



STATE OF DELAWARE
 DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL
 DIVISION OF FISH & WILDLIFE
 SPECIES CONSERVATION AND RESEARCH PROGRAM
 4876 Hay Point Landing Road Smyrna, Delaware 19977
 Phone: 302-735-8651
 Fax: 302-653-3431

Thank you for considering being a volunteer for the **Delaware Bat Count: Bat Spotters**. We are asking volunteers to find or adopt a bat colony and count the bats as they leave their roosts to feed in the evenings. The colony could be in a barn, attic, tree or bat box... anywhere you find a group of bats hanging out together. If you don't know of any roosts sites, contact us to adopt one in your area. Bats are extremely beneficial to our environment and keeping track of them is a fun and rewarding activity for all ages. It's an interesting and unique way to connect with nature and do something helpful for wildlife. Anyone can volunteer!

Why monitor the bats in Delaware?

Bats are a major predator of night-flying insects, providing us with a valuable and free service. In addition to mosquitoes, bats eat many of the pests that affect our crops including cucumber beetles, ground beetles, and leaf hoppers. It is to our benefit to have them around.

And bats are in trouble ... BIG trouble! A disease is killing huge numbers of bats. White Nose Syndrome (WNS) has caused major mortality at winter hibernation sites in the Northeast, Midwest, and Canada. WNS is characterized by a white, cold-loving fungus; it causes a sub-dermal infection, unusual behaviors, and eventually death to the bats. ***In April 2010, the White-nose Syndrome fungus was confirmed on live bats in Delaware, and surveys in March 2012 confirmed WNS infection in Delaware's bats.*** Delaware doesn't have caves or mines for hibernating bats but we have seen changes to our bat populations. We don't yet completely understand how the disease affects summer bat colonies. The Delaware Division of Fish and Wildlife is working closely with other state biologists to monitor the effects of this horrible disease and we can really use your help.

What can you do to help?

- Find or adopt a bat roost in your area (adoptions available).
- Count the bats as they emerge from their roost in the evening.
- Fill out the landowner data sheet, count data sheet, and timesheet.
- Send the completed forms to the Delaware Division of Fish & Wildlife.

When can I start?

Tonight! We ask that each volunteer conduct at *least* two counts between late May and the end of July, but most volunteers adopt a site and survey once per month in the summer (May-July) to monitor their bats. If only doing two surveys, the best times to survey are late May/early June (to count when all females are present but no young are flying yet) and the second week in July when young are flying and the colony has not yet dispersed for the season. Counts can range from ten bats to several hundred.

Come and join the bat spotters!

It can be an exciting, educational and fun wildlife viewing activity. Many people turn this survey into a social event with a dinner or dessert stop afterward. This is an exciting opportunity to get involved and become a citizen scientist in important research. Once you start, you may enjoy it and want to learn more.

You can start by going to: <http://www.dnrec.delaware.gov/fw/bats/>
We look forward to hearing from you.

Volunteer Project Instructions

INTRODUCTION

Your survey results will be used to

- Gather base line information on summer colonies.
- Identify and evaluate the approximate size of bat maternity roosts. This will give us an idea of how population sizes are changing over time.
- Estimate reproductive rates (number of pups to reach flying age per female). This helps the state determine management actions to best help bats.

COMMITMENT

Locating and conducting a base line emergence count is one of the most important aspects of this study. It is hoped that surveyors will adopt their site over the next several years or longer. However, you can do as little as two counts per year or as many as 24. You may be contacted by biologists 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- Conduct an emergence count at a roost before pups begin flying (pre-volant) and after they can fly (post-volant).

Pre-Volant (before pups can fly): May 15 – June 21. If May is particularly cool or rainy, you will be more likely to get a complete count towards the end of May rather than mid-May.

Other – June 21-July 4 – some pups are flying, but not all. These counts are not as precise as pre- or post-volant.

Post-Volant (after pups can fly): July 4 – July 30. **(Previous Bat Spotters, note new end date!)** At least one (pref. 2) or more emergence counts after most pups begin flying. Target: MID-July.

LEVEL 2- Conduct an emergence count at least once per month (or more!) between May 15-July 30.

LEVEL 3 (Super volunteer) - To increase accuracy, a survey could be conducted at the same site on a second consecutive night. Extra counts can be conducted into August, but some bat colonies begin breaking up for the year by July 15.

PROTOCOL (How to do the survey)

Finding colonies of bats: Tin-roofed barns, church steeples and other old structures provide the best opportunities for finding bat roosts. Guano that looks like mouse droppings below a suspected entry point is usually a tell-tale sign. Little brown (*Myotis lucifugus*) and big brown (*Eptesicus fuscus*) bats congregate in spring through summer to give birth and rear their young.

Data Forms: ALL FORMS MUST BE COMPLETED, SIGNED AND DATED IN INK. The information you collect will be maintained in a database. 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.

1. **Volunteer Information and Agreement:** Your contact information and waiver.
2. **Site and Landowner Data:** Location information and landowner permission is very important. Please record the location and contact information as best you can, if it cannot be determined write “unknown.” A guano sample can be collected from the site for biologists at DEFW to attempt species identification.
3. **Roost Monitoring Data Sheet:** Use this form for recording the bat count. Be sure to fill it out completely including weather data. Make a note of others with you in the comments. Also note any unusual observations. The page has space for 2 counts. More copies can be printed from the website: www.dnrec.delaware.gov/fw/bats.

4. **Volunteer Timesheet:** Researching wildlife is an expensive adventure. Funding the work requires grants and most grants require funds to be matched. For our main bat grant, the U.S. Fish and Wildlife Service provides funding for 65% of the costs and the state has to provide the other 35%. By completing the volunteer timesheet and information form, your time spent on this survey can be applied to the 35% the state has to pay.
- Timesheets must be filled out and signed in **ink** (no pencils).
 - Individual Timesheets – volunteers must provide contact information, check the corresponding box for volunteer status, sign at the bottom of the form and must fill in their own time-in, time-out and total hours.

Volunteer Name <u>your name</u> Phone <u>your phone number</u> Program/Project <u>"DEFW Delaware Bat Spotters"</u> Location <u>your assigned site's name, street address</u> Month Reported <u>May (ex: 5/17, 5/20, 5/22. Print new for June or July)</u>
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- Group Timesheets – volunteers must print and sign their name, check the column for the appropriate age bracket, and must fill in their own time-in, time-out and total hours.
- The Project Leader must review and certify each timesheet for accuracy, completeness and compliance with Federal regulations. Upon completion of the review, the Project Leader must sign and date each timesheet before the information is entered into the volunteer service hours database.

Duration of Work	Time Recorded
0-15 minutes	.25 hour
16-30 minutes	.50 hour
31-45 minutes	.75 hour
46-60 minutes	1.00 hour

The Survey: Leave plenty of time before the actual count to scout out all the exits where bats may fly from. You may find that you need help in covering all the exits (front and back of a structure). The exit points of buildings may change as the year progresses or if weather conditions change.

- **Please remember to ask permission of the landowner before doing the first survey.**
- Arrive ½ hour before sunset, survey when starting temperatures are above 60°F, with wind and sky codes of 3 or less.
 - Do not survey in the rain; bats are not able to forage well in the rain and many will not come out.
 - Do not survey when windy; bats are not able to get much to eat on windy nights.
- Bring a thermometer, hand counter, pen, data sheet and timesheet.
- 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 so that bats are not double-counted.
- Position both yourself and helpers for easy viewing of bats exiting. Silhouette bats against the sky for easier viewing.
- When more than one surveyor is necessary – remember “same site, same time.” If not all roost exits can be observed at the same time, reschedule for a time when all surveyors are present.
- Continue counting for as long as you can see bats emerging or until you no longer see a bat come out for 10 minutes. Note that not all bats come out every night and some are late risers and may not come out while you are there. That is OK! Your counts will and should be conservative.



**If you are unable to complete all your counts, please
arrange a substitute or contact the Bat Program
Coordinator**



Return All Completed Forms to:

Delaware Bat Spotters

DEFW: Species Conservation and Research Program

4876 Hay Point Landing Rd

Smyrna, DE 19977

DE Bat Spotters

Landowner and Roost Site Information

Site name: _____ State DE County: New Castle Kent Sussex

LAT: _____° - _____' - _____" (N)

LON: _____° - _____' - _____" (W)

DATUM (circle): WGS84 (preferred) – NAD83 – NAD27

Lat/Lon Precision (circle): GPS – From Map – County. Resolution – Not Mapped – Other (specify) _____

LANDOWNER INFORMATION (CONFIDENTIAL):

NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE: _____ EMAIL: _____

SURVEYOR(S) NAME: _____

Roost Structure is: Barn – church – occupied house – unoccupied house – utility building – bat box – bat condo – bridge – tree –
Unknown – other structure (describe): _____

Roost Structure fate/plans are: Bat Exclusion Planned Possible Bat Exclusion No Exclusion Planned Other _____

Primary Species within Roost: _____ or Unknown (circle if unknown)

(list only 1 if known., and make comments on others)

COMMENTS (include directions to site, all places 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):

Roost Monitoring Data Sheet

SITE NAME _____ SURVEYOR: _____

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 _____ SURVEYOR _____

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	
1	Clear-Clear to a few clouds	1	Calm-Leaves Still	~Speed 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.

Roost Monitoring Data Sheet

SITE NAME _____ SURVEYOR: _____

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 _____ SURVEYOR _____

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Other Surveyors:

Other
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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.

TROUBLESHOOTING and FAQ'S

There are no bats at my site, why?

- Check that the weather, dates, or time of day is within the protocol range.
- Has there been construction, exclusion, or other disturbances lately?
- Colonies can move for unknown reasons. Schedule another count within a week to determine if bats have abandoned the site or just moved for a few days. Record notes in comments of data sheet.

I found a bat on the ground. What do I do?

- **Do not touch directly.** Bats, like most mammals, could potentially carry rabies and should be treated as such; individuals bitten by bats must submit the bat for testing and/or proceed to the emergency room for possible rabies exposure. Call 866-972-9705 for instructions on animal bites.
- *Is it Dead?* Using gloves place in a baggie, freeze, and contact the Bat Program Coordinator for instructions.
- *Is it Hurt?* Avoiding contact, gently scoop into a container with secure lid and contact a licensed wildlife rehabber.
- *Is it just young, or grounded?* Bats not visibly injured should be gently moved (without directly touching it) to the base of a tree and left alone. Young pups should be turned over to a licensed wildlife rehabilitator.

A neighbor came out to watch with me, and reported another roost nearby. What do I do?

- That is great! Fill out a new landowner site for and report to the Delaware Bat Program right away. You may also monitor this site, or it may be assigned to another volunteer if needed.

Landowner Courtesy:

- All bat colony locations are confidential for research and privacy purposes, please be respectful. This extends to any family or friends who might help you with bat counts.
- Be in touch with your landowner – establish direct communication early.
 - Some will allow free access to the property; others will want to be contacted prior to each count.
 - Be friendly – they are volunteering the use of their property.
- Say Thanks! Not all landowners love their bats as much as we do, but have graciously allowed the Bat Spotters to monitor the colony.
- The landowner retains the right to exclude the bats, sell the property, make changes to the landscape, etc.
- If your landowner informs you of any changes to their participation in the program, or has moved please contact your Bat Program Coordinator *before* attempting any further data collection.
- If a new landowner is willing to participate in the study, fill out landowner data form and return to Delaware Bat Program.

Forms:

- **Use INK only to fill out all fields, sign and date each form.**
- Use one individual time sheet per person, or one group sheet for everyone involved per night.
- Return original datasheets and timesheets to DEFW: Delaware Bat Program.
- Incomplete forms cannot be used, please fill out all fields.
- Originals of all data sheets, time sheets, volunteer agreements, and landowner form changes need to be returned to the Delaware Bat Program. This project requires original copies of all forms and signatures.

WHAT IF:

My landowner moves?

I don't want to count anymore?

It is no longer possible for me to participate?

I can't make it out during the count times?

In all cases, contact the Delaware Bat Program Coordinator. Your participation is greatly appreciated, and the Delaware Bat Program fully understands that volunteer availability can change over time.



Delaware Bat Program

Bat Survey in Progress

For questions or to join the Bat Spotters contact:

302-735-3600

Delaware Division of Fish & Wildlife
Species Conservation and Research Program

www.dnrec.delaware.gov/fw/bats

Facebook: Delaware Bat Program



Delaware Division of Fish and Wildlife

Individual Volunteer Application Form



Name: _____
(Last) (First) (M.I.)

Address: _____
(Street) (City) (State) (Zip)

Home Phone: _____ **Cell Phone:** _____

Email: _____

Return Completed Form to:
 DE Div. of Fish and Wildlife
 DE Bat Volunteer Program
 4876 Hay Point Landing Rd.
 Smyrna, DE 19977
 Phone: 302-735-3600

EMERGENCY CONTACT INFORMATION: (Individuals to be notified in case of emergency)

1. _____
(Name) (Relationship) (Phone Number)

2. _____
(Name) (Relationship) (Phone Number)

★ Will you be volunteering to fulfill a service requirement? Yes No
 If so, for what group/organization? _____ Hours Required _____

★ **OBJECTIVE** for volunteering with Delaware Division of Fish and Wildlife: _____

★ **COMMITMENT** I am interested in:
 Bat Spotters Colony Monitoring: 2 or more evenings per summer
 Acoustic Transect: Once per month in May, June, July, and August (must have own laptop)

★ **CONSIDERATIONS** (please check all that apply and explain)
 Age Physical Health Mobility Other
 Please explain: _____

★ **AVAILABILITY:** Please indicate the best day(s) and time(s) for you
 Mon Tues Wed Thurs Fri Sat Sun **OR**
 Any Weekday Any Weekend AM Only PM Only **OR**
 Specific Date(s): _____ Specific Time(s): _____

★ **VOLUNTEER STATUS:** Surveyor Type (circle what best describes you):
Landowner -You are surveying a roost on your own property.
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.

Are you **Rabies Vaccinated*** - Yes / No **Titer Level & Date:**

**(for volunteers who might come in contact with live bats during sampling for White Nose Syndrome.)*

Comments/Experience:

★ Have you ever been convicted of a felony or Class A Misdemeanor? Yes No

If yes, please explain: _____

The Department of Natural Resources and Environmental Control is committed to affirmative action, equal opportunity, and the diversity of its workforce.

★ **LOCATION AREA WHERE YOU WOULD MOST LIKE TO VOLUNTEER** (Please check all that apply)

____ New Castle County

____ Kent County

____ Sussex County

INDIVIDUAL VOLUNTEER POLICY

Please make certain you have read and agree to the following before signing.

- The Division of Fish and Wildlife (henceforth referred to as the Division) cannot guarantee volunteer placement. The Division will, however, make every effort to match volunteer applicants to volunteer opportunities based on the needs of the Division and the interests and abilities of the volunteer.
- The Division reserves the right to reject a candidate for any reason which the Division, in its sole judgment, determines may affect the best interests of the Division. The Division reserves the right to withhold the reason(s) for such refusal.
- The Division accepts the service of all volunteers with the understanding that such service is at the sole discretion of the Division. Volunteers agree that the Division and the Volunteer may at any time, for any reason, decide to terminate the volunteer’s relationship with the Division. Notice of such a decision should be communicated as soon as possible to the volunteer’s supervisor.

Liability Waiver:

- I understand and voluntarily assume the risks involved in being a volunteer for the Department of Natural Resources and Environmental Control (DNREC).
- I release DNREC from any liability arising out of our participation as volunteers. I hereby waive the right to file any and all claims for compensation or damages against DNREC, and any state employee or contractor for any loss or injury sustained during the course of volunteer activities.
- Volunteers are not considered employees of the State of Delaware. DNREC does not provide Worker’s Compensation or any other insurance coverage for volunteers.
- I agree to provide service as a volunteer without compensation and to adhere to DNREC rules and procedures and will not attempt work that is beyond my abilities or for which I have not been assigned, trained or authorized.
- I understand that photographs may be taken at events and I give permission to DNREC to utilize these photographs in future publications, promotional materials and exhibits.
- I certify that I have read and understand this Waiver of Liability form and that I am signing it because I wish to proceed as a volunteer under these terms and conditions.

(Signature of Applicant)

(Date)

REQUIRED IF UNDER 18 YEARS OF AGE:

I certify that (name) _____, my son/daughter, is fully capable of participating as a volunteer without compensation and has my permission to be assigned and participate as a volunteer for the Division of Fish and Wildlife. I understand the risks involved with being a volunteer and acknowledge that neither the State of Delaware, nor the Department of Natural Resources and Environmental Control, nor the Division of Fish and Wildlife, nor any state employee, will assume financial liability for injury or illness that might occur while my child is volunteering for the Division of Fish and Wildlife.

(Age if under 18)

(Signature of Parent or Guardian)

(Date)

Volunteer Timesheet for Individuals



The Department of Natural Resources and Environmental Control is committed to affirmative action, equal opportunity, and the diversity of its workforce.



Volunteer Name _____

Phone _____

Program/Project _____

Location _____

Month Reported _____

Please provide all information in ink. Any changes or corrections should be made by drawing a line through the error and correcting the error in ink. The person making the correction must also initial it.

Date	Activity <i>Please Be Specific</i>	Total Hours*
Total hours for all days volunteered (Submit additional sheets if more days/hours are to be reported.)		

*Subtract lunch/break time from the total hours recorded each day.

Volunteer Status (check whichever applies)

- True volunteer receiving no compensation for time donated.
- Compensated by federal grant or employer with federal funding source.
Please identify grant or employer _____
- Compensated by employer with a non-federal funding source.
Please identify employer _____

Please Check the Correct Age Bracket

Under 14 14-15 16-17 18 or older

For Office Use Only

Project Leader _____

Certification _____

Date Approved _____

Date Entered _____

Entered By _____

Grant Code _____

By signing below, I certify that the information above is true and correct. (If volunteer is under the age of 18, parent/guardian signature is required.)

Volunteer Signature
Date
Parent/Guardian Signature

Volunteer Log-In for Events



The Department of Natural Resources and Environmental Control is committed to affirmative action, equal opportunity, and the diversity of its workforce.



Event/Activity _____

Location _____

Date _____ Code _____

Position Equivalent _____

Please read before signing! By signing below, I acknowledge and agree to the following:

- That I understand the risks involved in being a volunteer for the Division of Fish and Wildlife (DFW) and that neither the State of Delaware, nor the Department of Natural Resources and Environmental Control (DNREC), nor the DFW, nor any state employee or contractor, will assume any financial liability for any injury or illness that I, or any family member or friend in attendance with me, might incur while performing voluntary service for the DFW.
- Volunteers are not considered employees of the State of Delaware. The DFW does not provide Worker's Compensation or any other insurance coverage for volunteers.
- I agree to provide service as a volunteer without compensation and to adhere to DFW rules and procedures and will not attempt work that is beyond my abilities or for which I have not been assigned, trained, or authorized.
- I understand that photographs may be taken at this event/activity, and I give permission to the DFW and DNREC to utilize my photographs in future publications, promotional materials and exhibits.

Volunteer Name	Signature (required for each volunteer)	Check the correct age bracket				Total hours
		under 14	14-15	16-17	18 or older	

All information must be recorded in ink. Any changes or corrections should be made by drawing a line through the error and correcting the error in ink. The person making the correction must also initial it.

The volunteer hours reported above are confirmed to be accurate and true by: _____
Signature DE Division of Fish and Wildlife Event Supervisor _____ *Date* _____

Project Leader Certification: _____
Signature _____ *Date* _____

Date Hours Entered: _____ Hours Entered By: _____