**Alaska Bat Monitoring Project**

**Roost Count Protocol**

**INTRODUCTION**

This protocol was developed by bat biologists in the eastern United States in response to the rapid spread of [White Nose Syndrome (WNS)](http://webdev.dfg.alaska.local/static/home/about/management/wildlifemanagement/Bat%20General/WNS-Disease%20photo.png). This devastating disease has killed over 1 million bats in the northeastern United States since 2006. WNS affects bat species that hibernate in caves, including the little brown bat, the most common bat species found in Alaska. Although WNS was originally believed to be transmitted from bat to bat, recent evidence suggests that humans may also spread the disease from cave to cave, putting even Alaska’s relatively isolated bat populations at risk.

The volunteer roost monitoring program was developed to evaluate the effects of WNS on bats in affected states and to obtain baseline information on bat populations in states where WNS has not yet been detected. Here in Alaska we have very little information about bat distribution and abundance, roost and hibernacula sites, colony sizes, activity patterns, or migration and overwintering strategies. These roost emergence counts will provide us with some of the first good data on summer distribution, roosting sites, and colony sizes in Alaska. We have adopted the protocols developed by the coordinated multi-state WNS response effort to ensure our data will be compatible with other states should WNS spread to Alaska.

The goals of the survey are to

* Gather baseline information on the summer distribution of bats in Alaska.
* Gather baseline information on the location, roost type, and size of summer bat colonies in Alaska.

Your survey results will be used to

* Identify and evaluate the approximate size of bat maternity roosts by counting bats as they emerge from roost site.
* Evaluate differences between counts before and after bat pups begin flying using more extensive count surveys at some locations.

**HOW TO DO A SURVEY**

Ideally observers will commit to conducting surveys over the next several years. However, you can do as few as one count per year or as many as 24. The following are levels of commitment that we request from observers:

**LEVEL 1** - Find at least one roost and conduct at least one emergence count between May 15 and August 31. Additional roosts can also be located and additional counts conducted. Baseline information on many roosts is extremely valuable. If conducting one count, try to conduct in mid-June.

**LEVEL 2** - Find at least one roost and conduct at least two emergence counts, one before pups begin flying (pre-volant) and one after pups can fly (post-volant).

**Pre-Volant** (before pups can fly):conduct during June. Target: mid-June.

**Post-Volant** (after pups can fly):conduct during July. Target: mid-July.

Two counts are preferred during this time period.

**LEVEL 3** - conduct at least one emergence count of a roost at least every 2 weeks (preferably every week) starting the last week of May and continuing through August 31.

***NOTE: If you want to increase accuracy, it is recommended that a second survey be conducted at the same site on the following night.***

Future aspects of this study may involve 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-flight period to capture females and evaluate reproductive condition, gathering weight data, banding, and collecting samples for lab studies such as skin and blood samples.

# **BEFORE YOU BEGIN** (Preparing for the survey)

**Finding colonies of bats**: Old houses, sheds, bridges, and other structures provide the best opportunities for finding bat roosts. The largest colonies are usually located along bigger bodies of water and other colonies can be found most everywhere near forests and water. The most common bat species in Alaska is the little brown bat (*Myotis lucifugus*). Other species found in Southeast Alaska are Keen’s bat (*Myotis keenii*), California bat (*Myotis californicus*), long-legged bat (*Myotis volans*) and silver-haired bat (*Lasionycteris noctivagans*).

**Data Forms**: 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!

1. [**Observer Information Form**](http://webdev.dfg.alaska.local/static/home/about/management/wildlifemanagement/wildlifediversity/citizenscience2/docs/abmp_observer-data-form.docx): This is used to register you within the program. You only need to complete this form once, unless changes are needed.
2. **Site** [**Data Form**](http://webdev.dfg.alaska.local/static/home/about/management/wildlifemanagement/wildlifediversity/citizenscience2/docs/akbmp_roost_site_landowner_data_form_20110312.doc): It’s important to make contact with the landowners and get their approval. Location information is crucial. 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 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 information changes.
3. **Roost data form:** Use this for recording the actual bat count. Be sure to indicate the site name and record your name 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 (this will usually be visual). Please make a note of other surveyors in comments. Also note any unusual observations.

**PROTOCOL** (How to do the survey)

It’s best to do some scouting before hand to determine where bats are exiting. To determine the primary exit, look for discolored areas in and around chimneys, eaves, and soffits along with concentrations of guano beneath the exit (bat guano looks like black grains of rice). You may find that you need help in covering all the exits (front and back of a structure).

* Survey when starting temperatures are above 50ºF
* Wind and sky codes should ideally be 3 or less and must be 4 or less.
* Bring a thermometer, paper and pencil, and the emergence count data 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.
* 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 a social event.
* Upon the completion of any re-survey, landowner and surveyor information should be checked and updated if necessary.
* Complete the Roost Data Form

**ALTERNATE PROTOCOL** (Roosting Estimate)

If time does not permit an emergence count, but the roosting bats can be seen and counted, a roost estimate may be recorded in the comments. This is most useful for surveying 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 be present and not seen, but it does document the existence of a roost.

Thank you again for participating in this important survey of your wildlife resource.

* [**Observer Information Form**](file:///C:\Documents%20and%20Settings\mlsnively\Desktop\Web%20page%20folders\Citizen%20Science%20Web%20Page\Bat%20Overview\Forms\Roost%20Forms\revised\abmp_observer-data-form.docx)
* **Site** [**Data Form**](http://webdev.dfg.alaska.local/static/home/about/management/wildlifemanagement/wildlifediversity/citizenscience2/docs/akbmp_roost_site_landowner_data_form_20110312.doc)
* [**Roost Data Form**](http://webdev.dfg.alaska.local/static/home/about/management/wildlifemanagement/wildlifediversity/citizenscience2/docs/akbmp_roost_data-form.doc)

**If you are unable to enter your survey results electronically please mail or fax them to the following contacts in your area:**

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