equipment and clothing must air dry.
5. Prior to entering the vehicle, clean or remove clothing and footwear to avoid contaminating vehicles.

Disinfecting wipes options:
Laboratory effectiveness demonstrated immediately following contact and associated drying time.

1) Isopropyl Alcohol Wipes (70%), Federal Reg #: CAS - 67-63-0
2) Hydrogen Peroxide Wipes (3%), Federal Reg #: CAS - 7722-84-1

Laboratory effectiveness demonstrated when used in accordance with product label.

3) Clorox® Wipes, Federal Reg #: EPA - 5813-79

Appendix 5: WDNR Exclusion Protocol

Exclusion activities outside of the following protocol are not covered under the Broad Incidental Take Permit/Authorization and mortality may incur fines. The landowner and/or the pest control operator completing the work may be liable for fines.

Exclusion is the act of allowing bats to leave but not return to a building through the use of one-way doors. One-way doors may be comprised of the following materials and design:

1. **Tubing**- Tubes for exclusion may be plastic or metal and should hang down at least 10-15 inches from the opening. Netting may be installed at the end of the tube to prevent re-entry but the mesh must be plastic with holes smaller than 1/6th inch.
2. **Mesh or netting**- Netting may be installed over entry/exit points, but the netting must have holes 1/6th inch or smaller so as to not trap bats, and must extend at least two feet below the entry point. The mesh/netting must be open at the bottom to allow bats to exit under the screen.
    a. If it is found the netting used is tangling and trapping bats, the pest control operator must remove the bats and release them, and the netting must be replaced with smaller mesh or with a different type of one-way door.
3. **Plastic sheeting**- Plastic sheeting may be installed in a similar fashion to the mesh. There should be enough space behind the plastic to allow the bats to crawl out from behind the sheeting. It must be open at the bottom to allow the bats to exit.
4. **Changes to roosting environment**- changes can be made to the roosting habitat to discourage use by bats. These may include, but are not limited to, installation of windows to increase light in the roost, or installation of sheet metal on roosting surface to limit ability of bats to hang. Any changes to the roost environment must not cause take.

Exclusion devices must remain up for at least 5 days prior to sealing the openings, and there must not be bats in the roost when building is sealed.