

## **Federally-listed Bat Species Recovery Permit Applications – Demonstrating and Documenting Qualifications**

When reviewing recovery permit applications for gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), Virginia big-eared bat (*Corynorhinus townsendii virginianus*), and Ozark big-eared bat (*Corynorhinus townsendii ingens*) – we (the Service) assess an applicant’s qualifications to conduct the activities requested. This includes, but may not be limited to:

- The applicant’s ability to correctly identify the target species
- The applicant’s experience and ability to properly conduct the requested techniques/activities

This document provides advice to applicants on the type of information to include with their application to succinctly demonstrate and document their qualifications.

### Bat identification ability/qualifications:

The applicant should be able to demonstrate that they can identify each of the listed species, as well as other species with which the target (listed) species could be misidentified.

- Demonstrate experience correctly identifying species that occur in the states for which a permit is requested. Include experience with both listed and non-listed species that may be misidentified as the target listed species (see below for more details). Please note: If you are applying for coverage in multiple states, you will need to demonstrate the ability to properly identify all listed and non-listed bats which can be misidentified as the target species for each state.
- For species identification, provide at least two reference letters from biologists who are federally permitted to work on the requested endangered or threatened bat species who can confirm applicant(s) qualifications to properly identify all species in the previous bullet (see **Reference letters** below for more details).

### Techniques/activities qualifications:

Techniques that require a permit for listed species include: mist netting, harp trapping, handling and taking non-intrusive measurements, banding, attaching transmitters, collecting samples from live bats (swabs, guano, blood, wing tissue, hair), pit-tagging, entering roosts (hibernacula, summer, transient caves, mines, or other structures) occupied by federally listed bats. Applicants should clearly state which activities are being requested, and demonstrate qualifications in their application.

- Demonstrate experience with each requested technique/activity with at least one insectivorous North American bat.
- For each technique requested, ensure that provided reference letters include confirmation of your experience (see **Reference letters** below for more information below). For techniques where experience was attained with a non-listed species and/or observed by an experienced non-permitted individual, provide at least one (additional) reference letter for each technique.

*Types of information to include regarding documentation for bat surveyor/research qualifications - Recovery Permit Application Form 3-200-55, Section E., Option 2.D.*

**CV/resume:** For each individual included in the application, submit applicant's CV/resume and any necessary supporting documentation (e.g., copies of research papers, survey reports, etc.) demonstrating proficiency in being capable of independently conducting activities for the endangered or threatened bat species for which permit coverage is being sought. Please be as specific as possible by including when, where, and who supervised the activity.

**Summary of bat related experience:** Provide information on relevant training and field experience with each activity/technique being requested. Please include the approximate amount of time, by activity, spent working with each species in occupied habitat. Additionally, demonstrate experience using or knowledge of United States National White-nose Syndrome Decontamination Protocol.

*Note – For proposed activities, proven repeated first-hand experience in conducting each requested activity on insectivorous bats is needed to demonstrate qualifications. However, we will consider the applicant's overall level of experience (relevant training, years of experience, number of locations, etc.) when reviewing the application.*

Include experience with:

1. **Capture and Identification** - Field experience capturing/identifying all listed bat species for which the applicant is seeking permit coverage (e.g., gray, Indiana, northern long-eared, Virginia big-eared, and Ozark big-eared bats), as well as the little brown bat (*Myotis lucifugus*) and the Rafinesque's big-eared bat (*Corynorhinus rafinesquii*) that may be misidentified as listed myotids and big-eared bats, respectively. Specifically, include the number of gray, Indiana, northern long-eared, Virginia big-eared, Ozark big-eared bats, as well as little brown and Rafinesque's big-eared bats the applicant has identified under the supervision of a permitted biologist. Also, include when, and where identifications took place; or for those with extensive experience, provide the number of years of experience as well as the typical number of bats captured and/or identified per year by species. Experience at multiple locations is highly preferred. There is no set minimum number of identifications, but generally applicants that have not handled and independently identified at least 5 individuals of a given species do not have sufficient experience -- the majority of people that apply for permits far exceed this. First-hand experience in the identification and handling of each species (for which the applicant is seeking coverage) is needed to demonstrate qualifications. This experience should have been gained under similar conditions and/or using similar techniques to those the applicant is requesting to be permitted for (e.g., experience identifying bats captured through mist nets may not be sufficient to also identify bats roosting at a distance in caves).

*Note: Handling and identifying bats in a demonstration or workshop setting alone does not constitute sufficient experience.*

2. Collecting non-intrusive measurements - Experience collecting morphometric measurements and determining age, sex, and reproductive status of listed bats. Applicant should describe the traits he/she examines to determine age and the reproductive status of bats. Description of the geographic area and number of sites where the applicant personally identified each listed species being requested in the application.
3. Mist-netting – Describe methods for site selection and assessing habitat suitability for each species. Also describe setting/operating mist-nets, removing bats from nets, and the applicant’s procedure for bats that are accidentally injured. Remember to include experience or familiarity with using United States National White-nose Syndrome Decontamination Protocol.
4. Banding – Provide details on applicant’s experience and protocols for band attachment (include experience with banding pliers), and removal if a band is applied improperly or must be removed. Describe the number of bats of each species that have been banded. Banding experience does not have to be specific to the bat species for which permit coverage is being sought.
5. Radio-transmitter attachment – Describe experience and protocols for preparing bats for transmitter attachment (e.g., hair removal). Include applicant’s experience attaching transmitters including the number of bats of each species transmitted, and describe what the applicant would do if he/she accidentally injured a bat or improperly attached a transmitter. Radio-transmitter attachment experience does not have to be specific to the bat species for which permit coverage is being sought, but experience attaching transmitters to live bats is required sought.
6. Radio tracking – Describe applicant’s experience (a) tracking bats to roosts and conducting emergence surveys, (b) tracking bats to study foraging behavior, and (c) any additional radio-tracking the applicant has completed. Describe the number of bats of each species tracked, and the locations and habitat conditions where the tracking occurred. Radio-tracking experience does not have to be specific to the bat species for which permit coverage is being sought.
7. Harp trapping – Demonstrate applicant’s ability to 1) set harp trap properly; 2) safely remove bats from harp trap; 3) supervise others that are handling/processing bats. Include examples of harp trapping project plans or survey reports that applicant prepared. In addition to describing when and where, provide:
  - Number of bats (by species) captured;
  - Locations where applicant harp trapped. Include number of nights of trapping at each site and how many bats were captured each night;
  - Applicant role – number of bats the applicant personally removed from the trap and processed, technique used to process captured bats including how applicant addressed

field conditions to ensure all bats were processed within the permitted time frame (no individual bat can be held for more than 30 minutes, 10 minutes for big-eared bats), and the number of bats the applicant independently identified to species;

- The name and permit number of the permitted individual who was responsible for harp trapping at each site; and
- Applicant's procedure for dealing with bats accidentally injured and for dealing with large numbers of bats in the trap (e.g., how to ensure that total holding time does not exceed the permitted limit for any individual bat).

*Note – Observing/participating in harp trapping demonstrations in a workshop setting alone does not constitute sufficient experience.*

*Recovery permit harp trapping authorization is not required for the applicant when they are assisting under the supervision of another individual who is federally permitted to harp trap or State wildlife agency personnel conducting surveys under ESA Section 6 authority.*

8. Hibernacula surveys (must be requested as an activity if applicant is leading/conducting hibernacula surveys and reporting results) – An applicant should apply for coverage when they have a specific hibernacula survey planned, and then document their need for this permit coverage in their application (e.g., provide copy of hibernacula survey plan and/or contract to conduct hibernacula survey). Describe where and when applicant expects to lead hibernacula surveys. Also describe applicant's experience with the following:

- Identifying targeted bats to species in caves/mines/etc. without handling;
- Planning and/or leading surveys;
- Applying hibernacula survey guidance;
- Knowledge of National WNS decontamination procedures; and
- Limiting disturbance while conducting surveys.

Please also submit any hibernacula survey plans that the applicant prepared, or previously concluded survey reports that outline the applicant's experience with hibernacula surveys.

*Note –Recovery permit hibernacula survey authorization is not required for the applicant when they are assisting under the supervision of another individual who is federally permitted to conduct such surveys or State wildlife agency personnel conducting surveys under ESA Section 6 authority.*

If there are specific sites for which the applicant needs authorization, please list those sites in the application. Provide the name and an estimate of the number of bats at the site (or specify that it is not known if there are bats occupying the site). It may be easier to receive approval for specific sites, particularly sites with relatively small bat populations

compared to authorization for conducting hibernacula surveys at sites with large populations.

9. Summer roost surveys – Summer roost surveys for gray, Virginia and Ozark big-eared bats should generally be conducted through methods that minimize disturbance to roosting bats such as emergence surveys, harp trapping, thermal infra-red, night vision video, or acoustic detectors. Provide the same information for the technique requested as described herein (e.g. #7 – Harp trapping; #8 Hibernacula surveys; #10 – Entering caves). Cave entry during the summer roosting season may be permitted under very limited circumstances. Entry into caves during the roosting season is unlikely to be authorized if other methods may be used to achieve the research objective. If applicants propose to enter summer roosts for these species, please provide the same information as requested under #10 – Entering caves for research.
10. Entering caves for research – Send details of applicant’s proposed research to the U.S. Fish and Wildlife Service lead recovery biologist for the species to initiate a discussion prior to applying for a recovery permit.

*For studies involving gray bat:*

Vona Kuczynska  
Email: Iwona\_Kuczynska@fws.gov  
Phone: 573-234-2132

*For studies involving Indiana bat:*

Lori Pruitt  
Email: Lori\_Pruitt@fws.gov  
Phone: 812-334-4261

*For studies involving northern long-eared bat:*

Jill Utrup  
Email: Jill\_Utrup@fws.gov  
Phone: 952-252-0092 ext. 207

*For studies involving Virginia big-eared bat:*

Jennifer L. Norris  
Email: Jennifer\_L\_Norris@fws.gov  
Phone: 304-704-0655

*For studies involving Ozark big-eared bat:*

Richard Stark  
Email: Richard\_Stark@fws.gov  
Phone: 918-382-4520

11. Samples from live bats: swab, guano, hair, and wing tissue samples – Provide a copy of the research proposal for which the sample is being collected (should clearly describe the need for the sample and how it will be analyzed). If not described in the proposal, for

swab, hair, and tissue samples describe where (on the bat) the sample will be collected, how it will be collected, and the size of the sample (in terms of surface area on the bat). Describe experience collecting swab, guano, hair, or wing tissue samples. If taking swabs from hibernating bats, describe the steps that will be taken to minimize disturbance.

12. Pit tagging or collection of blood samples. Pit tagging or collection of blood samples is only authorized for specific projects. Prior to submitting an application, send details of the applicant's proposed research to the U.S. Fish and Wildlife Service's lead recovery biologist for the species (see #10).

13. Other marking or research techniques to be used (e.g., light tagging) - Detail experience using the technique.

**Reference letters:** Include at least two Letters of Reference from biologists who are federally permitted to work on listed bat species (include their Federal recovery permit number in the letter). Ideally, both reference letters should be from biologists with different affiliations (i.e., different company or institution) than the applicant, but one reference can be from an individual who is affiliated with the applicant's employer if necessary. Reference letters should provide specific information that includes where, when, and how many bats (by species names) the applicant handled/identified, etc., in the presence of the individual providing the reference. The applicant may need to submit more than two reference letters if applying for authorization for multiple species and/or multiple activities.