

**VERMONT AGENCY OF NATURAL RESOURCES**  
**Endangered and Threatened Species Taking General Permit for the Taking of Named Bats**  
**(Authority: 10 V.S.A. § 5408)**

**I. Purpose:**

The Secretary of the Agency of Natural Resources is issuing this General Permit pursuant to 10 V.S.A. § 5408 for the taking of certain endangered bats when found within private residences, places of work, and public buildings. This permit authorizes specific actions that are taken in order to safeguard the health and welfare of persons who would otherwise have the economic burden to hire qualified biologists and pest control specialists to respond in a timely manner to safely remove bat species listed in Section III of this General Permit. The Secretary hereby allows the incidental take of no more than four (4) bats per annum for the exclusive purposes described in this permit. The Secretary reserves the right in Section VI.D. of this General Permit to require an individual permit if deemed necessary for the species listed in Section III.

**II. Definitions**

“Potential exposure to rabies” means a person is bitten, scratched, or asleep in the presence of a bat.

Unless otherwise defined herein, all terms used in this general permit shall have the meanings set forth in 10 V. S.A. § 4001. Undefined terms shall have their common meaning.

**III. Listed Species Covered by the Permit:**

Little brown bat ( <i>Myotis lucifugus</i> )	Endangered
Northern long-eared bat ( <i>Myotis septentrionalis</i> )	Endangered
Small-footed bat ( <i>Myotis leibii</i> )	Threatened

**IV. Findings**

A. General

1. Little brown bat (*Myotis lucifugus*) and the northern long-eared bat (*Myotis septentrionalis*) populations have been profoundly impacted by White-Nose Syndrome (WNS). Both species were listed as state endangered, effective July 15, 2011. The small-footed bat (*Myotis leibii*) was listed as state threatened on April 13, 1987.
2. Vermont survey data for little brown bats and northern long-eared bats indicate declines in population that range from 75% - 99% and 93% - 99%, respectively, within the past one to two years. In addition, recently published literature describes the tenuous status of the little brown bat species, predicting potential extirpation within as few as 16 years.

3. The little brown bat is often grouped as one of Vermont's two species of "house bats," meaning that it often resides in human dwellings and buildings such as houses, barns, places of work, and bat houses.
4. The northern long-eared bat and the small-footed bat are considered "forest bats" with strong fidelity to roosting in dead and dying trees and cliff ledges, respectively. Both bat species have been documented in houses and bat houses, but with much less frequency than the little brown bat.
5. While less than one percent of bats carry rabies, they represent a risk to human health.
6. The Center for Disease Control (CDC) recommends that in all "instances of potential human exposure involving bats, the bat in question should be safely collected, if possible, and submitted for rabies diagnosis." CDC protocols should be followed for all situations where exposure to rabies is a possibility.<sup>1</sup>

#### B. Economic Impact

7. It is common for little brown bats to roost within the walls, attics, and other interior spaces of buildings. The big brown bat (*Eptesicus fuscus*) is the second species of "house bats" in Vermont. It is unlikely that a layperson would be able to distinguish between these two species.
8. The identification of the little brown bat, the northern long-eared bat, and the small-footed bat by a privately-hired qualified biologist is a costly service if required to be conducted in a timely manner.
9. The live removal of bats from which a potential human exposure to rabies has occurred, or is likely to occur, by a privately-hired qualified biologist is a costly service when conducted in a timely manner. The cost of removals range from \$125.00 to as much as \$500.00 or more, depending on timing (i.e., hourly service rates are dependent on the number of animals, day of the week and time of day).
10. It would be costly and extremely burdensome for the Vermont Fish and Wildlife Department to undertake species identification and removal of bats from which a potential human exposure to rabies has occurred or is likely to occur.
11. Steps can be taken to exclude bats from buildings. Exclusions vary in cost, depending on the size and structural condition of the building. The cost of a professional bat exclusion begins at approximately \$400.00. The average estimates for bat removals from occupied buildings range from approximately \$600.00 to \$800.00.

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<sup>1</sup> <http://www.cdc.gov/rabies/bats/contact/index.html>

## V. Advice of Endangered Species Committee

The Chair of the Endangered Species Committee, on behalf of the Committee has made the following advice concerning this General Permit:

- A. The permit for the incidental take of little brown, northern long-eared, and small-footed bats should be adopted as a necessary step concurrent with the listing of the species.
- B. The general permit should be clear that it allows for only the take of up to four bats of all of the species listed in the permit on an annual basis.
- C. The general permit should be clear that the limit of four bats applies to all incidences of potential exposure to rabies on an annual basis.

## VI. Limitations on Coverage

The following are not eligible for coverage under this general permit:

- A. The taking of any threatened or endangered bat not listed in Section III.;
- B. The taking of any bat outside a private residence, place of work, or public building;
- C. The taking of any bat for reasons other than those listed in this general permit; and
- D. Any circumstance wherein the Secretary has determined that an individual Vermont Threatened and Endangered Species Permit is required.

## VII. Eligible Coverage

- A. This permit and authorization provides for the take of up to a total of four (4) bats of the species listed in Section III annually when a potential exposure to rabies has occurred or is likely to occur. (See Appendix I.)
- B. The taking of bats listed in Section III when a potential exposure to rabies is *likely to occur* is hereby authorized only when the measures described in the following Vermont Fish and Wildlife Department documents available at [www.vtfishandwildlife.com](http://www.vtfishandwildlife.com) have been unsuccessfully applied:
  - a. Bats in Your House; Dealing with Unwanted Guests
  - b. Excluding Bats from Vermont Residences and Other Buildings – A Guide to Best Management Practices
- C. Any person taking a bat under this permit shall report the taking within 5 (five) business days to the Vermont Department of Fish and Wildlife through either on-line reporting at [www.vtfishandwildlife.com](http://www.vtfishandwildlife.com) or by calling the Department at 802-241-3700.
- D. Any take not reported within five (5) business days is not legally covered and is in violation of Vermont Endangered and Threatened Species law, and therefore subject to fines of up to \$2000.00 for each animal.

## VIII. Statutory Determination

10 V.S.A. § 5403(a) provides: “Except as authorized under this chapter, a person shall not take, possess or transport wildlife or plants that are members of an endangered or threatened species.” The term “take” is broadly defined to include “pursuing, shooting, hunting, killing, capturing, trapping, snaring and netting fish, birds and quadrupeds and all lesser acts, such as disturbing, harrying or worrying or wounding or placing, setting, drawing or using any net or other device commonly used to take fish or wild animals, whether they result in the taking or not . . . .” 10 V.S.A. § 4001(23). *See also* 10 V.S.A. § 5401(14).

10 V.S.A. § 5408 provides: “Notwithstanding any provision of this chapter, after obtaining the advice of the endangered species committee, the secretary may permit, under such terms and conditions as the secretary may prescribe by rule any act otherwise prohibited by this chapter if done for any of the following purposes: scientific purposes; to enhance the propagation or survival of a species; economic hardship; zoological exhibition; educational purposes; or special purposes consistent with the purposes of the federal Endangered Species Act.”

The Secretary is issuing this general permit for certain specified activities in order to not unduly burden persons with the identification and removal of these listed species in light of potential health effects. It would impose an unfair economic hardship on homeowners to hire qualified personnel to identify and remove bats in a timely manner, or seek an individual takings permit.

The Secretary has obtained and considered the advice of the Endangered Species Committee on the permit application at issue. See Section V. Based on the findings above, the Secretary concludes that this general permit is an appropriate exercise of statutory authority. See Findings 1-11.

Pursuant to 10 V.S.A. § 5408(a), the Secretary hereby determines, based upon the Findings detailed above and after obtaining the advice of the Endangered Species Committee, that this general permit will reduce economic hardship. An Endangered and Threatened Species Permit is authorized, as conditioned below. Thus, in accordance with the prescribed permit terms and conditions, the Agency is permitting the incidental take of the following state-listed endangered species: the little brown bat (*Myotis lucifugus*), the northern long-eared bat (*Myotis septentrionalis*), and the small-footed bat (*Myotis leibii*).

## IX. General Permit Conditions

- A. The general conditions set out in 10 V.S.A. Chapter 123 are hereby incorporated into this permit. All activities authorized by this permit shall be carried out in accordance with, and for the purposes described in, the application. The continued validity of this permit is subject to the complete and timely compliance with all applicable conditions and the filing of all required information.

- B. The validity of this permit is expressly conditioned upon compliance with all applicable federal, state and local laws, regulations, and permits.
- C. By seeking coverage under this permit, the Permittee and its heirs, successors and assigns agree to provide the Agency with unrestricted access, at reasonable times, to the property covered by this permit for the purposes of monitoring and managing the populations of state-listed species, and otherwise ensuring compliance with this permit and with the Endangered and Threatened Species Law.
- D. The Agency maintains continuing jurisdiction over these activities, and may at any time order the Permittee to undertake remedial measures if necessary to ensure the protection and conservation of endangered or threatened species at the location of the permitted activity.

**X. Specific Conditions**

A. Reporting Requirements

1. Any person taking a bat under this permit shall report the taking within 5 (five) business days to the Vermont Department of Fish and Wildlife through either on-line reporting at [www.vtfishandwildlife.com](http://www.vtfishandwildlife.com) or by calling the Department at 802-241-3700.
2. Any person taking a bat due to potential exposure to rabies under this permit shall submit the carcass to the Vermont Department of Health.

**Appeal:** If you wish to appeal this determination, please contact the Vermont Environmental Court. Appeals to that Court must be filed within 30 days of the date of an appealable decision. The appellant must attach to the Notice of Appeal the entry fee of \$225.00, payable to the State of Vermont. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Court; and must be signed by the appellant or its attorney. The appeal must give the address or location and description of the property, project or facility with which the appeal is concerned and the name of the Permittee or any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For more information, see the Vermont Rules for Environmental Court Proceedings, available online at [www.vermontjudiciary.org](http://www.vermontjudiciary.org). The address for the Court is 2418 Airport Road, Suite 1, Barre, Vermont 05641 (Tel. 802-828-1660).

Issued on this 4<sup>th</sup> day of August, 2011, at Waterbury, Vermont.

By:



Deborah L. Markowitz, Secretary  
Vermont Agency of Natural Resources

**VERMONT AGENCY OF NATURAL RESOURCES**  
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**Excluding Bats from Vermont Residences and Other Buildings**  
**A Guide to Best Management Practices**  
**Vermont Fish and Wildlife Department**

The once common little brown bat (*Myotis lucifugus*) that numbered in the hundreds of thousands in Vermont has been inflicted by a disease known as White Nose Syndrome ([WNS](#)) which has devastated several of Vermont's bat species. Vermont's population of little brown bats has experienced over a 90% decline in the past 3 years and now faces possible extinction. As a result of this emergency, the little brown bat has been listed as an endangered species in Vermont to protect the species from unnecessary harm. In order to prevent and minimize conflict between the now endangered little brown bat and people, the Vermont Fish and Wildlife Department (VFWD) provides the following guidance for addressing human-bat encounters. To accurately identify [little brown bats](#) please visit the following web page at:

[http://www.vtfishandwildlife.com/library/Factsheets/NonGame\\_and\\_Natural\\_Heritage/bigBrown\\_and\\_littleBrown.pdf](http://www.vtfishandwildlife.com/library/Factsheets/NonGame_and_Natural_Heritage/bigBrown_and_littleBrown.pdf)

Of Vermont's nine species of bats, two - the little brown bat and the big brown bat (*Eptesicus fuscus*) - commonly live in buildings and are often referred to as "house bats". The little brown bat hibernates in caves and mines from early fall to spring, typically emerging from hibernation in mid-April. As little brown bats emerge from hibernation, they return to their summer roosts commonly located in attics, under shutters and shingles, and in sheds, barns, and garages. Prior to WNS, maternity colonies of female little brown bats varied in size from a few to hundreds of females, with each female giving birth to a single pup between the end of May and mid-July. The big brown bat hibernates in mines and caves as well but is the only species that will also hibernate in buildings during the winter. While the vast majority of conflicts between humans and bats occur during July and August, occasionally, during the winter, bat and human conflicts arise when hibernating big browns are disturbed or when they arouse during a warm period and enter living spaces.

**Exemption to take little brown bats to protect public health**

Because little brown bats may carry rabies (less than 1% of all bats have rabies) and are often encountered in Vermont residences, it is important for Vermonters to be able to act quickly on any reasonable threat to their health. The Center for Disease Control (CDC) recommends that in all "instances of potential human exposure involving bats, the bat in question should be safely collected, if possible, and submitted for rabies diagnosis".

**Best Management Practices for Excluding Bats**

**Step 1-Determining if bats are present and where they are entering the building**

- 1) Take note of places where bats are likely to enter your home. Bats can enter through holes smaller than the size of a quarter. Places like fascia boards, where two buildings meet, between the building and a chimney, loose shingles, ridge caps, windows, attic vents, flashing, eaves and loose siding are all common places for bats to enter and exit.
- 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 at dusk or dawn. Even if no visible signs occur, bats may still be roosting in a building. Observe the building at dusk or dawn to see if any bats fly out of openings in the evening or into openings in the morning. 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. If you do determine the presence of bats, follow the guidelines for bat exclusion described below.

### **Step 2-Excluding bats from buildings**

Because of the dramatic declines in Vermont's little brown bat population as a result of WNS, large maternity colonies that might have been a concern before may now number just a few bats. The VFWD recommends that if a small number of bats are present and are not bothering the homeowner it may be best to leave the bats alone. If the homeowner prefers to exclude bats from the building, the following steps should be practiced by the homeowner or their pest control agent. Measures conducted that do not conform to the steps below may require a State of Vermont Threatened and Endangered Species Permit prior to implementation.

#### **Exclusion practices are time dependent:**

- December - March: Little brown bats have migrated to caves and mines for the winter. Big brown bats may remain. Complete bat proofing (see below)
- April – mid-May: Bats may be present, but pups are not yet born. Bat-proofing with use of one way doors (see below)
- Late-May - mid-August: Bats and their flightless pups may be present. Pups need time to become volant (i.e., able to fly) and capable of foraging on insects. ONLY limited bat-proofing (see below)
- Late August - November: Some bats may remain in the roost. Bat-proofing with use of one way door (see below)

**Complete bat-proofing (December – March):** Little brown bats are hibernating in caves and mines. Caution should be made to make sure that big brown bats are not hibernating in the residence (usually in the attic or basement) before completely bat-proofing the building. Then, all potential openings can be sealed using caulking, foam insulation, wood, or other materials that will close any opening greater than ½ inch in size.

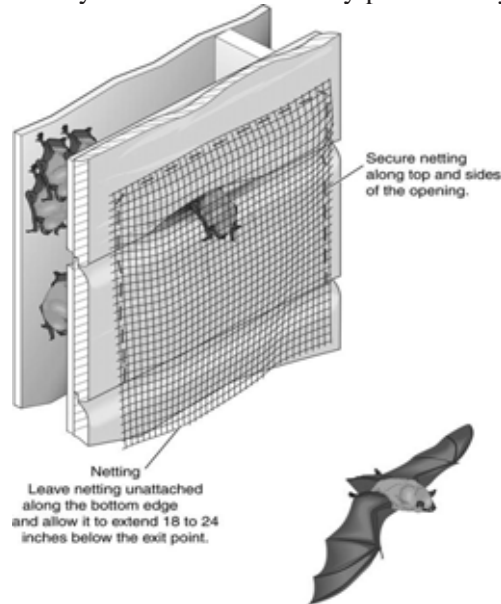
**Bat-proofing with use of one-way doors (April –mid-May; late-August - November):** One-way doors enable the bats to leave on their own, but they won't be able to get back inside. You can use a commercial one way door or make your own. You have two options, you can create a one-way door using ¼ or ½-inch polypropylene mesh or screening or a 2-inch diameter tube as described below.

#### ***One-way door construction using mesh or screening:***

Place ¼ or ½-inch polypropylene mesh or screening over the entrance holes, forming a long sleeve or tent. The screening should cover the hole and extend about 18-24 inches below the hole (see diagram). It also should stick out about 3–5 inches from the wall, so the bats can crawl beneath the screen to leave. Secure the screening at the top and sides with duct tape or staples; leaving the bottom open. Bats will exit by crawling to the bottom of the screen. When the bats return, their sense of smell guides them back to the



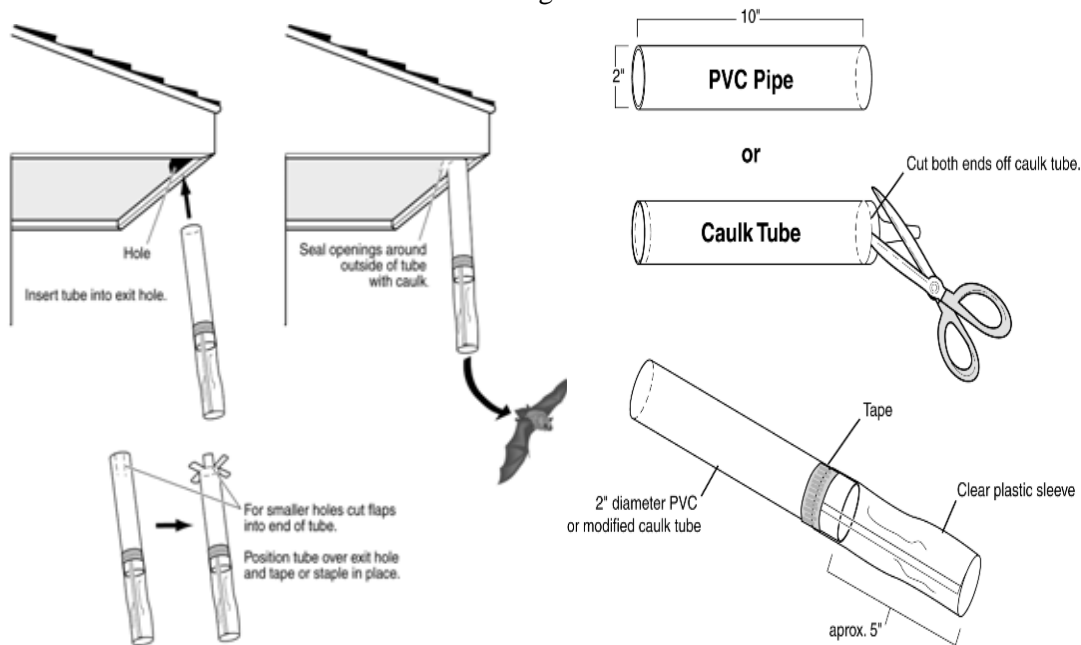
hole, now covered by screening. Leave the screening in place for 5-7 days and check that all the bats have left. Then one can remove the one-way door and immediately permanently seal the hole.



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**One-way door construction using pipe:**

Exclusion tubes should have a diameter of 2 inches and be about 10 inches in length. Exclusion devices can be purchased commercially or made from PVC pipe or flexible plastic tubing. Bats are unable to cling to the smooth surface of these tubes, so the tube should project no more than ¼ inch into the opening. This will ensure exiting bats can easily enter the tube. Once the tube has been secured over the hole, a piece of lightweight, clear plastic can be taped around the tube's outside end (see diagram) to further reduce the likelihood of bats reentering.



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**Limited bat-proofing (mid-May -mid-August):** This procedure is to be used when pups may be present and cannot yet fly or survive on their own. It simply allows for *unused* cracks and openings in the house to be sealed while still allowing for bats to enter the building. Seal potential points of entry into your **living quarters** (most important step); then work on **unused cracks and holes** on the outside of the building. There are probably many of them, because bats can enter a building through a tiny crack or hole smaller than a quarter. **Do NOT seal the primary hole**, and don't separate the mothers from their pups. You must let the females enter and exit the building freely. If females are sealed out from their pups they will actively search for a new entrance and may likely end up in the living quarters.

***Step 3 - Consider erecting a bat house***

The process of excluding bats from a building forces the colony to relocate to another roosting site such as another nearby home or structure. To reduce the likelihood that home exclusions do not simply pass the "problem" onto another homeowner, a responsible measure may be to put up a bat house that will serve as an alternate roosting location for the colony. To maximize their effectiveness, bat houses should be put up before the exclusion is completed, painted black, and placed at a location no less than 10 feet off the ground and where the bat house will receive a minimum of 8 hours of direct sunlight.

**For Additional Assistance**

Bat Conservation International, [www.batcon.org](http://www.batcon.org)

Contact Wildlife Services at 1-800-4RABIES

Go to Vermont Fish and Wildlife Department, [www.fishandwildlife.com](http://www.fishandwildlife.com) for information on bats