

Tennessee Bat Working Group

Tennessee

Summer Bat Roost Registration Forms
and Volunteer Survey Guidance

Please Use to Register New Bat Roosts



Thank you for your participation

Tennessee Summer Maternity Roost Monitoring - Emergence Counts
Multi-state Coordination, Investigation and Response to an Emerging Wildlife Health Threat

INTRODUCTION

The methods in this survey will be used to: Identify and evaluate the approximate size of bat maternity roosts by conducting general emergence counts; evaluate emergence variances between bat pup pre-volant and post-volant counts using more extensive count surveys at some locations; compare the number of reproductive versus non-reproductive females and evaluate their general health by capturing animals; and provide opportunities for collecting biological samples at maternity roosts as needed by researchers.

The goals of the survey are to: Gather base line information on summer colonies; evaluate the impact of WNS on summer colonies; and correlate long term trends of Tennessee bats.

COMMITMENT

Protocols will vary depending on the surveyor’s commitment and expertise. It is hoped that surveyors will commit to conducting surveys over the next several years or longer once you find out how enjoyable bat counting is. The initial commitment is as a volunteer or researcher who locates at least one roost and conducts a minimum of one emergence count of that site per year. Locating and conducting a base line emergence count is one of the most important aspects of this study. You may be contacted by researchers to use your site in a more extensive study. Once you have participated with an initial commitment and learn how much fun counting bats is, you may want to increase your effort. Listed below are different levels that can be used in this study.

LEVEL 1- Find and conduct at least one emergence count of a roost between May 15 and July 31. Additional roosts can also be located and additional counts conducted. Base line information on many roosts is extremely valuable.

LEVEL 2- Find and conduct at least one (pref. 2) or more emergence counts of a roost before most pups begin flying (i.e., when pups are pre-volant).

Pre-Volant Period: Conduct between May 15 and June 15 (for TN).

And at least one (pref. 2) or more emergence counts after most pups begin flying (post-volant).

Post-Volant Period: Conduct July 1 through July 20 (no later than 31 July) (for TN).

LEVEL 3- conduct at least one emergence count of a roost at least every 2 weeks (preferably every week) starting : **May 15 and continuing through July 31**

Researchers use Level 3’s high commitment because some roosts begin to disperse soon after pups begin flying. 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. For intensive research purposes, it is also recommended that you conduct at least 2 or more counts on consecutive evenings to obtain error parameters.

Pre-volant				2 Week Peak Volant Period		Post-volant			
4	3	2	1	0	0	1	2	3	4
Survey						Survey			

General guidance for conducting emergence surveys for states planning to initiate emergence surveys.

From VA south the 2-week peak Volant period is generally between early/mid-June and July 1st.

Weeks 1, 2, and 3 are preferred weeks for emergence counts.

Another aspect of this study involves researchers with the appropriate state and federal permits. You may be contacted for permission to use your site in these studies. Proposed work includes netting during the pre-volant period to capture females and evaluate reproductive condition, gathering weight data, banding, and collecting samples for lab studies such as skin and blood samples.

Continued

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PROTOCOL

Finding colonies of bats: Rural and abandoned churches and other old structures, bat houses, dead trees, and some caves 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, churches, and barns are likely candidates, as are large dead trees with bark remaining. Usually you can just ask some local people about buildings with bats. Often 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 where females congregate in spring through summer to give birth and rear their young. Many Tennessee caves are inhabited by federally endangered gray bats during the summer. These bats are legally protected. Thus, under no circumstances should these caves be entered during the maternity season, but emergence counts can be useful in tracking long-term health of the species.

Data Forms- The information you collect will be maintained in a database used to research bats and 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.

1. Surveyor Information Data Form: This is used to register you within the program. Please print legibly so that your contact information is entered correctly. You only need to complete this form once, unless changes are needed.
2. Site and Landowner Data Form: It's important to make contact with the landowners and get their approval. Location information is important. Please record the state and county. If you have a GPS unit, please record the latitude, longitude and datum the unit is set on. If you do not know the datum, write unknown. If you have no access to a GPS, please copy a map with the site circled and return with the form so a general location can be recorded. Otherwise, provide general directions from a town, major road intersection, or other recognizable feature on a map. Record the species using the roost if known, otherwise circle unknown. The last portion of the form collects the landowner's contact information. You only need to complete this form once unless addresses, or other information changes. For caves, the cave name and county is generally sufficient location information. If you don't know a cave's name, please provide general location information in the comments.
3. Emergence Count Data Form: Use this form for recording the actual bat count. Be sure to indicate the site name and you as the surveyor. Record the date, sky and wind codes (codes are on bottom of form), start temperature, start & end time, total bats counted and technique used, which will usually be visual. Please make a note of other surveyors in comments. Also note any unusual observations. The form page has space for 2 counts. If you conduct more than 2, please copy more forms.

The Survey- It's best to do some scouting before-hand to determine where bats are exiting. You may find that you need help in covering all the exits (front and back of a structure). Please try to survey when starting temperatures are above 60°F and wind and sky codes are 3 or less. Bring a thermometer, paper and pencil and the emergence form. Arrive ½ hour before sunset. Locate where the bats are exiting the structure and count them as they exit. Some may re-enter, especially when there are pups inside. Try to keep track of this. If you find that you have a mega-colony that numbers in the thousands, you may need to tally them by the 10's as they exit. Position both yourself and helpers for easy viewing of bats exiting. It is best to be in position to have the bats silhouetted against the sky for easier viewing. 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 visit afterwards. Please remember to ask permission of the landowner and enjoy the experience.

Roosting Estimate- If time does not permit an emergence count and the roosting bats can be counted, a diurnal roost estimate (i.e., an estimate conducted during the day) 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. **Record the total bats for the count, record "other" in technique and note roost estimate and counting method in comments.** This type of count is generally a minimal estimate since many bats may not be seen but it does record a roost. Be aware that this method does cause disturbance to bats and may cause bat deaths if performed during the volant period. Therefore, please do not conduct diurnal roost estimates between June 15 and July 1.

Upon the completion of any re-survey, landowner and surveyor information should be checked and updated if necessary. Thank you again for participating in this important survey of your wildlife resource.

Return Survey Data by AUGUST 30 to: Cory Holliday, 862 Fort Blount Ferry Rd., Gainesboro, TN 38562
Or scan and email to: cholliday@tnco.org

Tennessee Summer Maternity Roost Monitoring-**SURVEYOR INFORMATION** Data Form
Multi-state Coordination, Investigation and Response to an Emerging Wildlife Health Threat

Please complete for new surveyor

SURVEYOR INFORMATION (CONFIDENTIAL):

NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE: _____

EMAIL: _____

SURVEYOR TYPE (circle what best describes you):

Landowner -You are surveying a roost on your own property (use this even if also surveying other sites you do not own).

Volunteer -You are surveying as a volunteer and have limited expertise in both bat identification and ecology.

Student -You are a student studying bats with a basic expertise in both bat identification and ecology.

Researcher -You are actively involved in bat research on an academic and/or professional level.

COMMENTS: (Bat experience, etc.)

Tennessee Summer Maternity Roost Monitoring-**SITE and LANDOWNER** Data Form
Multi-state Coordination, Investigation and Response to an Emerging Wildlife Health Threat

Please complete for a new site or landowner

Sitename or Number: _____ **2 Digit State abbrev.:** _____ **County:** _____

LAT: _____ ° - _____ ' _____ " (N) **LON:** _____ ° - _____ ' - _____ " (W) **DATUM (circle):** WGS84 (preferred) – NAD83 – NAD27
(or send a map)

Lat/Lon Precision (circle): GPS – From Map – County Resolution – Not Mapped – Other (specify) _____
(circle- "GPS" if GPS unit used; "From Map" if plotted from map; "County Resolution" if coordinates are only County specific)

Roost Structure is: barn – church – occupied house – unoccupied house – utility building – bat box – bat condo – bridge – tree –
cave – mine – unknown – other structure (describe): _____

Primary Species within Roost: _____ or Unknown (circle if unknown)
(list only 1 if known., and make comments on others)

COMMENTS (include directions to site, where bats are exiting, how many surveyors needed at site, other species roosting, landowner's plans for the bat colony, history of site regarding bats, etc. attach more sheets if needed):

LANDOWNER INFORMATION (CONFIDENTIAL):

NAME: _____

ADDRESS: _____

CITY: _____ **STATE:** _____ **ZIP:** _____

PHONE: _____

EMAIL: _____

RESPONSIBLE SURVEYOR NAME: _____

Tennessee Summer Maternity Roost Monitoring-**EMERGENCY COUNT** Data Form
 Multi-state Coordination, Investigation and Response to an Emerging Wildlife Health Threat

SITE NAME or No.: _____
 (a site/landowner data form needs to be completed at least once)

SURVEYOR: _____
 (Lead Surveyor who is responsible for reporting and has completed a SURVEYOR Info data form)

DATE	SKY CODE NO	WIND CODE NO	START TEMP °F	START TIME (24 hr)	END TIME (24 hr)	TOTAL BATS COUNTED	TECHNIQUE USED enter VISUAL or VIDEO

Other Surveyors: _____
 Other COMMENTS: _____

SITE NAME or No.: _____
 (a site/landowner data form needs to be completed at least once)

SURVEYOR: _____
 (Lead Surveyor who is responsible for reporting and has completed a SURVEYOR Info data form)

DATE	SKY CODE NO	WIND CODE NO	START TEMP °F	START TIME (24 hr)	END TIME (24 hr)	TOTAL BATS COUNTED	TECHNIQUE USED enter VISUAL or VIDEO

Other Surveyors: _____
 Other COMMENTS: _____

SKY		WIND		
CODE	DESCRIPTION	CODE	DESCRIPTION	~Speed
1	Clear-Clear to a few clouds	1	Calm-Leaves Still	0 MPH
2	Partly Cloudy-Clouds but variable sky conditions	2	Slight Breeze-Leaves slightly Rustling	1-7 MPH
3	Cloudy-Mostly cloudy or overcast	3	Gentle Breeze-Leaves and twigs in motion	8-12 MPH
4	Drizzle-Light intermittent rain	4	Mod. Breeze-Small branches begin to move	13-18 MPH
5	Showers-Steady soaking rain	5	Windy-Small Trees or more in canopy sway	19-24+ MPH
6	Thunderstorms-Rain with thunderstorms	6	Not Recorded-	Not Recorded
7	Not Recorded-Not Recorded			

Sky and wind codes of 1 – 3 are best. Code of 4 is marginal. Avoid surveying if code is higher than 4.