



Study Plan Form for Bat Surveys and Monitoring (v. 2.2)¹

PROJECT & SURVEY INFORMATION

Project Name: _____ Proposed Survey Start Date: _____

Project Proponent's Name (e.g., client/company/institution): _____

Project Location: State(s): _____ County(s): _____

Latitude: _____ Longitude: _____

REQUIRED: Attach or provide links to Google Earth[®] KMZ files (preferred) and/or shapefiles (mapping must show project boundaries, impacted forest habitat (if known) and all proposed survey sites)
Files are attached: Yes No
File Links: _____

Project Summary. In the space provided below, please provide a description of the proposed action, including any activities that will permanently or temporarily alter the current environment and existing habitat features.

CONTACT INFORMATION

Project Manager/Primary Point of Contact (POC): _____ Phone: _____

Field Survey Crew Leader (if different from POC): _____ Cell Phone: _____

Institution/Company Name: _____

Mailing Address: _____

POC Email Address: _____

USFWS Sec. 10(a)(1)(A) Permit No.(s) (if applicable): _____

State Permit No.(s) (if applicable): _____

¹Unless otherwise directed by the Service, surveyors may complete this fillable form, in lieu of a traditional narrative format, and submit it (and supporting files) to the Ecological Services Field Office in the state(s) where the work is to be completed (<https://www.fws.gov/our-facilities>). Use of this form is not a requirement at this time. Our goal is to improve pre-survey coordination and to expedite the Field Office review and approval process. Please submit your study plan at least 15 working days in advance of your proposed survey start date. Suggestions for improving this document may be sent to R4_Bat_Survey_Guidance@fws.gov.

Have project proponents been informed that abiding by protective time-of-year restrictions (where available) may be sufficient to avoid take of federally listed bats and (in some cases) may negate the need for a bat survey? Yes No

Have project proponents been informed that the Service does not require presence/probable absence surveys for federally listed species and that presence can be assumed in a project area containing suitable habitat? Yes No

Will this survey be conducted on private or public lands? (Check both if applicable): Private Public

Has permission of all necessary landowners/managing agencies been obtained? Yes No

If no, explain: _____

Does this project have a federal nexus²? Yes No Unsure

If yes, explain: _____

IPaC³ Consultation Code (if applicable): _____

Purpose of Survey: Official P/A Survey Research Monitoring
Educational Outreach/Training Other: _____

Survey Target Species: Indiana bat (IBAT) Northern long-eared bat (NLEB)
Tricolored bat (TCB) Other: _____

Has a Phase-1 Habitat Assessment* of the project area been conducted? Yes No
If yes, how was the habitat assessment conducted? Field Desktop Combo
(*if available, attach a written report)

Is suitable habitat⁴ present (or assumed present) for all "target" species? Yes No

If no, explain: _____

Does this project fall within the outer-tier⁵ of any "target" species known home range? Yes No Unsure

If yes, which species: _____

Project Configuration

Is this project **linear** (>1 km in total length)? Yes No Combo Unsure

If yes, how many 1-km sections containing suitable IBAT/NLEB habitat will be impacted? _____

Is this project **non-linear**? Yes No Combo Unsure

If yes, how many acres of suitable IBAT/NLEB habitat is in the overall project area? _____

If yes, how many acres of suitable IBAT/NLEB habitat will be directly impacted/cleared? _____

PROPOSED METHODS & SURVEY LEVEL OF EFFORT⁶

ACOUSTICS

Total number of detector sites proposed to be surveyed: _____ Number of detector nights/site: _____

² A project or action that is carried out, authorized, funded, and/or permitted by a federal agency.

³ <https://ipac.ecosphere.fws.gov/>

⁴ See Appendix A of the Guidelines regarding suitable habitat definitions.

⁵ See Appendix G of the Guidelines if you are unclear what the out-tier of a known range includes.

⁶ Survey level of effort (acoustic or netting) must be spread over at least two calendar nights/survey site.

Total number of detector nights for entire survey: _____

Total proposed number of calendar nights to complete the entire survey: _____

Detector(s) (Brand, Model): _____ Microphone(s): directional omnidirectional

Recording Format: Full Spectrum Zero-Crossing

FWS-Approved⁷ Acoustic Bat ID Software: KPro vers. _____ KPro Classifier, NA vers. _____ BCID vers. _____
Other Candidate Programs (e.g., Sonobat) vers.: _____

Species to be included for automatic software ID classification analysis:

EPFU CORA COTO LABO LACI LANO LASE TABR MYCI MYEV MYGR MYLU
MYLE MYSE MYSO MYTH MYVO NYHU PESU Others: _____

Will qualitative analysis (i.e., manual vetting) be used? Yes No Unsure

Name(s) of qualified biologist(s) conducting qualitative/manual identifications (attach resume or link with qualifications):

MIST-NETTING

Total number of net sites to be surveyed: _____ Total number of net nights/site: _____

Total number of net nights for entire survey (No. of sites X No. of net nights/site): _____

Total proposed number of calendar nights to complete the entire survey: _____

- A) Maximum number of net set-ups that will be operated/checked (10-min interval) on a given calendar night at a given survey site: _____
- B) Minimum Number of personnel present to operate/check X (see A) net set-ups on a given site: _____
- C) Proposed Staffing Rate (A divided by B): _____

Staffing Rate

Number of Section 10-permitted biologists per net site (or state-permitted in USFWS R5): _____

Do you propose to band bats? Yes No

If yes, please answer the following:

What species will be banded? COTO MYGR MYLU MYSE MYSO PESU
Others: _____ All captured bats:

If banding *Myotis* sp. or PESU, specify band size: _____

Describe your proposed bands (color and letter-numbers) and banding scheme: _____

Will banding pliers be used? Yes No

Will any biological samples be collected from captured bats (e.g., guano, hair, swab, wing punch)? Yes No

If yes, explain: _____

Name of institution or facility to conduct DNA analysis: _____

RADIO-TRACKING

Will any bats be radio-tagged and tracked? Yes No

⁷ <https://www.fws.gov/media/automated-acoustic-bat-id-software-programs>

If yes, please answer following:

Which species will be radio-tagged? _____

Name of USFWS Section 10 permitted biologist(s) who will apply transmitter(s): _____

Make/model and approximate weight of transmitter(s) to be used: _____

Manufacturer date and estimated life-span of transmitters to be used: _____

Frequency range (MHz) of transmitters (e.g., 150.xxx or 172.xxx): _____

If radio-tracking multiple targeted bats/species, what criteria will be used in selecting which bats will be tracked? _____

Will all radio-tagged bats be tracked (min. of 4-hrs. search effort/day) to their diurnal roosts for the minimum recommended period of 7 days? Yes _____ No _____

If no, explain: _____

Will night-time foraging data/telemetry be collected? Yes _____ No _____

Glue used for attaching transmitters: Type: _____ Name: _____

Manufacturer: _____ Other: _____

EMERGENCY SURVEYS

After diurnal roost sites of radio-tagged bats are identified, will emergence surveys be conducted at each identified roost (assuming landowner permission is obtained)? Yes _____ No _____

If yes, how many emergence surveys/roost? _____

Have you identified a small number (e.g., ≤10) of potentially suitable roost trees* that you propose to conduct emergence surveys for? Yes _____ No _____

(*If yes, provide photographs of each tree documenting that all of the tree can be observed by the surveyor along with coordinates (lat/long and/or KML/shapefile) of all trees to be surveyed.)

POTENTIAL HIBERNACULA SURVEYS

Are you aware of any known hibernacula used by the target species within the project area itself or nearby?

Yes _____ No _____ Unknown _____

If yes or unknown, list sites or explain: _____

Has your desktop analysis identified any natural or man-made features that could be used as a hibernaculum by any of the target bat species? Yes _____ No _____ Unknown _____

If yes, underground features (e.g., caves, mines, tunnels, bunkers, cisterns) present: Yes _____ No _____

If yes, above-ground features* (e.g., crawl spaces) present: Yes _____ No _____

If unknown, explain: _____

Are you requesting approval of a field survey for potential hibernacula at this time? Yes* _____ No _____

(*If yes, attach a separate narrative explaining how the project area(s) will be surveyed for potential hibernacula.)

Are you submitting the results of a Phase 1 Habitat Assessment of potentially suitable hibernacula identified from field surveys? Yes* _____ No _____

(*If yes, provide a Phase 1 Habitat Assessment Data Sheet for each potential hibernaculum/portal(s)⁸ identified to be surveyed.)

BRIDGE & CULVERT ASSESSMENTS

Will any bridges or culverts be surveyed for bat presence? Yes _____ No _____

If yes, please answer the following: _____

⁸ If multiple cave entrances/portals, please list all locations.

United States Department of the Interior
Fish and Wildlife Service



SITE-SPECIFIC AUTHORIZATION - BAT WORK

Our Field Office has reviewed your study plan and found it to contain sufficient information for our approval. When signed, this statement serves as your site-specific authorization to conduct the proposed activities at the specified locations included in the attached Study Plan Form and supporting files and must be carried with your federal permit when conducting work for this project. All activities must be carried out with strict adherence to permit conditions and authorizations specified in your federal permit as well as your state permit(s) (if needed). The section 10(a)(1) (A) permit authorizing the activities must remain with the surveyor at all times. This authorization is not valid if you have not obtained permission from the owner of the lands where activities will occur.

For federal permit reporting purposes, please use the appropriate USFWS bat survey data spreadsheet, available on the IBAT and NLEB Summer Survey Guidance website¹. To mitigate the risk of humans transmitting viruses (e.g., SARS-CoV-2) to bats or viral transmission from bats to humans, the U.S. Fish and Wildlife Service requests anyone directly handling or working in close proximity to bats follow current guidelines prepared by the CDC² and IUCN Bat Specialist Group³ in addition to the following the standard WNS decontamination protocols⁴.

If the work expands beyond the scope of your original study plan or if there are adverse effects to bats that were not anticipated, cease all survey and/or research activities, and contact this office prior to continuing. Additionally, if a federally listed bat is captured, this USFWS Field Office must be notified within 48 hours with information regarding species, sex, age, and whether or not the bat has a transmitter attached.

Field Office POC: _____
email: _____ phone: _____

Authorized as Proposed

Authorized with Conditions (see below)

You are authorized to proceed provided that the following adjustment(s) and/or conditions are met.

Not Authorized.

Comments:

Signature & Date:

NOTE: Please check the appropriate box above before signing/locking the document.

¹ <https://www.fws.gov/library/collections/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>

² <https://www.cdc.gov/healthypets/covid-19/wildlife.html>

³ https://www.iucnbsg.org/uploads/6/5/0/9/6509077/amp_recommendations_for_researchers_final.pdf

⁴ <https://www.whitenosesyndrome.org/mmedia-education/national-wns-decontamination-protocol-u-s>