



## CT DEP Wildlife Division Bat Maternity Colony Monitoring - 2011 Information and Protocols



### Introduction

The methods used in this survey will be used to identify and evaluate the approximate size of bat maternity roosts by conducting general emergence counts at least twice, once before pups are able to fly (pre-volant) and a second time after they are capable of flying (post-volant). Once colonies are identified, CT DEP Wildlife Division biologists may have an interest in choosing a small subset of these colonies to conduct additional research. This research will be aimed at comparing the number of reproductive versus non-reproductive females and evaluate their general health by capturing animals.

### Goals

- 1) Gather base line information on summer colonies
- 2) Evaluate the impact of White-Nose Syndrome (WNS) on summer colonies
- 3) Correlate long term trends with the spread of WNS

### Commitment

The initial commitment for a volunteer or researcher will be to locate at least one roost and conduct a minimum of one emergence count of that site a year. Locating and conducting a baseline emergence count is one of the most important aspects of this study. Once you find out how enjoyable bat counting is, it is hoped that you will commit to conducting surveys over the next several years or longer. You may be contacted by CT DEP Wildlife biologists to use your site in a more extensive study involving collecting specific reproductive information from individual bats. Listed below are different levels that can be used in this study. Please choose the category that you feel you can commit to.

*Level 1* – Find and conduct at least one emergence count of your roost between **May 22 and July 31, 2011**.

Ideally, try to conduct your count after July 4<sup>th</sup> to include newly flying pups.

*Level 2* – Find and conduct at least one emergence count of a roost BEFORE most pups begin to fly (pre-volant).

**Conduct your count(s) from: May 22 – June 19, 2011**

-AND-

And at least one or more emergence counts AFTER most pups begin flying (post-volant).

**Conduct your count(s) from July 3 – July 31, 2011**

*Level 3* – Maternity roosts can be very dynamic and it is often difficult to pick out the best dates for sampling the pre-volant and post-volant periods. Conduct your count **once every week or once every 2 weeks**

**Begin conducting your counts during the last week of May - July 31, 2011**

You may be contacted for permission to use your site for collecting additional data. Proposed work includes capturing females to evaluate reproductive condition, gather weight data, affix wing bands, and collect samples for lab studies such as skin and blood samples. Dataloggers will also be installed at some of the larger colonies to collect temperature and humidity readings throughout the summer roosting months.

## Protocol

### Finding Bat Colonies

Country churches and other old structures provide the best opportunities for finding bat roosts. The largest colonies are usually located along major rivers or other large bodies of water and other colonies can be found most everywhere near forests and water. Buildings such as old houses, country churches, and barns are likely candidates. Usually you can just ask some local people about buildings with bats. Generally bat roosts are locally known. If you're lucky, someone will know of artificial roosts created just for bats. The bat species will usually be little brown (*Myotis lucifugus*) and big brown (*Eptesicus fuscus*) bats.

### Datasheets

The information you collect will be maintained in a database used to research WNS. A database provides uniform formatting and storage of your data so it can be compared with other surveys. This requires the use of standardized reporting forms. Please use them. **Please print legibly and complete the forms as accurately and completely as possible.** If you complete more than one survey, you only need to make a copy of the page that begins with "Bat Emergence Count." It is not necessary to complete the "Surveyor Information" page more than once. Please also remember that 0's are data too, especially if you have had a colony of bats in the past. It is extremely important to be able to document colony declines and losses to accurately track population changes. **Report your 0's!**

Researching a wildlife disease is an expensive adventure. Funding the work requires grant funds and most grants including the one funding the regional initiative on WNS require grant funds be matched with a percentage of the grant. In other words, nothing is free. By signing the bottom of the form, your time and vehicle mileage used in this survey can be applied to the required match. **PLEASE complete, sign, and return the volunteer form** so that you can help us retain and use this grant money to solve this wildlife disease.

### Emergence Count

It's best to do some scouting before you conduct your survey to determine where the bats are exiting. If you find that the bats are using multiple exits, you may need to recruit a friend or two to help you count. Choose a survey night when the starting temperatures are **above 60°F** and **wind and sky codes are 3 or less**. Arrive at your roost **½ hour before sunset** and be sure to bring a thermometer, paper and pencil and the "Emergence Count" datasheet. Position yourself (and your friends) so that you have a clear view of all known exits. Watch carefully for signs of activity and count the bats as they exit their roost. Be careful not to count any individuals twice! Some individuals may re-enter the roost, especially when there are pups inside so do your best to keep track of this.

When more than one surveyor is needed, it's a good idea to turn the count into an evening social, with dinner or an ice cream parlor visit afterwards. Remember to ask permission of the landowner if the roost you would like to survey is not on your property. Most importantly, have fun!

### Roosting Estimate

If time does not permit an emergence count and the roosting bats can be counted, a roost estimate may be recorded in comments. This is most useful for surveying multiple bat boxes (artificial roosts) where a light can be shined up into the bat box and roosting bats counted. This can also be used if you have access to an attic with roosting bats. This type of count is generally a minimal estimate since many bats may not be seen but it does record a roost.

Thank you again for participating in this important survey of your wildlife resource. Please return Survey Data to: Bat Maternity Colony Count, CT DEP Wildlife Division, Sessions Woods W.M.A, P.O. Box 1550, Burlington, CT 06013. If you have any questions, contact Jennifer Pacelli at (860) 675-8130, or email [jennifer.pacelli@ct.gov](mailto:jennifer.pacelli@ct.gov) or [christina.kocer@ct.gov](mailto:christina.kocer@ct.gov).