

**Post-construction Monitoring Studies for the
Timber Road Wind Farm
Paulding County, Ohio**

Year 2 Final Report

April 1 – May 15 and August 1 – October 16, 2021



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EXECUTIVE SUMMARY

Paulding Wind Farm II LLC, Paulding Wind Farm III LLC, and Paulding Wind Farm IV LLC are operating the Timber Road II Wind Farm, Timber Road III Wind Farm, and Timber Road IV Wind Farm (collectively Timber Road Wind Farm [TRWF or Project]) in Paulding County, Ohio. This report details the second year of post-construction monitoring studies conducted in 2021, consistent with Section 5.4.1 of the Project's Habitat Conservation Plan (HCP) and Incidental Take Permit (ITP; TE68782D) for Indiana bats and northern long-eared bats (Covered Species). Turbines were feathered when wind speeds were below 3.5 meters (m) per second (m/s; 11.5 feet [ft] per second [ft/s]) per second in the spring, and 5.0 m/s (16.4 ft/s) in the fall to minimize impacts to Covered Species, per the HCP.

Post-construction monitoring was completed in accordance with the study plan, which was designed to achieve a 25% probability of detecting a single bat carcass (g of 0.25) and approved by the US Fish and Wildlife Service on March 29, 2021. The overall goal of this post-construction fatality monitoring study was to generate reliable fatality estimates for the Covered Species and to evaluate compliance with the incidental take authorization granted under the Project's ITP. More specifically, the objectives of this study were to estimate Covered Species take using the Evidence of Absence framework as outlined in the HCP and provide the necessary data to determine if adaptive management was necessary to further reduce mortality.

Standardized carcass searches were completed for bat carcasses at three plot types: cleared plots, uncleared plots, and roads and pads. During the spring (April 1 – May 15), technicians searched the gravel road and pad areas under 119 turbines to a distance of 100 m (328 ft) from the turbine base weekly and five turbines as 90-m (295-ft) radius cleared plots daily. A dog-handler team searched 10 turbines as cleared plots with a 90-m radius every three days. During the fall (August 1 – October 16), technicians searched 74 turbines as 100-m road and pad twice weekly. Dog-handler teams searched 15 turbines as 90-m radius cleared plots every three days, seven turbines as 70-m radius (230-ft) cleared plots twice weekly, and 38 turbines as 70-m radius uncleared soybean plots twice weekly. Searcher efficiency and carcass persistence trials were also conducted during each season to correct for detection and scavenger bias.

No Covered Species were found at TRWF during the study. During the study, 1,277 bats were found. The most commonly found bat species were silver-haired bat (35.4%), eastern red bat (35.3%), hoary bat (15.7%), and big brown bat (11.8%). The mean annual take rates at TRWF were 2.88 Indiana bats and 0.96 northern long-eared bats per year. The probability that the estimated annual take rate was greater than the expected take rate was 0.01 for Indiana bat and 0.11 for northern long-eared bat. The cumulative take estimates through 2021 for TRWF were four Indiana bat fatalities and zero northern long-eared bat fatalities. The cumulative take estimates were below the levels authorized by the ITP. No adaptive management actions are necessary at this time.

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REPORT REFERENCE

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INTRODUCTION

Paulding Wind Farm II LLC, Paulding Wind Farm III LLC, and Paulding Wind Farm IV LLC (collectively, Paulding Wind Farm), subsidiaries of EDP Renewables, are operating the Timber Road II Wind Farm (TR-II), Timber Road III Wind Farm (TR-III), and Timber Road IV Wind Farm (TR-IV; collectively, Timber Road Wind Farm [TRWF or Project]) in Paulding County, Ohio. Paulding Wind Farm obtained an Incidental Take Permit (ITP; TE68782D-0) for the federally listed endangered Indiana bat (*Myotis sodalis*) and the federally listed threatened northern long-eared bat (*M. septentrionalis*; hereafter, Covered Species) from the US Fish and Wildlife Service (USFWS) dated May 8, 2020. This report presents the results of the second year of compliance monitoring conducted under the HCP and ITP to determine if the level of take is in compliance with the authorized take and to evaluate the need for adaptive management measures.

As specified in the HCP, Western EcoSystems Technology, Inc. (WEST) designed the monitoring effort for the TRWF to achieve a probability of detection, or *g*, of 0.25. The objectives of this study were to estimate Covered Species take using the Evidence of Absence (EoA) framework as outlined in the Habitat Conservation Plan (HCP) and provide the necessary data to determine if adaptive management was required to reduce take below permitted levels. This report presents the results of the study conducted within the Project from April 1 – May 15 and August 1 – October 16, 2021.

STUDY AREA

According to the National Land Cover Database (2019), the primary land cover type within 100 meters (m; 328 feet [ft]) of the turbines (i.e., within the HCP's Permit Area) is cultivated crops, which covers 99.7% of the Permit Area, followed by developed-open space, which makes up 0.1%, and patches of deciduous forest, which makes up 0.1% (Figures 1a and 1b; Table 1).

The three phases of TRWF achieved commercial operation in different years (Table 2). All turbines are within the migratory range of the Covered Species; to minimize impacts to the Covered Species during migration, TRWF adjusted turbine operations during the spring and fall migration periods. TRWF committed to feathering blades on nights when temperatures were above 10 degrees (°) Celsius (C; 50° Fahrenheit [F])¹ and wind speeds were below 3.5 m per second (m/s; 11.5 ft per second [ft/s]) during spring migration (April 1 – May 15), and when wind speeds were below 5.0 m/s (16.4 ft/s) during fall migration (August 1 – October 15). The Ohio Department of Natural Resources (ODNR) and Ohio Power Siting Board required additional curtailment of all turbines at TR-IV; turbine blades were feathered when wind speeds were below 6.9 m/s (22.6 ft/s) from September 1 – 14, 2021.

¹ In practice, TRWF feathered turbine blades on all nights, regardless of temperature.

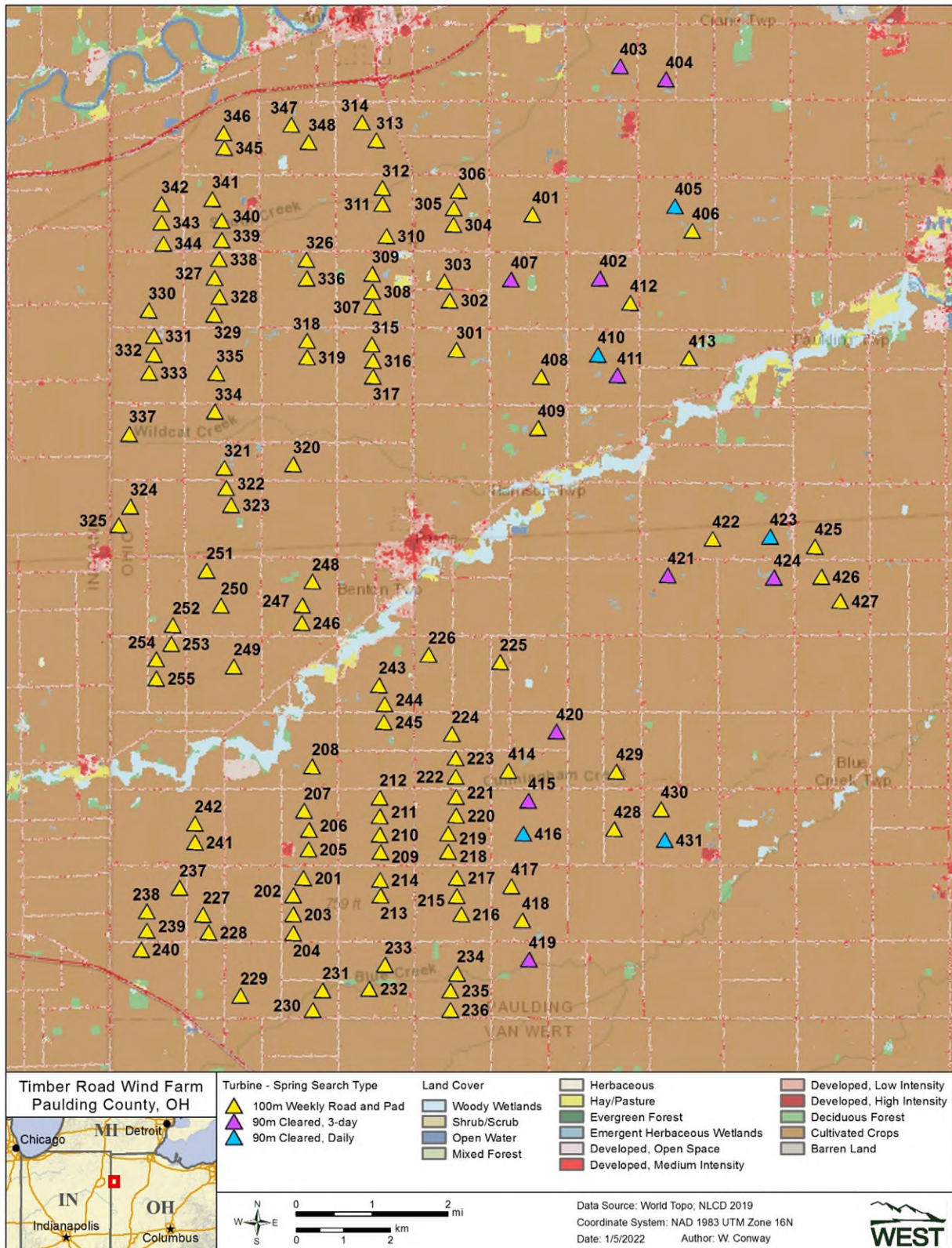


Figure 1a. Turbine locations by search type during spring and surrounding land cover at the Timber Road Wind Farm in Paulding County, Ohio, from April 1 – May 15, 2021.

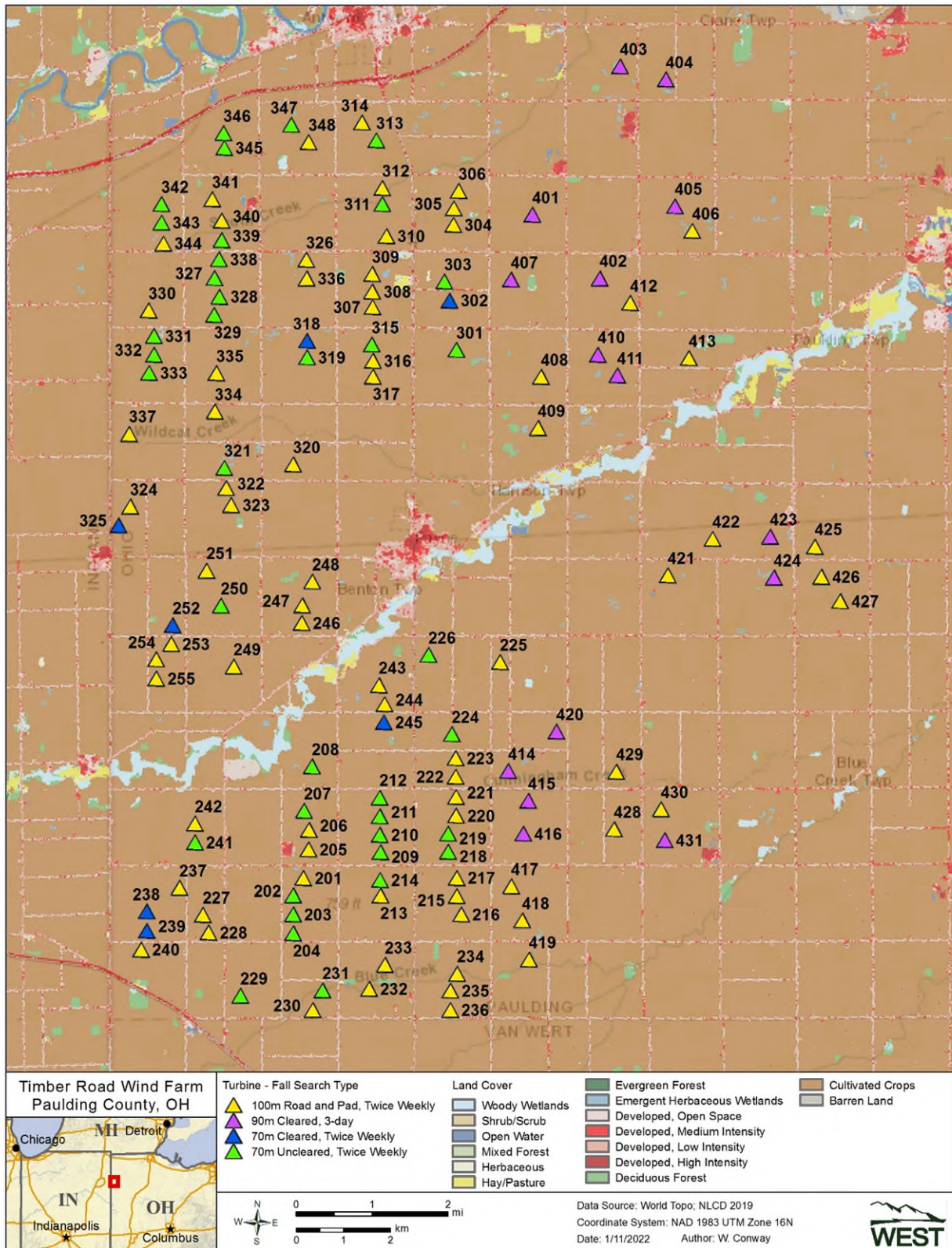


Figure 1b. Turbine locations by search type during fall and surrounding land cover at the Timber Road Wind Farm in Paulding County, Ohio, from August 1 – October 16, 2021.

Table 1. National Land Cover Database land cover types and percent (%) composition within the Timber Road Wind Farm Permit Area, Paulding County, Ohio within the.

Habitat	Hectares	Acres	% Composition
Cultivated Crops	425.5	1,051.5	99.7
Developed, Open Space	0.6	1.5	0.1
Deciduous Forest	0.6	1.4	0.1
Total	362.5	895.9	100

Data from National Land Cover Database (2019).

Table 2. Phases, turbines, and operational dates of the Timber Road Wind Farm, Paulding County, Ohio.

Phase	Turbine Type	Number of Turbines	Commercial Operational Date	Hub Height (meters)	Blade Diameter (meters)
II	Vestas V100 1.8 MW	55	2012	95	100
III	Gamesa G114 2.1 MW	48	2017	93	114
IV	Vestas V150 4.2 MW	24	2020	105	150
	Vestas V136 3.6 MW	7	2020	105	136

METHODS

WEST used Project-specific data from previous post-construction monitoring studies to develop a study plan designed to achieve a g of 0.25 to meet the monitoring commitments in the HCP. WEST submitted a study plan to the USFWS on January 29, 2021, and received approval on March 29, 2021 (K. Lott, USFWS, pers. comm.).

Standardized Carcass Searches

Number of Turbines Sampled, Search Frequency, and Plot Size

Technicians and dog-handler teams conducted standardized carcass searches from April 1 – May 15 and August 1 – October 16, 2021. Searches were conducted on October 16 in order to fulfill the number of search rounds within the study plan. Search effort varied by season, and was designed to maximize effort in the fall when the greatest number of Covered Species were expected to occur (Figures 1a and 1b; Table 3). A concurrent study at TR-IV was occurring to fulfill requirements of the TR-IV Ohio Power Siting Board Certificate; therefore the plot radius, number of cleared plots, and search interval at TR-IV were selected to fulfill those requirements.

Table 3. Number of Turbines by plot type, plot size, and search interval to achieve $g = 0.25$ at Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Season	Plot Type	Plot Size (meter)	Number of Turbines	Search Interval	Dog Aided	Wind Farm Phase
Spring	Road/pad	100	119	weekly	no	II, III and IV
	Cleared	90	5	daily	no	IV
	Cleared	90	10	every 3 days	yes	IV
Fall	Road/pad	100	74	twice weekly	no	II, III and IV
	Cleared	70	7	twice weekly	yes	II, III
	Cleared	90	15	every 3 days	yes	IV
	Uncleared	70	38	twice weekly	yes	II, III

During the spring (April 1 – May 15), technicians searched the gravel road and pad areas (road and pad) under 119 turbines to a distance of 100 m from the turbine weekly, and five turbines as 90-m (295-ft) radius cleared plots daily. A dog-handler team searched 10 turbines as cleared plots with a 90-m radius every three days (Table 3; Figure 1a).

During the fall (August 1 – October 16), technicians searched 74 turbines as 100-m road and pad twice weekly. Dog-handler teams searched 15 turbines as 90-m radius cleared plots every three days, seven turbines as 70-m (230-ft) radius cleared plots twice weekly, and 38 turbines as 70-m radius uncleared soybean (*Glycine max*) plots twice weekly (Table 3; Figure 1b).

A representative photo showing the condition of road and pad plots is in Figure 2. During the spring and fall study periods, vegetation at cleared plots was mowed and maintained by Project staff within 10 to 15 centimeters (four to six inches) in height to enhance detectability of carcasses (Figure 3). Uncleared plots were vegetated with soybeans (Figure 4). A cross pattern approximately 1.5-m (4.9-ft) wide was mowed into the uncleared soybean plots to assist with plot access.



Figure 2. Representative photo of a 100-meter road and pad plot.



Figure 3. Representative photo of a cleared plot.



Figure 4. Representative photo of an uncleared soybean plot.

Search Methods

All personnel were trained to follow the TRWF search protocol, including proper handling and reporting of carcasses. Carcass searches began as early as first light and ended by 1700 hours.

Human Searchers

The technicians walked transects spaced five m apart at a rate of approximately 45–60 m (148–197 ft) per minute on all gravel road and pad areas within 100 m of the turbine, and mowed areas within a 90-m radius on five of the cleared plots. The technicians scanned the area for fatalities on both sides of the transects to 2.5 m (8.2 ft) to ensure full visual coverage of each search area.

Dog-handler Teams

Detection dog teams searched cleared and uncleared plots for bat carcasses. Detection dogs were considered candidates for carcass searches if they met temperament, basic obedience, and ability to detect bird and/or bat carcasses requirements. Temperament characteristics that are sought after were high-energy dogs, with a high food or toy drive, and eagerness to please their handler. Prior to conducting searches at TRWF, handlers trained their detection dogs on the scent of bat carcasses using methods derived from search and rescue programs and drug detection (Kay 2012, Helfers 2017). Dogs were initially trained on cotton scent swabs that had been rubbed on or stored in a container with bat carcasses and progressed to bat carcasses at increasing distances over a period of three to four weeks. Once the dog had achieved a passing grade of 80% or higher in a scent recognition test, consisting of 10 blind trial lineups using bat carcasses, the dog and handler were evaluated in the field to measure their performance. The detection dog coordinator conducted a 2-day field evaluation of each dog-handler team; after teams achieved a searcher efficiency of 75% or greater for 30 bats during evaluation trials, they were approved to conduct standardized carcass searches. Because the objective of the study was to document bat carcasses, dogs were not explicitly trained on native bird carcasses; however, all detection dogs alerted on birds in the field, and handlers rewarded bird finds in the field to encourage future alerts to bird carcasses. Detection dogs used at TRWF included a Labrador retriever-airedale mix, a Labrador retriever-beagle mix, a chocolate Labrador retriever, a German shorthaired pointer, and three border collies (Figure 5).

Prior to each search, dog-handlers determined the survey start points and the number of transects needed to cover the plot after taking into account wind speed and direction, as well as crop row direction and density (when applicable). Handlers oriented dogs to start searches perpendicular to the wind to maximize scent detection. Both windspeed and crop density can affect scent dispersal across the search area. Transect width varied by plot type and wind speed to maximize detection and ranged from 5–10 m (16–33 ft) apart in uncleared plots, and 10–15 m (33–49 ft) in cleared plots. The handler placed a marker by the carcass and rewarded the dog with either a food reward or a short play session when a detection dog correctly alerted to a bat or bird carcass.

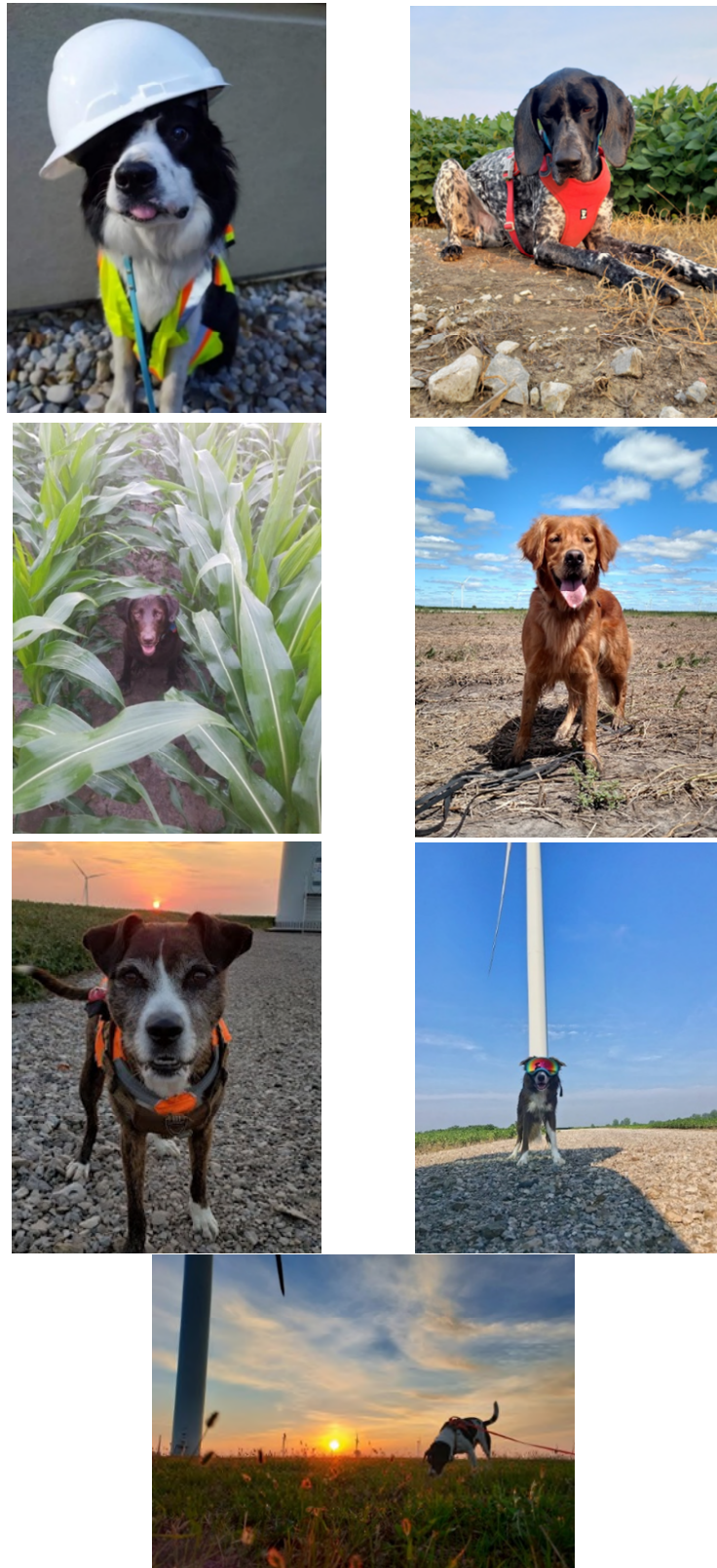


Figure 5. Photos of detection dogs used to conduct searches at Timber Road Wind Farm from April 1 – May 15 and August 1 – October 16, 2021.

Data Collection

For each scheduled search, technicians recorded the date, start and end times, technician name, turbine number, type of search and if any fatalities were found. When a fatality was found, technicians placed a flag near it and continued the search. After searching the entire plot, the technician returned to record information for each fatality on a fatality data sheet, including the date and time, species, sex and age (when possible), technician name, turbine number, distance from turbine, azimuth from turbine, location of carcass as latitude/longitude coordinates, ground cover surrounding carcass, condition of carcass (i.e., intact, scavenged, dismembered, feather spot [for birds only], injured), and estimated time since death (e.g., less than one day, two days). Technicians took digital photographs of each fatality, including any visible injuries, and surrounding land cover. Carcasses found outside of search areas or outside of the scheduled study period, were recorded as incidental discoveries and documented following the same protocol for those found during standard searches, but were not included in analysis.

The condition of each carcass was recorded using the following categories:

- Intact—a complete carcass, not badly decomposed, and shows no sign of being fed upon by a predator or scavenger.
- Scavenged—an entire carcass that shows signs of being fed upon by a predator or scavenger, or a portion(s) of a carcass in one location (e.g., wings, skeletal remains, portion of a carcass), or a carcass that has been heavily infested by insects.
- Dismembered—an entire carcass found in multiple pieces distributed more than 1.0 m (3.3 ft) apart from one another due to scavenging or other reasons.
- Injured—a bat or bird found alive.

For bird carcasses, the following category was also used:

- Feather spot—10 or more feathers (excluding down), or two or more primary feathers at one location indicating predation or scavenging of a bird carcass.

Bat carcasses were collected under the Project's ITP (TE68782D-0), WEST's Federal Native Endangered and Threatened Species Recovery Permit (TE234121-9), and WEST's State Scientific Collection Permit (SC210040). Technicians placed all bat carcasses in a re-sealable plastic bag labeled with the unique carcass identification number, turbine number, and date, for storage in a freezer on site. Leather and rubber gloves were used to handle all bat carcasses to eliminate possible transmission of rabies or other diseases. Bird carcasses were collected under the Project's Migratory Bird Special Purpose Utility Permit (MB11231B-0). Injured bats found during searches were evaluated and those determined to be unable to fly were safely collected and transported to Nature's Nursery (<https://www.natures-nursery.org/>) in Whitehorse, Ohio, for potential rehabilitation.

Carcass Identification and Agency Notification

Identification of bird carcasses were verified by biologists with significant field experience in identification of birds and their feathers. A federally permitted bat biologist (TE19208C-0) verified the identifications of all bat carcasses in hand at the end of the surveys. In the event any species listed as endangered or threatened under the Endangered Species Act, birds protected under the Bald and Golden Eagle Protection Act, or any state-listed threatened or endangered species had been discovered, WEST would have notified the USFWS and the ODNR within 24 hours of positive identification.

Tissue samples were collected from heavily scavenged or decomposed carcasses that could not be positively identified and had potential to be a Covered Species (i.e., forearm less than 41 millimeters [mm; 1.6 inches] and no fur on inner wing membrane) and were submitted to a USFWS-approved laboratory, Northern Arizona University School of Forestry and Center for Microbial Genetics and Genomics, for identification. Bat carcasses that were heavily scavenged but did not have potential to be a Covered Species (i.e., fur was present on the inner wing membrane or forearms measured over 41 mm) were identified to the closest genus (i.e., unidentified *Lasiurus*) or group (i.e., unidentified non-myotis) possible and were not sent to the laboratory for further identification.

All bat and bird carcasses found during searches were delivered to the ODNR Division of Wildlife Office in Columbus, Ohio, on November 15, 2021.

Bias Trials

Searcher Efficiency Trials

The objective of the searcher efficiency trials was to estimate the probability that searchers found a carcass. Searcher efficiency trials were conducted in the same areas where carcass searches occurred. Personnel conducting carcass surveys did not know when searcher efficiency trials were being conducted or the location of the trial carcasses. Trial carcasses consisted of carcasses provided by ODNR and included: eastern red bats (*Lasiurus borealis*), hoary bats (*L. cinereus*), big brown bats (*Eptesicus fuscus*), silver-haired bats (*Lasionycteris noctivagans*) and one each of evening bat (*Nycticeius humeralis*) and Seminole bat (*L. seminolus*). A minimum of 20 bat carcasses were placed and confirmed available per plot type and per season. Multiple trials were conducted in each season to measure potential changes in search conditions on searcher efficiency over time. No more than two bat trial carcasses were placed on a plot to avoid potential over-seeding.

Each trial carcass was discreetly marked with a black zip-tie label around the upper forelimb for identification as a study carcass after it is found. Carcasses were dropped from waist-height or higher and allowed to land in a random posture. The number and location of trial carcasses found during the subsequent search were recorded, and the number of trial carcasses available for detection during each search was determined immediately after each trial by the person responsible for distributing the carcasses. Searchers had one chance to locate trial carcasses during the first search after carcass placement. The trial administrator walked in a meandering

path and dropped trials for detection dogs the night prior to the next search to allow time for the scent to pool and disperse prior to scheduled searches. Following searches, any carcasses that were not detected were checked to confirm availability.

Carcass Persistence Trials

The objective of carcass persistence trials (CPT) was to estimate the length of time (in days) a carcass would persist, or be available for detection, in the field. Carcasses could be removed by scavenging or rendered undetectable by typical farming activities. Fifteen trial carcasses were placed in each season and plot type to incorporate the effects of varying weather and climatic conditions on carcass persistence. No more than two trial carcasses were placed on a plot to avoid potential over-seeding and attracting scavengers.

Technicians monitored the trial carcasses over a 30-day period according to the following schedule, as closely as possible. Carcasses were checked daily for the first four days, then on day 7, 10, 14, 21, and 30. Trial carcasses were monitored until they were completely removed or the trial period ended. Detection dogs determined when carcasses were removed on plots searched by dogs; technicians determined when carcasses were removed on plots searched by technicians.

Search Area Mapping

Technicians recorded the boundaries of all plots using the ArcGIS Field Maps program on a tablet computer paired to a Trimble® R1 submeter global positioning satellite unit. The plot boundaries were used to verify if carcasses were found inside the search areas, and to estimate the number of carcasses that fell inside or outside of search areas.

Quality Assurance and Quality Control

Quality assurance and quality control (QA/QC) measures were implemented at all stages of the study, including in the field, during data entry and analysis, and report writing. Following field surveys, technicians were responsible for inspecting data forms for completeness, accuracy, and legibility. Potentially erroneous data were identified using a series of database queries. Irregular codes or data suspected as questionable were discussed with the technician and/or project manager. Errors, omissions, or problems identified in later stages of analysis were traced back to the raw data forms, and appropriate changes and measures were implemented. A Microsoft® SQL database was developed to store, organize, and retrieve survey data. All data forms and electronic data files were retained for reference.

Statistical Analysis

The EoA (Dalthorp et al. 2017) modeling framework was used to estimate take of Covered Species. Inputs used to estimate take included the number of Covered Species' carcasses found, the search schedule, searcher efficiency trial results, a fitted carcass persistence distribution, an area adjustment, and pre-defined expectations of carcass arrival in each season. EoA was used to estimate the site-wide and multi-year detection probability (g) and associated mortality metrics for the Covered Species: cumulative take to date and the annual take rate. These metrics were

compared to targets specified in the ITP to test whether the Project is in compliance and/or whether adaptive management is needed.

Searcher Efficiency Estimation

EoA uses raw searcher efficiency data (e.g., number of found and available trial carcasses) to inform overall probability of detection. However, to determine if searcher efficiency data should be pooled between seasons and plot types, or separated by strata such as season and/or plot type, searcher efficiency was modeled using logistic regression, while accounting for the detection reduction factor k (Dalthorp et al. 2018). Searcher efficiency was modeled separately for humans and dog teams to account for different modes of detection (i.e., humans use sight, dogs use scent). For both sets of models, selection was completed using an information theoretic approach known as AICc, or corrected Akaike Information Criterion (Burnham and Anderson 2002). The best-fit model was selected as the most parsimonious model within two AICc units of the model with the lowest AICc value. Searcher efficiency values were input into the EoA software according to the model selection results.

The change in searcher efficiency between successive searches was defined by a parameter called the detection reduction factor (k) that can range from zero to one. When k is zero, it implies a carcass that was missed on the first search would never be found on subsequent searches. A k of one implies searcher efficiency remained constant no matter how many times a carcass was missed. Huso et al. (2017) estimated a value of $k = 0.67$ for bats, and this value was used to calculate Covered Species fatality estimates using EoA per the HCP.

Carcass Persistence Rate Estimation

Data collected during CPT were used to estimate the amount of time, in days, carcasses remained available to be located by the searcher. The average probability a carcass persisted through the search interval (i.e., the time between scheduled searches) was estimated using an interval-censored survival regression with four potential distributions: exponential, log-logistic, lognormal, and Weibull distributions (Kalbfleisch and Prentice 2002, Dalthorp et al. 2018). Persistence was modeled separately for humans and dog teams to account for different modes of detection and the dogs' ability to detect small remnants of carcasses that would not be considered discoverable by a human. Season and plot type were potential covariates fit to all parameters of the candidate distributions. The best-fit model was selected as the most parsimonious model within two AICc units of the model with the lowest AICc value. The parameter estimates of the selected model (α [shape] and β [scale], including the 95% confidence interval [CI] of β) were used as inputs in the EoA Single Class module, which is used to estimate stratum-specific detection probabilities.

Area Adjustment

The search area adjustment accounted for unsearched areas beneath turbines, and was calculated as a probability that ranged from zero to one. The area adjustment was estimated as the product of the searched area around each turbine and a carcass-density distribution. A truncated weighted maximum likelihood (TWL) modeling approach (Khokan et al. 2013) was used to estimate the carcass-density distribution using site-specific fatality locations. The TWL approach uses weight-based probability of detection and the proportion of area searched in each

1.0-m annulus around the turbine. Distributions considered were normal, gamma, Gompertz, Rayleigh and Weibull (parameterized according to R Development Core Team [2016] and Yee [2015]). To account for potential differences in the carcass density distribution resulting from different sizes of turbines (i.e., rotor diameter), models that stratified density by turbine size were considered, in addition to models pooling data across all turbine sizes. The stratified models included all potential combinations of the five distributions listed above, and the four turbine sizes represented across the Project. The best-fit model was selected using AICc. The proportion of area searched was calculated in a Geographic Information System as the amount of area searched divided by the total area searched at each 1.0-m annulus around the turbine.

Carcasses Excluded from Area Correction Calculations

Fatalities were excluded from the area correction calculation when the carcass was discovered outside of the spatial and temporal scope of the survey design. For example, carcasses found outside a designated plot were not included in the analysis because the area adjustment accounts for the carcass by adjusting for unsearched areas. Carcasses found prior to the start of surveys (e.g., a carcass found on a plot in the spring that was estimated to have died prior to April 1) were also excluded because the carcass occurred outside of the study period. Note that carcasses found on a plot incidentally were included in the analysis if that plot had a scheduled search in the future. In the event that a fatality of a Covered Species was found outside of the spatial or temporal scope of the study design, it would still have been excluded from the area correction estimate, but would have been included in the EoA fatality estimate following Dalthorp et al. 2020.

Indiana Bat and Northern Long-eared Bat Take and Detection Probability Estimates

Evidence of Absence

EoA was used to estimate the median cumulative take to-date (M^*), mean annual take rate (λ), and the probability the estimated take rate (λ) exceeded the expected take rate (τ) for Covered Species. Estimates were calculated using the EoA method (Dalthorp et al. 2017), using the Single Class, Multiple Class, and Multiple Years modules of EoA.

The probability of detection (g) was estimated using the bias corrections for searcher efficiency, carcass persistence, and area searched, as well as the assumed seasonality of risk for Covered Species, which, per the HCP, was 11% in spring and 89% in fall. The EoA Single Class module was used to estimate the distribution of detection probability in each search stratum. This resulted in alpha and beta parameters that defined the Beta distribution of detection probability in each stratum. The area adjustment for each search stratum was included as the “Spatial coverage (a)” parameter in EoA. The EoA Multiple Class module was then used to combine detection probability distributions across plot types within each season (cleared plots searched by dog-handler teams, cleared plots searched by technicians, uncleared plots, and roads and pads), with weights for each class defined by the within-season sampling fraction. Then, the Multiple Class module was used again to combine detection probability parameters across seasons, with weights for each season defined by the expected arrival proportions specified in the HCP (0.11 in spring; 0.89 in fall). This procedure produced an overall, site-wide estimate of detection probability for the Project in 2021.

The EoA Multiple Years module was used to estimate the detection probability to date over the two years of monitoring conducted at the Project. Detection probability parameters (Ba and Bb parameters in EoA) for 2020 and 2021 were combined using year-specific weights (ρ in EoA). ρ was set to 0.89 for 2020 because the ITP was issued after the spring 2020 season, meaning that potential take of the Covered Species occurred only in fall of 2020. Following the expected arrival proportions, fall represents 89% of the total risk period. ρ was set to 1 in 2021 because the permit was in effect for the entire risk period (spring and fall).

The total number of Covered Species' carcasses found to date and the results from the Multiple Years module (Ba and Bb parameters for the detection probability to date) were used to estimate M^* , mean take rate λ and its 95% CI, and the probability that $\lambda > \tau$. Appendix C shows how the compliance metrics were calculated using the EoA Graphical User Interface².

Adaptive Management Triggers

The estimates from the EoA analysis were used to test two adaptive management triggers: a short-term test of whether the estimated take rate exceeded the expected take rate and a long-term test of whether permitted take had been met (Dalthorp and Huso 2015). Both the short- and long-term triggers were tested individually for Indiana bat and northern long-eared bat.

Evidence of Absence Short-term Trigger

The EoA short-term trigger is designed as an early warning signal that the Project may be on the path to exceeding permitted take (T) by the end of the permit term. The short-term trigger is designed to determine if an adaptive management response is needed to prevent the cumulative take estimate from actuating a response to the long-term trigger test. The short-term trigger tests if the estimated annual take rate (λ) exceeded the expected take rate ($\tau = T \div \text{years in permit}$) at a confidence level of $\alpha = 0.1$, per the HCP. The TRWF short-term trigger is designed to evaluate a rolling window of six years of post-construction monitoring data. If, within any six-year rolling window, the estimated take rate exceeds the expected take rate with 90% confidence, the short-term trigger would be met, indicating that the minimization plan in the HCP may need to be adjusted to ensure that the median cumulative take estimate (M^*) remains within the permitted limit over the ITP term. Only two years of data were used in this analysis because 2021 was the second year of monitoring under the ITP.

Evidence of Absence Long-term Trigger

The EoA long-term trigger is designed to test if the cumulative take to date is equal to or greater than the permitted take (T) under the HCP (i.e., test whether cumulative take has met permitted take). Per the HCP, cumulative take to date (M^*) was estimated at a confidence level of $\alpha = 0.5$ (using the median, or 50th credible bound, of the posterior distribution of estimated mortality). If the cumulative take to date at $\alpha = 0.5$ is less than the total permitted take ($M^* < T$), then the TRWF is in compliance with the ITP. If the cumulative take to date at $\alpha = 0.5$ is greater than or equal to

² There may be very minor differences between screen shots and the results in the main text because EoA is a stochastic estimator, leading to slightly different estimates each time the modules are run.

the total permitted take ($M^* \geq T$), then the take limit has been met and the TRWF must enact avoidance measures.

RESULTS

Standardized Carcass Searches

In the spring, 1,099 searches were completed and in the fall, 2,918 searches were completed (Table 4). Fifty searches (1.2%) were missed due to turbine maintenance, weather constraints, crop spraying, and/or safety hazards. There were 1,277 bat carcasses and 343 bird carcasses found during surveys and incidentally (Appendix A).

Table 4. Number of searches per plot type at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Season	Plot Type	Search Interval	Number of Searches
Spring (April 1 – May 15)	100-m road/pad	weekly	741
	90-m cleared plot	daily	209
	90-m cleared plot	every 3 days	149
Fall (August 1 – October 16)	100-m road/pad	twice weekly	1,572
	90-m cleared plot	every 3 days	387
	70-m cleared plot	twice weekly	143
	70-m uncleared plot	twice weekly	816
Overall			4,017

m = meter.

Species Composition

No Covered Species or federally or state-listed species were found. Thirty-one bat carcasses were found in the spring and 1,246 bat carcasses were found in the fall (Appendix A). The most commonly found bat species were silver-haired bat (452 carcasses; 35.40%) and eastern red bat (451 carcasses; 35.32%), followed by hoary bat (201 carcasses; 15.74%) and big brown bat (151 carcasses; 11.82%). Eight Seminole bats (0.63%) and four evening bats (0.31%) were also found. (Table 5, Appendix A). Twenty-six heavily scavenged bats (e.g., wing membrane only, bones, or partial carcasses) were sent off for genetic testing. Genetic testing determined the previously unidentified bats were common species, including 15 silver-haired bats, six big brown bats, three hoary bats, one eastern red bat, and one evening bat. The majority of bat carcasses were recorded on plots searched by dog-handler teams and during the fall (Tables 6 and 7).

Table 5. Number and percent (%) of bat carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Species	Included in Area Correction		Outside Search Area*		Outside Study Period*		Total	
	Total	%	Total	%	Total	%	Total	%
silver-haired bat	421	35.35	29	45.31	2	9.09	452	35.40
eastern red bat	421	35.35	23	35.94	7	31.82	451	35.32
hoary bat	184	15.45	8	12.50	9	40.91	201	15.74
big brown bat	145	12.17	2	3.12	4	18.18	151	11.82
unidentified non-myotis	7	0.59	2	3.13	0	0	9	0.70
Seminole bat	8	0.67	0	0	0	0	8	0.63
evening bat	4	0.34	0	0	0	0	4	0.31
unidentified <i>Lasiurus</i> bat	1	0.08	0	0	0	0	1	0.08
Total	1,191	100	64	100	22	100	1,277	100

* Carcasses not included in analysis.

Table 6. The number of bats included in the area correction calculation, found by plot type during spring at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15, 2021.

Species	Spring					
	Human searched				Dog-handler searched	
	100-m Road/Pad		90-m Daily Cleared Plot		90-m 3-Day Cleared Plot	
Total	%	Total	%	Total	%	
silver-haired bat	0	0	4	66.67	9	42.86
eastern red bat	1	100	1	16.67	9	42.86
hoary bat	0	0	1	16.67	3	14.29
big brown bat	0	0	0	0	0	0
unidentified non-myotis	0	0	0	0	0	0
Seminole bat	0	0	0	0	0	0
evening bat	0	0	0	0	0	0
unidentified <i>Lasiurus</i> bat	0	0	0	0	0	0
Total	1	100	6	100	21	100

Sums may not equal total values shown due to rounding.

m = meter.

Table 7. The number of bats included in the area correction calculation, found by plot type during fall at the Timber Road Wind Farm, Paulding County, Ohio, from August 1 – October 16, 2021.

Species	Fall							
	100-m Road/Pad		90-m 3-day Cleared Plot		70-m Cleared Plot		70-m Uncleared Plot	
	Total	%	Total	%	Total	%	Total	%
silver-haired bat	40	26.85	173	36.42	46	46.46	149	33.86
eastern red bat	45	30.20	179	37.68	30	30.30	156	35.45
hoary bat	26	17.45	75	15.79	15	15.15	64	14.55
big brown bat	36	24.16	41	8.63	8	8.08	60	13.64
unidentified non-myotis	0	0	1	0.21	0	0	6	1.36
Seminole bat	2	1.34	5	1.05	0	0	1	0.23
evening bat	0	0	1	0.21	0	0	3	0.68
unidentified <i>Lasiurus</i> bat	0	0	0	0	0	0	1	0.23
Total	149	100	475	100	99	100	440	100

Sums may not equal total values shown due to rounding.

m = meter.

Carcasses for Area Correction Analysis

Eighty-six of the 1,277 bats found during the fall monitoring season were excluded from modeling the area correction for EoA; 64 bat carcasses were excluded from analysis because they were found off plot. Another 22 bats were excluded because their estimated time of death was prior to the start of surveys (Table 5).

Bias Trials

Searcher Efficiency Trials

One hundred eighty bats were placed for searcher efficiency trials on 29 separate dates, and 164 were available for search teams to find across all plot types. Unavailable searcher efficiency trials were typically removed from a search area by predation or farming practices before a scheduled search was conducted. Overall searcher efficiency rates were 91.6% on 100-m roads and pads, 45.0% on 90-m cleared plots searched daily by humans, and 72.6% across 70-m cleared, 70-m uncleared, and 90-m cleared plots searched by dog teams (Table 8).

The best-fit model for searcher efficiency on non-dog aided search plots included plot type but excluded season as a covariate, meaning there was a difference between human-searched searcher efficiency rates on cleared plots and roads and pads, but rates did not vary between spring and fall (Appendix B1). The best-fit model for searcher efficiency on dog-handler search plots did not include plot type or season as covariates, meaning searcher efficiency rates were similar across all plot types and seasons searched by dog-handler teams (Appendix B2).

Table 8. Searcher efficiency results by plot type and season at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Season	Plot Type	Searcher Type	Number Placed	Number Available	Number Found	% Found
Spring	100-m road/pad	Human	39	39	35	89.74
	90-m cleared plots	Human	21	20	9	45.00
	90-m cleared plots	Dog-Handler	22	20	15	75.00
Fall	100-m road/pad	Human	33	32	30	93.75
	90-m and 70-m cleared plots	Dog-Handler	43	34	27	79.41
	70-m uncleared plots	Dog-Handler	22	19	11	57.89
Overall Road/Pad		Human	72	71	65	91.55
Overall Human-Searches Plots		Human	21	20	9	45.00
Overall Dog-Handler Searched Plots		Dog-Handler	87	73	53	72.60
Overall			180	164	127	77.44

Carcass Persistence Trials

Fifty-eight carcasses were placed to estimate carcass persistence on non-dog aided plots. The best-fit model for carcass persistence rates on non-dog aided plots had no covariates with a lognormal distribution, which suggests bat carcass persistence rates did not vary by plot search type or season (Appendix B3). Forty-two carcasses were placed to estimate carcass persistence on dog-handler searched plots. The best-fit model for carcass persistence on dog-handler searched plots had season as a scale covariate, with a loglogistic distribution. The best-fit model

for dog-handler searched plots suggests median carcass persistence time did not vary by plot type or season, but season did affect the variation in persistence times (Figure 7; Appendix B4).

The estimated median carcass persistence times were 10.96 days on human-searched plots and 16.61 days on dog-handler searched plots (Table 9). Probabilities of persistence were high, and varied slightly between seasons and plot types due to differing search intervals (Table 10).

Table 9. Carcass persistence top models with covariates, distributions, and model parameters for the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Season	Searcher Type	Distribution	Median Persistence Times (days)	Parameter 1	Parameter 2
All	Human	lognormal*	10.96	meanlog = 2.394	sdlog = 1.356
Spring	Dog-Handler	loglogistic**	16.61	shape = 0.348	scale = 2.81
Fall	Dog-Handler	loglogistic**	16.61	shape = 1.338	scale = 2.81

* Parameterization follows the base R parameterization for this distribution.

Table 10. Median carcass persistence probability through the search interval at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Season	Plot Type	Searcher Type	Search Interval (days)	Median Carcass Persistence Probability	90% Confidence Interval
Spring	100-m road/pad	Human	7	0.81	0.74-0.87
	90-m cleared plot	Human	1	0.99	0.97-1.0
	90-m cleared plot	Dog-Handler	3	1.0	0.98-1.0
Fall	100-m road/pad	Human	3.5	0.91	0.86-0.95
	70-m cleared and uncleared plot	Dog-Handler	3.5	0.85	0.79-0.91
	90-m cleared plot	Dog-Handler	3	1.0	0.98-1.0

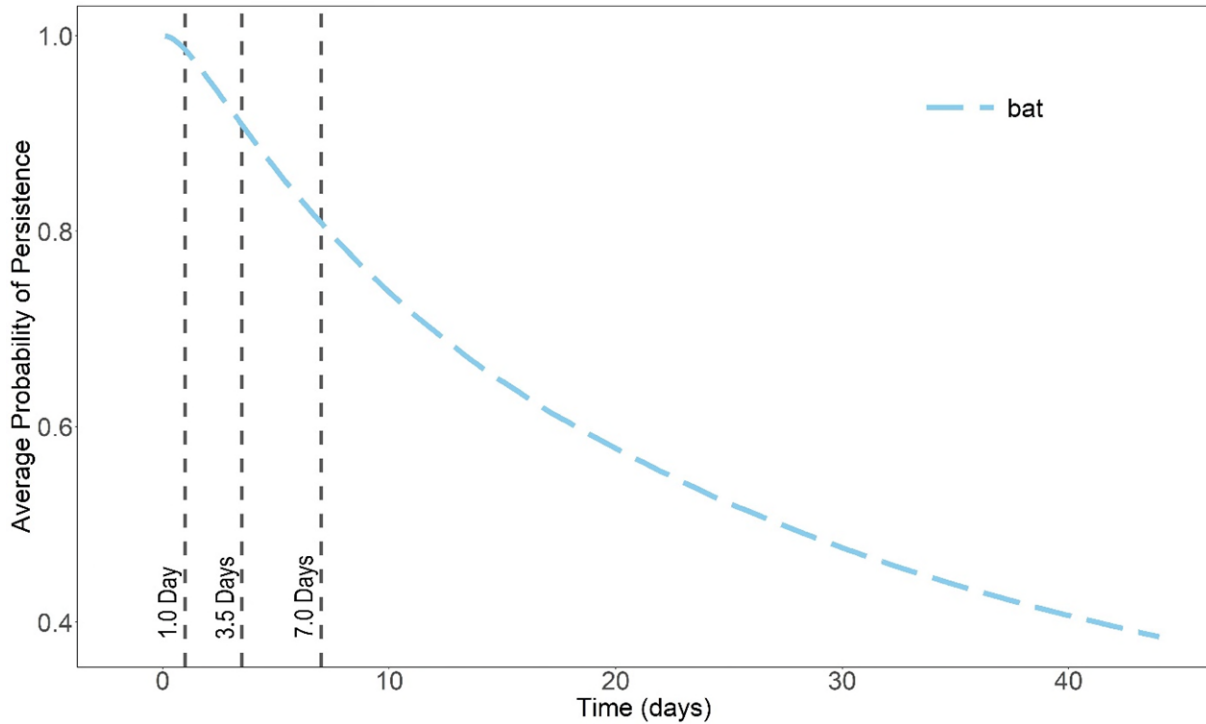


Figure 6. The average probability of carcass persistence on human-searched plots, in days, at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

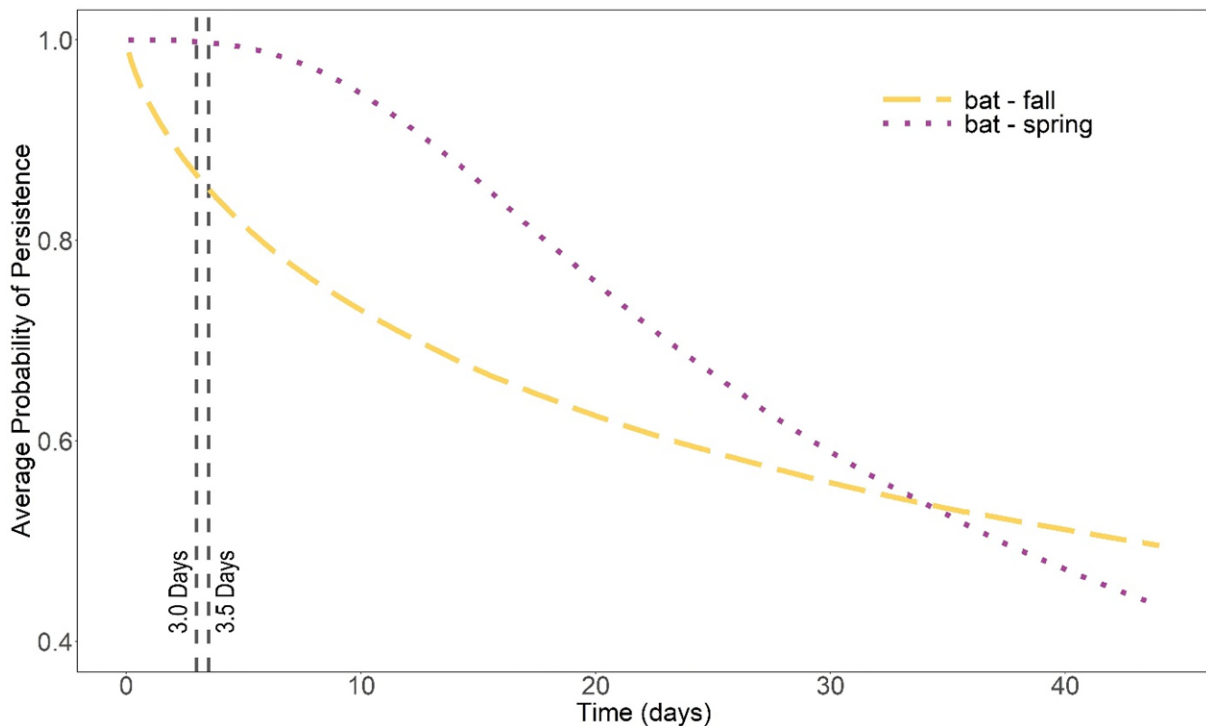


Figure 7. The average probability of carcass persistence on dog-handler searched plots, in days, at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Statistical Analysis

Area Adjustment

The best-fit model for the spatial distribution of bats from the turbine base included turbine size as a covariate, suggesting the distribution of bats varied across turbine sizes. Therefore, there were multiple TWL adjustments for bats for all plot types. The TWL area adjustment for bats at 100-m roads and pads ranged between 0.07 and 0.13 (Table 11). The TWL adjustment for bats at 70-m cleared and uncleared plots ranged between 0.84 and 0.91 (Table 11). The TWL adjustment for bats at 90-m cleared plots ranged between 0.96 and 0.98 (Table 11, Appendix B).

Table 11. Truncated weighted maximum likelihood search area adjustment estimates for the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Blade Length	Season	Plot Type	Distribution	Parameter 1	Parameter 2	Area Adjustment
50m	spring	100-m road/pad	Rayleigh	36.9345	–	0.07
	fall	100-m road/pad	Rayleigh	36.9345	–	0.07
	fall	70-m cleared	Rayleigh	36.9345	–	0.85
	fall	70-m uncleared	Rayleigh	36.9345	–	0.84
57m	spring	100-m road/pad	normal	40.1125	21.9069	0.13
	fall	100-m road/pad	normal	40.1125	21.9069	0.13
	fall	70-m cleared	normal	40.1125	21.9069	0.91
	fall	70-m uncleared	normal	40.1125	21.9069	0.91
68m	spring	100-m road/pad	Gompertz	0.0444	0.0027	0.07
	spring	90-m cleared	Gompertz	0.0444	0.0027	0.97
	fall	100-m road/pad	Gompertz	0.0444	0.0027	0.07
	fall	90-m cleared	Gompertz	0.0444	0.0027	0.98
75m	spring	100-m road/pad	normal	47.6284	21.6663	0.07
	spring	90-m cleared	normal	47.6284	21.6663	0.98
	fall	100-m road/pad	normal	47.6284	21.6663	0.07
	fall	90-m cleared	normal	47.6284	21.6663	0.96

Sample sizes by blade length, 50 meters (m; Timber Road II Wind Farm) n = 258, 57 m (Timber Road III Wind Farm) n = 372, 68 m (Timber Road IV Wind Farm [TR-IV]) n = 166, 75 m (TR-IV) n = 395.

Indiana Bat and Northern Long-eared Bat Take Estimates

Evidence of Absence Framework

Zero Covered Species carcasses were found during the study in 2021. One Indiana bat and zero northern long-eared bats have been found to date under the ITP. The annual probability of detection (*g*) distribution in 2021 had a mean of 0.33 (90% CI: 0.32–0.34; Table 12). Inputs required to run the EoA Single Class module and stratum-specific *g* distribution values and inputs required for the Multiple Class module are described in Appendix C.

Table 12. Annual and overall probabilities of detection (g), Ba, Bb, and p for the Timber Road Wind Farm, Paulding County, Ohio from 2020 – 2021.

Year	Ba ^a	Bb ¹	p ²	g	95% Confidence Intervals
2020	323.42	1417.48	0.89	0.19	0.17–0.2
2021	2632.55	5422.38	1.00	0.33	0.32–0.34
Short-term Trigger (Last 3 Years)	1864.04	5294.18	NA	0.26	0.25–0.27
Long-term Trigger (Cumulative)	1864.04	5294.18	NA	0.26	0.25–0.27

1. Ba and Bb are the parameters for the beta distribution used to characterize the probability of detection. The g value is the mean of that distribution.
2. p is the weight in the weighted average used to combine the probability of detection distributions across years. 2020 received a lower weight than 2021 because risk to Indiana and northern long-eared bat only occurred during fall of 2020, representing 89% of total risk compared to 2021.

Adaptive Management—Evidence of Absence Short-term Trigger

Mean annual take rate was 2.88 (95% CI = 0.21–8.98) Indiana bats per year and 0.96 (95% CI = less than 0.01–4.82) northern long-eared bat per year from April 1 – May 15 and August 1 – October 16, 2021 (Table 12). The expected average annual take rate reported in the HCP is 10.8 Indiana bats per year and 2.5 northern long-eared bats per year. The short-term trigger assesses the probability the estimated take rate exceeded the expected take rate, $Pr(\lambda > \tau)$. At a 90% confidence level ($\alpha = 0.1$), $Pr(\lambda > \tau)$ must be greater than or equal to 0.90 for the short-term trigger to fire. For Indiana bat, $Pr(\lambda > \tau) = 0.01$ and northern long-eared bat, $Pr(\lambda > \tau) = 0.11$ (Table 13). Neither probability meets or exceeds 0.90, indicating the short-term trigger was not met and no adaptive management actions are necessary (Table 13, Figure 8).

Table 13. Probability the estimated take rates exceeded the expected take rates of 10.8 Indiana bats per year and 2.5 northern long-eared bats per year at Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Species	Mean λ (95% CI)	Expected Take Rate (τ)	$Pr(\lambda > \tau)^*$	Short-term trigger fires at $\alpha = 0.1$?
Indiana bat	2.88 (0.21-8.98)	10.8	0.01	No
Northern long-eared bat	0.96 (<0.01-4.82)	2.5	0.11	No

* $Pr(\lambda > \tau)$ reads, “the probability that λ (the annual take rate) is greater than τ (the expected annual take rate based on the total permitted take, used as a threshold for adaptive management).” If this probability is less than 0.90 (e.g., $\alpha = 0.1$ for a one-sided test), then no adaptive management is necessary because there is not sufficient evidence that the estimated annual take rate is greater than the expected annual take rate.

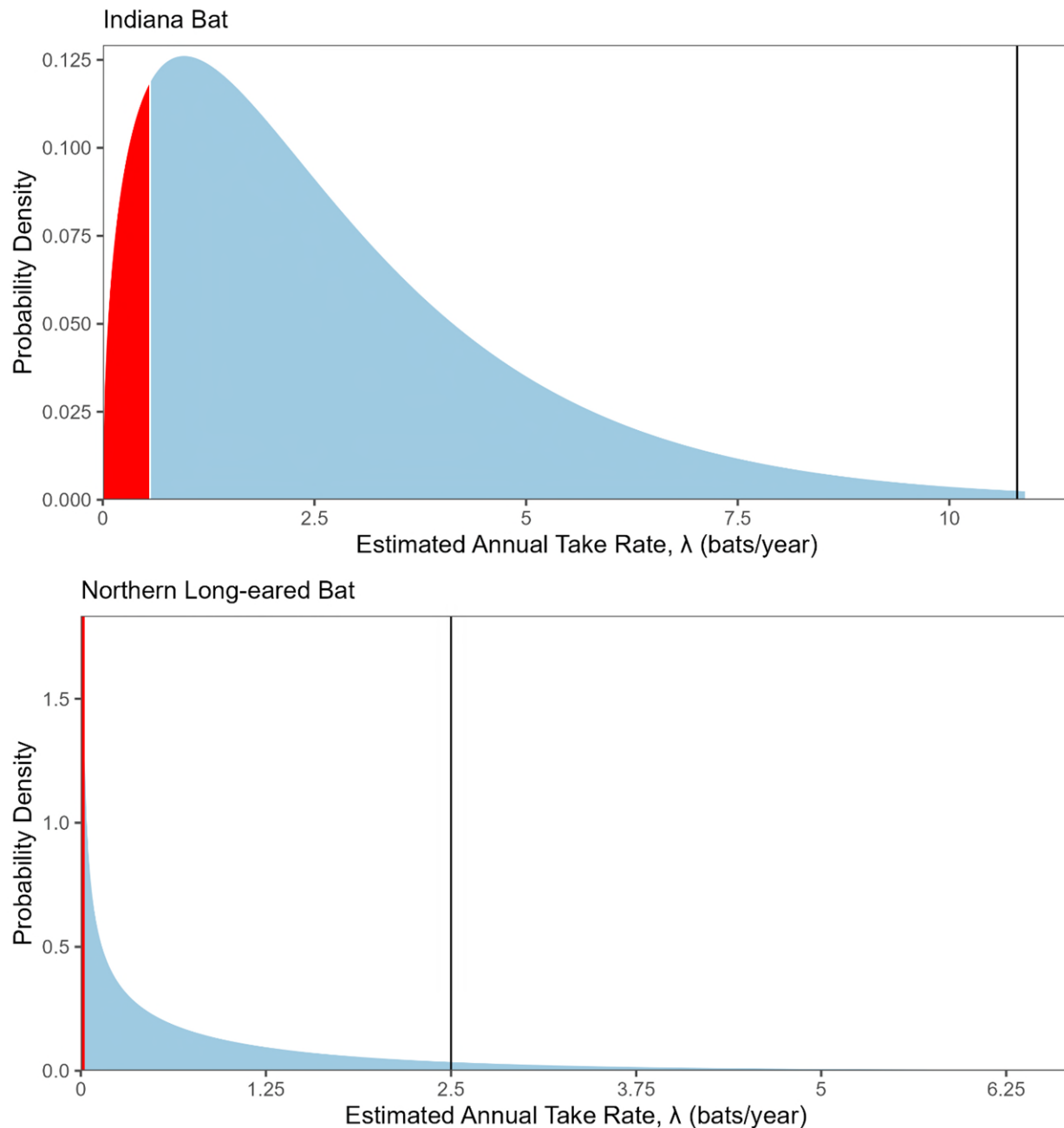


Figure 8. Estimated annual take rate (λ) of bats per year at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Note: The red region of the posterior distributions shows the region of the lower 10% quantile of the distributions (red region may not be visible when the posterior distribution is skewed heavily toward zero). The vertical line marks the expected take rate. The short-term trigger evaluates whether the vertical line falls within or to the left of the red region of the posterior distributions. For both species, the short-term trigger is not met because the vertical line (expected take rate) is not within or to the left of the red regions. In other words, the probability that estimated take rate is greater than the expected take rate does not exceed 90%.

Adaptive Management—Evidence of Absence Long-term Trigger

Cumulative take under the ITP to-date (2020-2021), M^* at $\alpha = 0.5$ (50th credible bound), is estimated to be four Indiana bats and zero northern long-eared bat (Table 14). These values fall below the total permitted take for each species (276 Indiana bats and 64 northern long-eared bats over the 30-year permit term). The long-term trigger was not met and TRWF is in compliance for both species because $M^* < T$ for both species. Therefore, an avoidance response is not necessary.

Table 14. Cumulative take estimate to date (years 1-2 of the ITP) using Evidence of Absence for studies conducted at Timber Road Wind Farm, Paulding County, Ohio, from 2020 and 2021.

Species	Cumulative take (M^*)	Permitted take (T)	Long-term trigger fires at $\alpha = 0.5$?
Indiana bat (50 th credible bound)	4	276	No
northern long-eared bat (50 th credible bound)	0	64	No

CONCLUSIONS

The post-construction monitoring effort completed in 2021 was consistent with the HCP’s monitoring requirement and the TRWF 2021 study plan. No Covered Species carcasses were found despite a high probability of detection in 2021. Estimates of potential take for the Covered Species were below the levels authorized by the ITP and no adaptive management was necessary.

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**Appendix A. Carcasses found during the 2021 Post-construction Monitoring Surveys at
the Timber Road Wind Farm**

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
Bat Carcasses							
04/06/2021	eastern red bat	39	428	carcass search	weekly road and pad	scavenged	no
04/07/2021	eastern red bat	55	404	carcass search	3-day 90-m cleared plot	intact	yes
04/08/2021	eastern red bat	46	326	carcass search	weekly road and pad	intact	no
04/08/2021	eastern red bat	40	340	carcass search**	weekly road and pad	scavenged	no
04/08/2021	eastern red bat	38	424	carcass search	3-day 90-m cleared plot	intact	yes
04/10/2021	eastern red bat	11	404	carcass search	3-day 90-m cleared plot	intact	yes
04/10/2021	silver-haired bat	79	411	carcass search	3-day 90-m cleared plot	intact	yes
04/13/2021	eastern red bat	88	402	carcass search	3-day 90-m cleared plot	scavenged	yes
04/13/2021	hoary bat	34	405	carcass search	daily 90-m cleared plot	intact	no
04/14/2021	eastern red bat	72	420	carcass search	3-day 90-m cleared plot	intact	yes
04/15/2021	silver-haired bat	65	407	incidental	3-day 90-m cleared plot	intact	yes
04/17/2021	eastern red bat	70	424	carcass search	3-day 90-m cleared plot	scavenged	yes
04/27/2021	eastern red bat	32	416	carcass search	daily 90-m cleared plot	scavenged	no
04/27/2021	silver-haired bat	72	410	carcass search	daily 90-m cleared plot	intact	no
04/27/2021	silver-haired bat	23	420	carcass search	3-day 90-m cleared plot	intact	yes
04/28/2021	eastern red bat	11	411	carcass search	3-day 90-m cleared plot	intact	yes
04/28/2021	hoary bat	5	403	carcass search	3-day 90-m cleared plot	intact	yes
04/28/2021	hoary bat	76	411	carcass search	3-day 90-m cleared plot	intact	yes
04/28/2021	silver-haired bat	87	410	carcass search	daily 90-m cleared plot	intact	no
04/29/2021	silver-haired bat	12	420	carcass search	3-day 90-m cleared plot	intact	yes
05/01/2021	eastern red bat	25	404	carcass search	3-day 90-m cleared plot	intact	yes
05/02/2021	silver-haired bat	29	423	carcass search	daily 90-m cleared plot	intact	no
05/04/2021	hoary bat	28	404	carcass search	3-day 90-m cleared plot	scavenged	yes
05/04/2021	silver-haired bat	72	402	carcass search	3-day 90-m cleared plot	intact	yes
05/04/2021	silver-haired bat	48	402	carcass search	3-day 90-m cleared plot	dismembered	yes
05/04/2021	silver-haired bat	46	411	carcass search	3-day 90-m cleared plot	intact	yes
05/05/2021	silver-haired bat	100	419	carcass search**	3-day 90-m cleared plot	scavenged	yes
05/05/2021	silver-haired bat	39	424	carcass search	3-day 90-m cleared plot	intact	yes
05/08/2021	eastern red bat	67	415	carcass search	3-day 90-m cleared plot	intact	yes
05/11/2021	silver-haired bat	46	415	carcass search	3-day 90-m cleared plot	intact	yes
05/12/2021	silver-haired bat	40	423	carcass search	daily 90-m cleared plot	intact	no
07/28/2021	eastern red bat	12	202	incidental	twice per week 70-m uncleared plot	intact	yes
07/30/2021	eastern red bat	7	333	incidental	twice per week 70-m uncleared plot	scavenged	yes
07/30/2021	unidentified non-myotis	30	403	carcass search	3-day 90-m cleared plot	scavenged	yes
08/01/2021	big brown bat	59	208	carcass search	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/01/2021	big brown bat	54	214	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/01/2021	eastern red bat	8	328	incidental	twice per week 70-m uncleared plot	scavenged	yes
08/01/2021	eastern red bat	38	338	incidental	twice per week 70-m uncleared plot	scavenged	yes
08/01/2021	eastern red bat	31	402	carcass search	3-day 90-m cleared plot	intact	yes
08/01/2021	eastern red bat	74	402	carcass search	3-day 90-m cleared plot	intact	yes
08/01/2021	hoary bat	18	345	incidental	twice per week 70-m uncleared plot	scavenged	yes
08/01/2021	hoary bat	7	419	incidental	twice per week road and pad	scavenged	no
08/02/2021	big brown bat	7	230	carcass search**	twice per week road and pad	scavenged	no
08/02/2021	big brown bat	34	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/02/2021	big brown bat	25	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/02/2021	big brown bat	18	423	carcass search	3-day 90-m cleared plot	scavenged	yes
08/02/2021	eastern red bat	2	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/02/2021	eastern red bat	1	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/02/2021	eastern red bat	50	407	carcass search	3-day 90-m cleared plot	intact	yes
08/02/2021	hoary bat	10	241	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/02/2021	hoary bat	49	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/02/2021	hoary bat	56	313	carcass search	twice per week 70-m uncleared plot	intact	yes
08/02/2021	hoary bat	20	315	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/02/2021	hoary bat	38	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/02/2021	hoary bat	49	407	carcass search	3-day 90-m cleared plot	intact	yes
08/02/2021	hoary bat	6	408	carcass search	twice per week road and pad	intact	no
08/02/2021	hoary bat	30	414	carcass search	3-day 90-m cleared plot	intact	yes
08/02/2021	hoary bat	31	416	carcass search	3-day 90-m cleared plot	intact	yes
08/02/2021	silver-haired bat	33	241	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/03/2021	hoary bat	42	329	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/03/2021	hoary bat	14	329	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/03/2021	hoary bat	31	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/03/2021	silver-haired bat	55	328	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/04/2021	eastern red bat	42	403	carcass search	3-day 90-m cleared plot	intact	yes
08/05/2021	eastern red bat	61	212	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/05/2021	eastern red bat	44	407	carcass search	3-day 90-m cleared plot	scavenged	yes
08/06/2021	big brown bat	23	348	carcass search	twice per week road and pad	scavenged	no
08/06/2021	eastern red bat	28	247	carcass search	twice per week road and pad	scavenged	no
08/06/2021	hoary bat	19	310	carcass search**	twice per week road and pad	scavenged	no
08/06/2021	hoary bat	38	327	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/07/2021	eastern red bat	81	402	carcass search	3-day 90-m cleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/07/2021	hoary bat	47	328	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/08/2021	eastern red bat	36	347	carcass search	twice per week 70-m uncleared plot	intact	yes
08/08/2021	eastern red bat	50	431	carcass search	3-day 90-m cleared plot	intact	yes
08/08/2021	hoary bat	54	245	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/08/2021	hoary bat	72	302	carcass search**	twice per week 70-m cleared plot	intact	yes
08/08/2021	hoary bat	72	411	carcass search	3-day 90-m cleared plot	intact	yes
08/08/2021	hoary bat	63	411	carcass search	3-day 90-m cleared plot	scavenged	yes
08/08/2021	hoary bat	55	424	carcass search	3-day 90-m cleared plot	scavenged	yes
08/09/2021	big brown bat	3	406	carcass search	twice per week road and pad	scavenged	no
08/09/2021	eastern red bat	5	218	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/09/2021	eastern red bat	70	219	carcass search	twice per week 70-m uncleared plot	intact	yes
08/09/2021	eastern red bat	33	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/09/2021	eastern red bat	21	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/09/2021	eastern red bat	25	231	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/09/2021	eastern red bat	18	409	carcass search**	twice per week road and pad	scavenged	no
08/09/2021	eastern red bat	50	429	carcass search	twice per week road and pad	scavenged	no
08/09/2021	evening bat	33	241	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/09/2021	hoary bat	42	218	carcass search	twice per week 70-m uncleared plot	intact	yes
08/09/2021	hoary bat	26	241	carcass search	twice per week 70-m uncleared plot	intact	yes
08/09/2021	hoary bat	46	313	carcass search	twice per week 70-m uncleared plot	intact	yes
08/09/2021	hoary bat	48	313	carcass search	twice per week 70-m uncleared plot	intact	yes
08/09/2021	hoary bat	28	319	carcass search	twice per week 70-m uncleared plot	intact	yes
08/09/2021	hoary bat	37	414	carcass search	3-day 90-m cleared plot	scavenged	yes
08/09/2021	hoary bat	58	420	carcass search	3-day 90-m cleared plot	scavenged	yes
08/10/2021	big brown bat	43	308	carcass search	twice per week road and pad	scavenged	no
08/10/2021	big brown bat	26	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/10/2021	big brown bat	2	346	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/10/2021	big brown bat	50	403	carcass search	3-day 90-m cleared plot	scavenged	yes
08/10/2021	eastern red bat	42	250	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/10/2021	eastern red bat	41	316	incidental	twice per week road and pad	scavenged	no
08/10/2021	eastern red bat	4	330	carcass search	twice per week road and pad	scavenged	no
08/10/2021	eastern red bat	44	331	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/10/2021	eastern red bat	11	333	carcass search	twice per week 70-m uncleared plot	dismembered	yes
08/10/2021	eastern red bat	10	334	carcass search	twice per week road and pad	intact	no
08/10/2021	eastern red bat	35	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/10/2021	eastern red bat	42	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/10/2021	eastern red bat	8	347	carcass search	twice per week 70-m uncleared plot	intact	yes
08/10/2021	eastern red bat	21	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/10/2021	eastern red bat	55	402	carcass search	3-day 90-m cleared plot	scavenged	yes
08/10/2021	eastern red bat	13	403	carcass search	3-day 90-m cleared plot	scavenged	yes
08/10/2021	eastern red bat	20	403	carcass search	3-day 90-m cleared plot	scavenged	yes
08/10/2021	eastern red bat	0	403	carcass search	3-day 90-m cleared plot	scavenged	yes
08/10/2021	hoary bat	45	245	carcass search	twice per week 70-m cleared plot	dismembered	yes
08/10/2021	hoary bat	19	317	incidental	twice per week road and pad	scavenged	no
08/10/2021	hoary bat	80	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/10/2021	hoary bat	59	402	carcass search	3-day 90-m cleared plot	intact	yes
08/10/2021	hoary bat	9	404	carcass search	3-day 90-m cleared plot	scavenged	yes
08/10/2021	silver-haired bat	15	310	carcass search	twice per week road and pad	scavenged	no
08/11/2021	big brown bat	18	407	carcass search	3-day 90-m cleared plot	intact	yes
08/11/2021	eastern red bat	26	410	carcass search	3-day 90-m cleared plot	scavenged	yes
08/11/2021	eastern red bat	18	411	carcass search	3-day 90-m cleared plot	intact	yes
08/11/2021	eastern red bat	45	415	carcass search	3-day 90-m cleared plot	dismembered	yes
08/11/2021	hoary bat	40	410	carcass search	3-day 90-m cleared plot	intact	yes
08/11/2021	hoary bat	33	411	carcass search	3-day 90-m cleared plot	scavenged	yes
08/11/2021	hoary bat	50	411	carcass search	3-day 90-m cleared plot	scavenged	yes
08/11/2021	hoary bat	47	416	carcass search	3-day 90-m cleared plot	intact	yes
08/11/2021	hoary bat	18	423	carcass search	3-day 90-m cleared plot	feather spot	yes
08/12/2021	big brown bat	41	204	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/12/2021	big brown bat	4	413	carcass search	twice per week road and pad	scavenged	no
08/12/2021	big brown bat	53	421	carcass search	twice per week road and pad	scavenged	no
08/12/2021	eastern red bat	28	204	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/12/2021	eastern red bat	45	210	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/12/2021	eastern red bat	74	218	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
08/12/2021	eastern red bat	74	219	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
08/12/2021	eastern red bat	34	302	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/12/2021	eastern red bat	28	329	incidental	twice per week 70-m uncleared plot	intact	yes
08/12/2021	eastern red bat	6	409	carcass search	twice per week road and pad	dismembered	no
08/12/2021	eastern red bat	6	409	carcass search	twice per week road and pad	scavenged	no
08/12/2021	eastern red bat	30	419	carcass search	twice per week road and pad	scavenged	no
08/12/2021	eastern red bat	35	431	carcass search	3-day 90-m cleared plot	scavenged	yes
08/12/2021	hoary bat	45	218	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/12/2021	hoary bat	55	226	carcass search	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/12/2021	unidentified non-myotis	11	224	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/13/2021	big brown bat	35	225	carcass search	twice per week road and pad	intact	no
08/13/2021	big brown bat	6	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/13/2021	eastern red bat	20	241	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/13/2021	eastern red bat	3	242	carcass search	twice per week road and pad	intact	no
08/13/2021	eastern red bat	9	243	carcass search**	twice per week road and pad	scavenged	no
08/13/2021	eastern red bat	37	301	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/13/2021	eastern red bat	11	309	carcass search	twice per week road and pad	scavenged	no
08/13/2021	eastern red bat	65	322	carcass search	twice per week road and pad	scavenged	no
08/13/2021	eastern red bat	13	324	carcass search	twice per week road and pad	scavenged	no
08/13/2021	eastern red bat	61	325	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/13/2021	eastern red bat	33	403	carcass search	3-day 90-m cleared plot	scavenged	yes
08/13/2021	eastern red bat	13	404	carcass search	3-day 90-m cleared plot	scavenged	yes
08/13/2021	eastern red bat	55	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/13/2021	eastern red bat	47	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/13/2021	hoary bat	16	254	carcass search	twice per week road and pad	scavenged	no
08/13/2021	hoary bat	33	316	carcass search	twice per week road and pad	scavenged	no
08/13/2021	hoary bat	47	327	carcass search	twice per week 70-m uncleared plot	dismembered	yes
08/13/2021	hoary bat	39	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/13/2021	hoary bat	22	405	carcass search	3-day 90-m cleared plot	intact	yes
08/14/2021	big brown bat	10	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/14/2021	big brown bat	30	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/14/2021	big brown bat	15	411	carcass search	3-day 90-m cleared plot	intact	yes
08/14/2021	eastern red bat	15	328	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/14/2021	eastern red bat	49	328	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/14/2021	eastern red bat	20	328	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/14/2021	eastern red bat	24	333	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/14/2021	eastern red bat	11	333	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/14/2021	eastern red bat	5	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/14/2021	eastern red bat	61	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/14/2021	eastern red bat	17	342	carcass search	twice per week 70-m uncleared plot	intact	yes
08/14/2021	eastern red bat	55	347	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/14/2021	eastern red bat	51	347	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/14/2021	eastern red bat	33	407	carcass search	3-day 90-m cleared plot	intact	yes
08/14/2021	eastern red bat	26	407	carcass search	3-day 90-m cleared plot	scavenged	yes
08/14/2021	eastern red bat	81	410	carcass search	3-day 90-m cleared plot	dismembered	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/14/2021	eastern red bat	39	411	carcass search	3-day 90-m cleared plot	scavenged	yes
08/14/2021	eastern red bat	36	411	carcass search	3-day 90-m cleared plot	scavenged	yes
08/14/2021	eastern red bat	23	414	carcass search	3-day 90-m cleared plot	scavenged	yes
08/14/2021	eastern red bat	65	420	carcass search	3-day 90-m cleared plot	scavenged	yes
08/14/2021	eastern red bat	44	423	carcass search	3-day 90-m cleared plot	scavenged	yes
08/14/2021	eastern red bat	59	423	carcass search	3-day 90-m cleared plot	intact	yes
08/14/2021	eastern red bat	37	423	carcass search	3-day 90-m cleared plot	scavenged	yes
08/14/2021	eastern red bat	63	424	carcass search	3-day 90-m cleared plot	scavenged	yes
08/14/2021	eastern red bat	64	424	carcass search	3-day 90-m cleared plot	scavenged	yes
08/14/2021	eastern red bat	10	431	carcass search	3-day 90-m cleared plot	scavenged	yes
08/14/2021	eastern red bat	65	431	carcass search	3-day 90-m cleared plot	scavenged	yes
08/14/2021	evening bat	41	407	carcass search	3-day 90-m cleared plot	scavenged	yes
08/14/2021	hoary bat	2	329	carcass search	twice per week 70-m uncleared plot	intact	yes
08/14/2021	hoary bat	39	344	incidental	twice per week road and pad	intact	no
08/14/2021	hoary bat	49	345	carcass search	twice per week 70-m uncleared plot	intact	yes
08/14/2021	hoary bat	21	346	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/14/2021	hoary bat	45	411	carcass search	3-day 90-m cleared plot	intact	yes
08/14/2021	Seminole bat	67	424	carcass search	3-day 90-m cleared plot	scavenged	yes
08/15/2021	big brown bat	40	207	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/15/2021	big brown bat	42	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/15/2021	eastern red bat	51	202	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/15/2021	eastern red bat	76	202	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
08/15/2021	eastern red bat	25	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/15/2021	eastern red bat	26	204	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/15/2021	eastern red bat	35	207	carcass search	twice per week 70-m uncleared plot	intact	yes
08/15/2021	eastern red bat	59	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/15/2021	eastern red bat	62	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/15/2021	eastern red bat	41	302	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/15/2021	evening bat	16	343	carcass search	twice per week 70-m uncleared plot	intact	yes
08/15/2021	hoary bat	19	204	carcass search	twice per week 70-m uncleared plot	intact	yes
08/15/2021	silver-haired bat	23	207	carcass search	twice per week 70-m uncleared plot	intact	yes
08/16/2021	big brown bat	12	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/16/2021	big brown bat	98	404	carcass search**	3-day 90-m cleared plot	scavenged	yes
08/16/2021	eastern red bat	26	234	carcass search**	twice per week road and pad	scavenged	no
08/16/2021	eastern red bat	31	234	carcass search	twice per week road and pad	intact	no
08/16/2021	eastern red bat	5	236	carcass search	twice per week road and pad	scavenged	no

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/16/2021	eastern red bat	47	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/16/2021	eastern red bat	29	313	carcass search	twice per week 70-m uncleared plot	intact	yes
08/16/2021	eastern red bat	12	313	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/16/2021	eastern red bat	73	318	carcass search**	twice per week 70-m cleared plot	scavenged	yes
08/16/2021	eastern red bat	36	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/16/2021	eastern red bat	48	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/16/2021	eastern red bat	80	325	incidental**	twice per week 70-m cleared plot	scavenged	yes
08/16/2021	eastern red bat	35	329	incidental	twice per week 70-m uncleared plot	scavenged	yes
08/16/2021	eastern red bat	79	402	carcass search	3-day 90-m cleared plot	dismembered	yes
08/16/2021	eastern red bat	35	404	carcass search	3-day 90-m cleared plot	scavenged	yes
08/16/2021	eastern red bat	37	421	carcass search	twice per week road and pad	intact	no
08/16/2021	eastern red bat	11	422	carcass search	twice per week road and pad	scavenged	no
08/16/2021	hoary bat	63	217	carcass search	twice per week road and pad	scavenged	no
08/16/2021	hoary bat	35	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/16/2021	hoary bat	36	319	carcass search	twice per week 70-m uncleared plot	intact	yes
08/16/2021	hoary bat	55	325	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/16/2021	hoary bat	56	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/16/2021	hoary bat	46	403	carcass search	3-day 90-m cleared plot	scavenged	yes
08/16/2021	hoary bat	72	403	carcass search	3-day 90-m cleared plot	scavenged	yes
08/16/2021	hoary bat	22	404	carcass search	3-day 90-m cleared plot	scavenged	yes
08/16/2021	hoary bat	57	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/16/2021	hoary bat	14	419	carcass search**	twice per week road and pad	scavenged	no
08/16/2021	silver-haired bat	30	404	carcass search	3-day 90-m cleared plot	scavenged	yes
08/16/2021	unidentified non-myotis	74	238	carcass search**	n/a	scavenged	yes
08/17/2021	big brown bat	18	314	carcass search	twice per week road and pad	scavenged	no
08/17/2021	big brown bat	56	407	carcass search	3-day 90-m cleared plot	scavenged	yes
08/17/2021	eastern red bat	44	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/17/2021	eastern red bat	35	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/17/2021	eastern red bat	23	307	carcass search	twice per week road and pad	scavenged	no
08/17/2021	eastern red bat	7	309	carcass search	twice per week road and pad	intact	no
08/17/2021	eastern red bat	30	316	carcass search	twice per week road and pad	scavenged	no
08/17/2021	eastern red bat	27	331	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/17/2021	eastern red bat	55	333	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/17/2021	eastern red bat	43	335	carcass search	twice per week road and pad	scavenged	no
08/17/2021	eastern red bat	4	337	carcass search	twice per week road and pad	scavenged	no
08/17/2021	eastern red bat	45	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/17/2021	eastern red bat	45	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/17/2021	eastern red bat	39	414	carcass search	3-day 90-m cleared plot	scavenged	yes
08/17/2021	eastern red bat	45	416	carcass search	3-day 90-m cleared plot	scavenged	yes
08/17/2021	eastern red bat	62	424	carcass search	3-day 90-m cleared plot	scavenged	yes
08/17/2021	eastern red bat	29	431	carcass search	3-day 90-m cleared plot	scavenged	yes
08/17/2021	hoary bat	18	337	carcass search	twice per week road and pad	scavenged	no
08/17/2021	hoary bat	10	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/17/2021	hoary bat	21	407	carcass search	3-day 90-m cleared plot	scavenged	yes
08/17/2021	hoary bat	18	407	carcass search	3-day 90-m cleared plot	scavenged	yes
08/17/2021	hoary bat	27	411	carcass search	3-day 90-m cleared plot	intact	yes
08/17/2021	hoary bat	55	416	carcass search	3-day 90-m cleared plot	scavenged	yes
08/17/2021	hoary bat	43	423	carcass search	3-day 90-m cleared plot	scavenged	yes
08/17/2021	silver-haired bat	49	420	carcass search	3-day 90-m cleared plot	scavenged	yes
08/19/2021	big brown bat	26	403	carcass search	3-day 90-m cleared plot	intact	yes
08/19/2021	big brown bat	21	403	carcass search	3-day 90-m cleared plot	dismembered	yes
08/19/2021	big brown bat	54	404	carcass search	3-day 90-m cleared plot	scavenged	yes
08/19/2021	big brown bat	5	419	carcass search	twice per week road and pad	scavenged	no
08/19/2021	big brown bat	7	427	carcass search	twice per week road and pad	scavenged	no
08/19/2021	eastern red bat	7	202	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/19/2021	eastern red bat	52	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/19/2021	eastern red bat	64	212	carcass search	twice per week 70-m uncleared plot	intact	yes
08/19/2021	eastern red bat	41	321	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/19/2021	eastern red bat	78	402	carcass search	3-day 90-m cleared plot	scavenged	yes
08/19/2021	eastern red bat	54	402	carcass search	3-day 90-m cleared plot	scavenged	yes
08/19/2021	eastern red bat	43	402	carcass search	3-day 90-m cleared plot	scavenged	yes
08/19/2021	eastern red bat	26	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/19/2021	eastern red bat	7	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/19/2021	eastern red bat	42	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/19/2021	eastern red bat	30	418	carcass search	twice per week road and pad	scavenged	no
08/19/2021	eastern red bat	19	419	carcass search	twice per week road and pad	scavenged	no
08/19/2021	hoary bat	20	202	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/19/2021	hoary bat	25	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/19/2021	hoary bat	29	404	carcass search	3-day 90-m cleared plot	scavenged	yes
08/19/2021	hoary bat	85	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/19/2021	hoary bat	19	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/20/2021	big brown bat	29	313	carcass search	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/20/2021	big brown bat	38	318	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/20/2021	big brown bat	17	337	carcass search	twice per week road and pad	scavenged	no
08/20/2021	big brown bat	25	337	carcass search	twice per week road and pad	scavenged	no
08/20/2021	big brown bat	29	414	carcass search	3-day 90-m cleared plot	scavenged	yes
08/20/2021	big brown bat	22	420	carcass search	3-day 90-m cleared plot	scavenged	yes
08/20/2021	big brown bat	46	431	carcass search	3-day 90-m cleared plot	scavenged	yes
08/20/2021	eastern red bat	22	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/20/2021	eastern red bat	29	315	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/20/2021	eastern red bat	71	318	carcass search**	twice per week 70-m cleared plot	scavenged	yes
08/20/2021	eastern red bat	9	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/20/2021	eastern red bat	60	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/20/2021	eastern red bat	19	334	carcass search	twice per week road and pad	scavenged	no
08/20/2021	eastern red bat	37	420	carcass search	3-day 90-m cleared plot	scavenged	yes
08/20/2021	eastern red bat	15	420	carcass search	3-day 90-m cleared plot	scavenged	yes
08/20/2021	eastern red bat	32	423	carcass search	3-day 90-m cleared plot	scavenged	yes
08/20/2021	eastern red bat	42	423	carcass search	3-day 90-m cleared plot	scavenged	yes
08/20/2021	eastern red bat	23	424	carcass search	3-day 90-m cleared plot	scavenged	yes
08/20/2021	eastern red bat	66	431	carcass search	3-day 90-m cleared plot	scavenged	yes
08/20/2021	eastern red bat	34	431	carcass search	3-day 90-m cleared plot	scavenged	yes
08/20/2021	hoary bat	16	313	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/20/2021	hoary bat	66	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/20/2021	hoary bat	73	410	carcass search	3-day 90-m cleared plot	scavenged	yes
08/20/2021	hoary bat	49	414	carcass search	3-day 90-m cleared plot	scavenged	yes
08/21/2021	big brown bat	24	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/21/2021	big brown bat	20	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/21/2021	eastern red bat	57	329	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/21/2021	eastern red bat	35	346	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/22/2021	big brown bat	30	403	carcass search	3-day 90-m cleared plot	scavenged	yes
08/22/2021	big brown bat	16	403	carcass search	3-day 90-m cleared plot	scavenged	yes
08/22/2021	eastern red bat	51	202	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/22/2021	eastern red bat	44	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/22/2021	eastern red bat	17	207	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/22/2021	eastern red bat	56	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/22/2021	eastern red bat	58	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/22/2021	hoary bat	24	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/23/2021	big brown bat	25	232	carcass search	twice per week road and pad	intact	no

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/23/2021	big brown bat	7	311	carcass search	twice per week 70-m uncleared plot	intact	yes
08/23/2021	big brown bat	34	315	carcass search	twice per week 70-m uncleared plot	intact	yes
08/23/2021	big brown bat	9	344	incidental	twice per week road and pad	intact	no
08/23/2021	big brown bat	61	405	incidental	3-day 90-m cleared plot	intact	yes
08/23/2021	big brown bat	34	407	carcass search	3-day 90-m cleared plot	scavenged	yes
08/23/2021	big brown bat	68	412	carcass search	twice per week road and pad	dismembered	no
08/23/2021	big brown bat	27	412	carcass search	twice per week road and pad	scavenged	no
08/23/2021	big brown bat	23	413	carcass search	twice per week road and pad	scavenged	no
08/23/2021	big brown bat	59	414	carcass search	3-day 90-m cleared plot	scavenged	yes
08/23/2021	big brown bat	16	417	carcass search	twice per week road and pad	scavenged	no
08/23/2021	big brown bat	40	420	carcass search	3-day 90-m cleared plot	intact	yes
08/23/2021	big brown bat	8	421	carcass search	twice per week road and pad	intact	no
08/23/2021	eastern red bat	42	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/23/2021	eastern red bat	33	231	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/23/2021	eastern red bat	1	325	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/23/2021	eastern red bat	70	325	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/23/2021	eastern red bat	30	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/23/2021	eastern red bat	83	411	carcass search	3-day 90-m cleared plot	intact	yes
08/23/2021	eastern red bat	38	414	carcass search	3-day 90-m cleared plot	scavenged	yes
08/23/2021	eastern red bat	3	415	carcass search	3-day 90-m cleared plot	intact	yes
08/23/2021	eastern red bat	83	420	carcass search	3-day 90-m cleared plot	intact	yes
08/23/2021	eastern red bat	25	420	carcass search	3-day 90-m cleared plot	scavenged	yes
08/23/2021	eastern red bat	52	423	carcass search	3-day 90-m cleared plot	scavenged	yes
08/23/2021	hoary bat	44	313	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/23/2021	hoary bat	23	327	carcass search	twice per week 70-m uncleared plot	intact	yes
08/23/2021	hoary bat	22	407	carcass search	3-day 90-m cleared plot	intact	yes
08/23/2021	hoary bat	19	425	carcass search	twice per week road and pad	dismembered	no
08/24/2021	big brown bat	40	245	carcass search	twice per week 70-m cleared plot	intact	yes
08/24/2021	big brown bat	39	333	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/24/2021	big brown bat	36	333	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/24/2021	big brown bat	18	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/24/2021	big brown bat	29	344	carcass search	twice per week road and pad	scavenged	no
08/24/2021	big brown bat	23	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/24/2021	eastern red bat	34	239	carcass search	twice per week 70-m cleared plot	intact	yes
08/24/2021	eastern red bat	18	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/24/2021	eastern red bat	62	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/24/2021	eastern red bat	23	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/24/2021	eastern red bat	76	342	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
08/24/2021	eastern red bat	19	344	carcass search	twice per week road and pad	scavenged	no
08/24/2021	hoary bat	25	332	carcass search	twice per week 70-m uncleared plot	intact	yes
08/24/2021	hoary bat	20	333	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/24/2021	hoary bat	48	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/24/2021	hoary bat	56	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/24/2021	hoary bat	12	348	carcass search**	twice per week road and pad	scavenged	no
08/25/2021	big brown bat	13	403	carcass search	3-day 90-m cleared plot	scavenged	yes
08/25/2021	eastern red bat	11	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/25/2021	eastern red bat	46	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/25/2021	eastern red bat	16	403	carcass search	3-day 90-m cleared plot	intact	yes
08/25/2021	hoary bat	50	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/25/2021	hoary bat	26	402	carcass search	3-day 90-m cleared plot	intact	yes
08/26/2021	big brown bat	5	223	carcass search	twice per week road and pad	scavenged	no
08/26/2021	big brown bat	14	409	carcass search	twice per week road and pad	scavenged	no
08/26/2021	big brown bat	26	413	carcass search	twice per week road and pad	scavenged	no
08/26/2021	big brown bat	26	414	carcass search	3-day 90-m cleared plot	scavenged	yes
08/26/2021	big brown bat	16	420	carcass search	3-day 90-m cleared plot	scavenged	yes
08/26/2021	big brown bat	26	421	carcass search	twice per week road and pad	scavenged	no
08/26/2021	big brown bat	46	424	carcass search	3-day 90-m cleared plot	scavenged	yes
08/26/2021	big brown bat	69	424	carcass search	3-day 90-m cleared plot	intact	yes
08/26/2021	big brown bat	10	430	carcass search	twice per week road and pad	scavenged	no
08/26/2021	big brown bat	13	431	carcass search	3-day 90-m cleared plot	scavenged	yes
08/26/2021	eastern red bat	68	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/26/2021	eastern red bat	11	208	carcass search	twice per week 70-m uncleared plot	intact	yes
08/26/2021	eastern red bat	27	210	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/26/2021	eastern red bat	35	210	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/26/2021	eastern red bat	49	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/26/2021	eastern red bat	63	226	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/26/2021	eastern red bat	94	410	carcass search**	3-day 90-m cleared plot	scavenged	yes
08/26/2021	eastern red bat	27	411	carcass search	3-day 90-m cleared plot	scavenged	yes
08/26/2021	eastern red bat	59	415	carcass search	3-day 90-m cleared plot	scavenged	yes
08/26/2021	eastern red bat	5	423	carcass search	3-day 90-m cleared plot	scavenged	yes
08/26/2021	eastern red bat	27	423	carcass search	3-day 90-m cleared plot	intact	yes
08/26/2021	eastern red bat	25	431	carcass search	3-day 90-m cleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine		Turbine Search Type	Search Area Type	Physical Condition	Aided Search
08/26/2021	evening bat	25	208	carcass search	twice per week 70-m uncleared plot	intact	yes
08/26/2021	hoary bat	16	222	carcass search	twice per week road and pad	scavenged	no
08/26/2021	hoary bat	1	227	carcass search	twice per week road and pad	scavenged	no
08/26/2021	hoary bat	11	412	carcass search	twice per week road and pad	scavenged	no
08/26/2021	hoary bat	56	423	carcass search	3-day 90-m cleared plot	scavenged	yes
08/26/2021	hoary bat	1	426	carcass search	twice per week road and pad	scavenged	no
08/26/2021	Seminole bat	58	423	carcass search	3-day 90-m cleared plot	intact	yes
08/27/2021	big brown bat	24	238	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/27/2021	big brown bat	48	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/27/2021	big brown bat	54	305	carcass search	twice per week road and pad	scavenged	no
08/27/2021	big brown bat	22	318	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/27/2021	big brown bat	21	320	carcass search	twice per week road and pad	scavenged	no
08/27/2021	big brown bat	27	321	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/27/2021	big brown bat	8	321	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/27/2021	big brown bat	54	344	carcass search	twice per week road and pad	scavenged	no
08/27/2021	eastern red bat	30	241	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/28/2021	big brown bat	20	239	carcass search	twice per week 70-m cleared plot	intact	yes
08/28/2021	big brown bat	36	239	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/28/2021	big brown bat	35	331	carcass search	twice per week 70-m uncleared plot	dismembered	yes
08/28/2021	big brown bat	40	338	carcass search	twice per week 70-m uncleared plot	intact	yes
08/28/2021	big brown bat	2	338	carcass search	twice per week 70-m uncleared plot	intact	yes
08/28/2021	big brown bat	14	347	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/28/2021	big brown bat	50	407	carcass search	3-day 90-m cleared plot	dismembered	yes
08/28/2021	eastern red bat	44	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/28/2021	eastern red bat	35	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/28/2021	eastern red bat	28	346	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/28/2021	eastern red bat	41	346	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/28/2021	eastern red bat	11	402	carcass search	3-day 90-m cleared plot	intact	yes
08/28/2021	eastern red bat	22	402	carcass search	3-day 90-m cleared plot	intact	yes
08/28/2021	eastern red bat	51	403	carcass search	3-day 90-m cleared plot	scavenged	yes
08/28/2021	eastern red bat	5	404	carcass search	3-day 90-m cleared plot	scavenged	yes
08/28/2021	eastern red bat	15	407	carcass search	3-day 90-m cleared plot	intact	yes
08/28/2021	hoary bat	32	339	carcass search	twice per week 70-m uncleared plot	intact	yes
08/28/2021	hoary bat	13	343	carcass search	twice per week 70-m uncleared plot	intact	yes
08/28/2021	hoary bat	38	402	carcass search	3-day 90-m cleared plot	scavenged	yes
08/28/2021	unidentified bat	88	328	carcass search**	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/29/2021	big brown bat	41	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/29/2021	big brown bat	18	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/29/2021	big brown bat	33	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	big brown bat	32	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	big brown bat	14	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	big brown bat	43	415	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	7	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/29/2021	eastern red bat	39	203	carcass search	twice per week 70-m uncleared plot	intact	yes
08/29/2021	eastern red bat	58	204	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/29/2021	eastern red bat	31	210	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/29/2021	eastern red bat	31	238	incidental	twice per week 70-m cleared plot	intact	yes
08/29/2021	eastern red bat	29	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	58	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	17	401	carcass search	3-day 90-m cleared plot	intact	yes
08/29/2021	eastern red bat	47	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	56	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	57	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	10	411	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	9	411	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	18	411	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	34	411	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	76	414	carcass search	3-day 90-m cleared plot	intact	yes
08/29/2021	eastern red bat	32	415	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	43	416	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	50	416	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	22	423	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	eastern red bat	17	423	carcass search	3-day 90-m cleared plot	intact	yes
08/29/2021	hoary bat	32	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/29/2021	hoary bat	17	218	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/29/2021	hoary bat	54	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	hoary bat	29	410	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	hoary bat	31	411	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	hoary bat	20	416	carcass search	3-day 90-m cleared plot	scavenged	yes
08/29/2021	hoary bat	43	416	carcass search	3-day 90-m cleared plot	scavenged	yes
08/30/2021	big brown bat	18	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/30/2021	big brown bat	52	235	carcass search	twice per week road and pad	scavenged	no

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/30/2021	big brown bat	20	241	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/30/2021	big brown bat	25	313	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/30/2021	eastern red bat	53	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/30/2021	eastern red bat	33	231	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/30/2021	eastern red bat	20	231	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/30/2021	eastern red bat	11	235	carcass search	twice per week road and pad	scavenged	no
08/30/2021	eastern red bat	23	250	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/30/2021	eastern red bat	7	303	carcass search	twice per week 70-m uncleared plot	intact	yes
08/30/2021	eastern red bat	44	318	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/30/2021	eastern red bat	53	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/30/2021	eastern red bat	15	325	carcass search	twice per week 70-m cleared plot	intact	yes
08/30/2021	eastern red bat	35	327	incidental	twice per week 70-m uncleared plot	scavenged	yes
08/30/2021	eastern red bat	5	417	carcass search	twice per week road and pad	scavenged	no
08/30/2021	eastern red bat	28	427	carcass search	twice per week road and pad	scavenged	no
08/30/2021	eastern red bat	11	429	carcass search	twice per week road and pad	scavenged	no
08/30/2021	eastern red bat	30	429	carcass search	twice per week road and pad	scavenged	no
08/30/2021	hoary bat	53	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/31/2021	big brown bat	33	333	carcass search	twice per week 70-m uncleared plot	dismembered	yes
08/31/2021	big brown bat	55	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/31/2021	big brown bat	35	339	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/31/2021	big brown bat	4	346	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/31/2021	big brown bat	9	347	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/31/2021	eastern red bat	26	245	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/31/2021	eastern red bat	1	248	carcass search	twice per week road and pad	dismembered	no
08/31/2021	eastern red bat	32	314	carcass search	twice per week road and pad	intact	no
08/31/2021	eastern red bat	53	327	carcass search	twice per week 70-m uncleared plot	intact	yes
08/31/2021	eastern red bat	46	327	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/31/2021	eastern red bat	21	331	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/31/2021	eastern red bat	67	339	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/31/2021	eastern red bat	3	346	carcass search	twice per week 70-m uncleared plot	intact	yes
08/31/2021	eastern red bat	6	348	carcass search	twice per week road and pad	scavenged	no
08/31/2021	eastern red bat	40	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/31/2021	eastern red bat	70	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/31/2021	eastern red bat	36	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/31/2021	eastern red bat	22	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/31/2021	eastern red bat	79	405	carcass search	3-day 90-m cleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/31/2021	hoary bat	32	304	carcass search	twice per week road and pad	scavenged	no
08/31/2021	hoary bat	38	314	carcass search	twice per week road and pad	intact	no
08/31/2021	hoary bat	9	315	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/31/2021	hoary bat	32	327	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/31/2021	hoary bat	8	331	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/31/2021	hoary bat	49	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/31/2021	silver-haired bat	9	309	carcass search	twice per week road and pad	intact	no
08/31/2021	silver-haired bat	39	401	carcass search	3-day 90-m cleared plot	scavenged	yes
08/31/2021	unidentified non-myotis	35	328	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/01/2021	big brown bat	29	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/01/2021	big brown bat	79	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	big brown bat	22	411	carcass search	3-day 90-m cleared plot	intact	yes
09/01/2021	big brown bat	70	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	eastern red bat	14	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	eastern red bat	86	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	eastern red bat	18	407	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	eastern red bat	30	410	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	eastern red bat	75	411	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	eastern red bat	52	411	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	eastern red bat	81	414	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	eastern red bat	74	415	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	eastern red bat	71	415	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	eastern red bat	70	423	carcass search	3-day 90-m cleared plot	intact	yes
09/01/2021	eastern red bat	78	423	carcass search	3-day 90-m cleared plot	intact	yes
09/01/2021	eastern red bat	29	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	eastern red bat	16	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	eastern red bat	27	424	carcass search	3-day 90-m cleared plot	dismembered	yes
09/01/2021	eastern red bat	30	431	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	hoary bat	6	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	hoary bat	21	414	carcass search	3-day 90-m cleared plot	dismembered	yes
09/01/2021	hoary bat	32	414	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	hoary bat	74	420	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	silver-haired bat	41	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	silver-haired bat	70	407	carcass search	3-day 90-m cleared plot	intact	yes
09/01/2021	silver-haired bat	44	414	carcass search	3-day 90-m cleared plot	intact	yes
09/01/2021	silver-haired bat	44	414	carcass search	3-day 90-m cleared plot	intact	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/01/2021	silver-haired bat	3	415	carcass search	3-day 90-m cleared plot	intact	yes
09/01/2021	silver-haired bat	62	415	carcass search	3-day 90-m cleared plot	intact	yes
09/01/2021	silver-haired bat	54	416	carcass search	3-day 90-m cleared plot	intact	yes
09/01/2021	silver-haired bat	68	420	carcass search	3-day 90-m cleared plot	intact	yes
09/01/2021	silver-haired bat	45	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	silver-haired bat	48	424	carcass search	3-day 90-m cleared plot	intact	yes
09/02/2021	big brown bat	47	202	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/02/2021	big brown bat	36	205	carcass search	twice per week road and pad	scavenged	no
09/02/2021	big brown bat	8	207	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/02/2021	eastern red bat	31	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/02/2021	eastern red bat	37	226	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/02/2021	eastern red bat	13	228	carcass search	twice per week road and pad	scavenged	no
09/02/2021	eastern red bat	77	406	carcass search	twice per week road and pad	intact	no
09/02/2021	eastern red bat	17	418	carcass search	twice per week road and pad	scavenged	no
09/02/2021	eastern red bat	16	427	carcass search	twice per week road and pad	intact	no
09/02/2021	Seminole bat	25	211	carcass search	twice per week 70-m uncleared plot	intact	yes
09/02/2021	silver-haired bat	27	208	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	big brown bat	52	238	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/03/2021	big brown bat	30	301	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	big brown bat	11	301	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	big brown bat	27	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	big brown bat	50	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	eastern red bat	51	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	eastern red bat	25	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	eastern red bat	49	313	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	eastern red bat	30	315	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	eastern red bat	86	401	carcass search	3-day 90-m cleared plot	scavenged	yes
09/03/2021	eastern red bat	40	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/03/2021	eastern red bat	81	405	carcass search	3-day 90-m cleared plot	scavenged	yes
09/03/2021	eastern red bat	50	405	carcass search	3-day 90-m cleared plot	scavenged	yes
09/03/2021	hoary bat	28	241	carcass search	twice per week 70-m uncleared plot	dismembered	yes
09/03/2021	hoary bat	33	250	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	hoary bat	7	314	carcass search	twice per week road and pad	scavenged	no
09/03/2021	hoary bat	20	321	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	hoary bat	25	337	carcass search**	twice per week road and pad	scavenged	no
09/03/2021	silver-haired bat	71	241	carcass search**	twice per week 70-m uncleared plot	scavenged	yes

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Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/03/2021	silver-haired bat	46	301	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	silver-haired bat	20	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	silver-haired bat	46	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	silver-haired bat	43	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	silver-haired bat	72	311	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	silver-haired bat	54	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	silver-haired bat	33	348	carcass search	twice per week road and pad	intact	no
09/03/2021	silver-haired bat	80	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/03/2021	silver-haired bat	30	403	carcass search	3-day 90-m cleared plot	dismembered	yes
09/03/2021	silver-haired bat	55	404	carcass search	3-day 90-m cleared plot	scavenged	yes
09/03/2021	silver-haired bat	87	405	carcass search	3-day 90-m cleared plot	scavenged	yes
09/03/2021	silver-haired bat	27	405	carcass search	3-day 90-m cleared plot	scavenged	yes
09/03/2021	silver-haired bat	25	405	carcass search	3-day 90-m cleared plot	scavenged	yes
09/04/2021	big brown bat	48	332	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	big brown bat	16	339	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	big brown bat	14	414	carcass search	3-day 90-m cleared plot	intact	yes
09/04/2021	eastern red bat	14	245	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/04/2021	eastern red bat	31	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/04/2021	eastern red bat	28	329	carcass search	twice per week 70-m uncleared plot	intact	yes
09/04/2021	eastern red bat	41	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	eastern red bat	28	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	eastern red bat	41	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	eastern red bat	19	346	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	eastern red bat	71	410	carcass search	3-day 90-m cleared plot	scavenged	yes
09/04/2021	eastern red bat	65	410	carcass search	3-day 90-m cleared plot	intact	yes
09/04/2021	eastern red bat	55	411	carcass search	3-day 90-m cleared plot	scavenged	yes
09/04/2021	eastern red bat	61	431	carcass search	3-day 90-m cleared plot	scavenged	yes
09/04/2021	eastern red bat	70	431	carcass search	3-day 90-m cleared plot	scavenged	yes
09/04/2021	hoary bat	40	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	hoary bat	24	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	hoary bat	57	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	hoary bat	63	424	carcass search	3-day 90-m cleared plot	dismembered	yes
09/04/2021	silver-haired bat	49	245	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/04/2021	silver-haired bat	44	245	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/04/2021	silver-haired bat	65	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/04/2021	silver-haired bat	41	332	carcass search	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/04/2021	silver-haired bat	16	333	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	silver-haired bat	37	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	silver-haired bat	55	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	silver-haired bat	19	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	silver-haired bat	29	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/04/2021	silver-haired bat	36	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/04/2021	silver-haired bat	59	423	carcass search	3-day 90-m cleared plot	dismembered	yes
09/04/2021	unidentified lasiurus bat	30	339	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/05/2021	big brown bat	34	214	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/05/2021	eastern red bat	54	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/05/2021	eastern red bat	18	209	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/05/2021	hoary bat	45	204	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/05/2021	silver-haired bat	48	202	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/05/2021	unidentified non-myotis	23	210	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/06/2021	big brown bat	16	331	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/06/2021	big brown bat	17	331	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/06/2021	big brown bat	52	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/06/2021	eastern red bat	19	303	carcass search	twice per week 70-m uncleared plot	intact	yes
09/06/2021	eastern red bat	75	318	carcass search**	twice per week 70-m cleared plot	scavenged	yes
09/06/2021	eastern red bat	13	401	carcass search	3-day 90-m cleared plot	scavenged	yes
09/06/2021	hoary bat	63	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/06/2021	hoary bat	35	321	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/06/2021	hoary bat	56	321	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/06/2021	hoary bat	17	332	incidental	twice per week 70-m uncleared plot	intact	yes
09/06/2021	silver-haired bat	62	241	carcass search	twice per week 70-m uncleared plot	intact	yes
09/06/2021	silver-haired bat	70	318	carcass search	twice per week 70-m cleared plot	intact	yes
09/06/2021	silver-haired bat	64	321	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/06/2021	silver-haired bat	11	327	carcass search	twice per week 70-m uncleared plot	intact	yes
09/06/2021	silver-haired bat	27	347	incidental	twice per week 70-m uncleared plot	scavenged	yes
09/06/2021	silver-haired bat	25	401	carcass search	3-day 90-m cleared plot	scavenged	yes
09/06/2021	silver-haired bat	3	401	carcass search	3-day 90-m cleared plot	scavenged	yes
09/06/2021	silver-haired bat	22	405	carcass search	3-day 90-m cleared plot	scavenged	yes
09/07/2021	big brown bat	21	230	carcass search	twice per week road and pad	scavenged	no
09/07/2021	big brown bat	43	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/07/2021	eastern red bat	26	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/07/2021	eastern red bat	27	252	carcass search	twice per week 70-m cleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/07/2021	eastern red bat	64	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/07/2021	eastern red bat	47	301	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/07/2021	eastern red bat	54	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/07/2021	eastern red bat	41	346	carcass search	twice per week 70-m uncleared plot	intact	yes
09/07/2021	eastern red bat	62	346	carcass search	twice per week 70-m uncleared plot	intact	yes
09/07/2021	eastern red bat	68	415	carcass search	3-day 90-m cleared plot	scavenged	yes
09/07/2021	hoary bat	70	424	carcass search	3-day 90-m cleared plot	intact	yes
09/07/2021	silver-haired bat	40	230	carcass search**	twice per week road and pad	scavenged	no
09/07/2021	silver-haired bat	41	238	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/07/2021	silver-haired bat	52	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/07/2021	silver-haired bat	42	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/07/2021	silver-haired bat	49	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/07/2021	silver-haired bat	38	345	carcass search	twice per week 70-m uncleared plot	intact	yes
09/07/2021	silver-haired bat	37	345	carcass search	twice per week 70-m uncleared plot	dismembered	yes
09/07/2021	silver-haired bat	81	410	carcass search	3-day 90-m cleared plot	scavenged	yes
09/07/2021	silver-haired bat	34	411	carcass search	3-day 90-m cleared plot	intact	yes
09/07/2021	silver-haired bat	18	421	carcass search	twice per week road and pad	scavenged	no
09/07/2021	silver-haired bat	81	431	carcass search	3-day 90-m cleared plot	intact	yes
09/08/2021	big brown bat	36	309	carcass search	twice per week road and pad	intact	no
09/08/2021	hoary bat	53	308	carcass search	twice per week road and pad	intact	no
09/08/2021	hoary bat	50	317	carcass search	twice per week road and pad	intact	no
09/08/2021	hoary bat	52	334	carcass search	twice per week road and pad	scavenged	no
09/08/2021	silver-haired bat	4	304	carcass search	twice per week road and pad	scavenged	no
09/08/2021	silver-haired bat	2	305	carcass search	twice per week road and pad	intact	no
09/08/2021	silver-haired bat	19	308	carcass search	twice per week road and pad	dismembered	no
09/08/2021	silver-haired bat	43	316	carcass search	twice per week road and pad	scavenged	no
09/08/2021	silver-haired bat	9	317	carcass search	twice per week road and pad	dismembered	no
09/08/2021	silver-haired bat	1	340	carcass search	twice per week road and pad	intact	no
09/08/2021	silver-haired bat	21	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/09/2021	big brown bat	76	410	carcass search	3-day 90-m cleared plot	intact	yes
09/09/2021	big brown bat	45	424	incidental	3-day 90-m cleared plot	scavenged	yes
09/09/2021	eastern red bat	45	207	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/09/2021	eastern red bat	47	238	incidental	twice per week 70-m cleared plot	intact	yes
09/09/2021	eastern red bat	36	407	carcass search	3-day 90-m cleared plot	scavenged	yes
09/09/2021	hoary bat	76	219	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/09/2021	hoary bat	49	238	incidental	twice per week 70-m cleared plot	intact	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/09/2021	silver-haired bat	34	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/09/2021	silver-haired bat	46	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/09/2021	silver-haired bat	46	238	incidental	twice per week 70-m cleared plot	scavenged	yes
09/09/2021	silver-haired bat	45	302	carcass search	twice per week 70-m cleared plot	intact	yes
09/09/2021	silver-haired bat	28	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/09/2021	silver-haired bat	48	407	carcass search	3-day 90-m cleared plot	scavenged	yes
09/09/2021	silver-haired bat	76	407	carcass search	3-day 90-m cleared plot	scavenged	yes
09/10/2021	big brown bat	8	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/10/2021	big brown bat	30	241	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/10/2021	big brown bat	9	347	incidental	twice per week 70-m uncleared plot	intact	yes
09/10/2021	big brown bat	42	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/10/2021	eastern red bat	7	231	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/10/2021	eastern red bat	31	231	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/10/2021	eastern red bat	33	241	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/10/2021	eastern red bat	26	301	carcass search	twice per week 70-m uncleared plot	intact	yes
09/10/2021	eastern red bat	21	313	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/10/2021	eastern red bat	22	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/10/2021	eastern red bat	16	411	carcass search	3-day 90-m cleared plot	intact	yes
09/10/2021	eastern red bat	55	431	carcass search	3-day 90-m cleared plot	scavenged	yes
09/10/2021	hoary bat	45	239	incidental	twice per week 70-m cleared plot	scavenged	yes
09/10/2021	hoary bat	38	241	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/10/2021	hoary bat	55	245	carcass search	twice per week 70-m cleared plot	intact	yes
09/10/2021	hoary bat	20	411	carcass search	3-day 90-m cleared plot	intact	yes
09/10/2021	silver-haired bat	24	317	carcass search	twice per week road and pad	scavenged	no
09/10/2021	silver-haired bat	46	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/10/2021	silver-haired bat	16	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/10/2021	silver-haired bat	19	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/10/2021	silver-haired bat	16	401	incidental	3-day 90-m cleared plot	scavenged	yes
09/10/2021	silver-haired bat	54	411	carcass search	3-day 90-m cleared plot	scavenged	yes
09/10/2021	silver-haired bat	35	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/10/2021	silver-haired bat	49	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/10/2021	silver-haired bat	49	431	carcass search	3-day 90-m cleared plot	scavenged	yes
09/11/2021	eastern red bat	21	346	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/11/2021	silver-haired bat	31	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/12/2021	big brown bat	13	405	carcass search	3-day 90-m cleared plot	scavenged	yes
09/12/2021	eastern red bat	67	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/12/2021	eastern red bat	52	226	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/12/2021	eastern red bat	71	226	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/12/2021	eastern red bat	56	401	carcass search	3-day 90-m cleared plot	scavenged	yes
09/12/2021	eastern red bat	85	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/12/2021	eastern red bat	48	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/12/2021	hoary bat	59	208	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/12/2021	hoary bat	35	302	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/12/2021	hoary bat	56	302	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/12/2021	silver-haired bat	50	202	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/12/2021	silver-haired bat	78	202	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/12/2021	silver-haired bat	61	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/12/2021	silver-haired bat	70	204	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/12/2021	silver-haired bat	20	302	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/12/2021	silver-haired bat	52	302	carcass search	twice per week 70-m cleared plot	dismembered	yes
09/12/2021	silver-haired bat	68	401	carcass search	3-day 90-m cleared plot	intact	yes
09/12/2021	silver-haired bat	45	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/12/2021	silver-haired bat	67	402	carcass search	3-day 90-m cleared plot	intact	yes
09/12/2021	silver-haired bat	49	428	incidental	twice per week road and pad	intact	no
09/13/2021	big brown bat	63	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/13/2021	big brown bat	28	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/13/2021	big brown bat	10	431	carcass search	3-day 90-m cleared plot	intact	yes
09/13/2021	eastern red bat	68	231	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/13/2021	eastern red bat	6	231	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/13/2021	eastern red bat	33	252	incidental	twice per week 70-m cleared plot	scavenged	yes
09/13/2021	eastern red bat	26	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/13/2021	eastern red bat	36	318	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/13/2021	eastern red bat	83	414	carcass search	3-day 90-m cleared plot	scavenged	yes
09/13/2021	eastern red bat	57	416	carcass search	3-day 90-m cleared plot	scavenged	yes
09/13/2021	eastern red bat	33	420	carcass search	3-day 90-m cleared plot	scavenged	yes
09/13/2021	eastern red bat	58	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/13/2021	hoary bat	20	225	carcass search	twice per week road and pad	intact	no
09/13/2021	hoary bat	30	301	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/13/2021	hoary bat	46	321	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/13/2021	hoary bat	27	421	carcass search	twice per week road and pad	intact	no
09/13/2021	hoary bat	73	431	carcass search	3-day 90-m cleared plot	scavenged	yes
09/13/2021	Seminole bat	24	415	carcass search	3-day 90-m cleared plot	intact	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/13/2021	silver-haired bat	53	238	carcass search	twice per week 70-m cleared plot	intact	yes
09/13/2021	silver-haired bat	47	318	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/13/2021	silver-haired bat	71	407	carcass search	3-day 90-m cleared plot	scavenged	yes
09/13/2021	silver-haired bat	69	407	carcass search	3-day 90-m cleared plot	intact	yes
09/13/2021	silver-haired bat	52	411	carcass search	3-day 90-m cleared plot	scavenged	yes
09/13/2021	silver-haired bat	70	414	carcass search	3-day 90-m cleared plot	scavenged	yes
09/13/2021	silver-haired bat	30	415	carcass search	3-day 90-m cleared plot	intact	yes
09/13/2021	silver-haired bat	74	416	carcass search	3-day 90-m cleared plot	intact	yes
09/13/2021	silver-haired bat	5	419	carcass search	twice per week road and pad	dismembered	no
09/13/2021	silver-haired bat	61	420	carcass search	3-day 90-m cleared plot	intact	yes
09/13/2021	silver-haired bat	32	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/13/2021	silver-haired bat	91	427	carcass search	twice per week road and pad	scavenged	no
09/13/2021	silver-haired bat	50	427	carcass search**	twice per week road and pad	scavenged	no
09/13/2021	silver-haired bat	71	431	carcass search	3-day 90-m cleared plot	scavenged	yes
09/14/2021	eastern red bat	19	245	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/14/2021	eastern red bat	50	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/14/2021	eastern red bat	30	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/14/2021	hoary bat	16	339	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/14/2021	silver-haired bat	47	245	carcass search	twice per week 70-m cleared plot	intact	yes
09/14/2021	silver-haired bat	60	245	carcass search	twice per week 70-m cleared plot	intact	yes
09/14/2021	silver-haired bat	1	317	carcass search	twice per week road and pad	intact	no
09/14/2021	silver-haired bat	59	329	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/14/2021	silver-haired bat	49	329	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/14/2021	silver-haired bat	22	332	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/14/2021	unidentified non-myotis	53	328	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/14/2021	unidentified non-myotis	40	328	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/15/2021	eastern red bat	35	401	carcass search	3-day 90-m cleared plot	intact	yes
09/15/2021	eastern red bat	72	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/15/2021	hoary bat	18	402	carcass search	3-day 90-m cleared plot	intact	yes
09/15/2021	hoary bat	51	403	carcass search	3-day 90-m cleared plot	intact	yes
09/15/2021	hoary bat	5	405	carcass search	3-day 90-m cleared plot	scavenged	yes
09/15/2021	silver-haired bat	36	401	carcass search	3-day 90-m cleared plot	intact	yes
09/15/2021	silver-haired bat	49	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/15/2021	silver-haired bat	22	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/15/2021	silver-haired bat	22	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/16/2021	big brown bat	44	421	carcass search	twice per week road and pad	scavenged	no

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/16/2021	eastern red bat	62	210	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/16/2021	eastern red bat	77	410	carcass search	3-day 90-m cleared plot	scavenged	yes
09/16/2021	eastern red bat	41	415	carcass search	3-day 90-m cleared plot	intact	yes
09/16/2021	eastern red bat	66	415	carcass search	3-day 90-m cleared plot	intact	yes
09/16/2021	eastern red bat	32	423	carcass search	3-day 90-m cleared plot	intact	yes
09/16/2021	eastern red bat	40	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/16/2021	hoary bat	23	210	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/16/2021	hoary bat	42	407	carcass search	3-day 90-m cleared plot	intact	yes
09/16/2021	hoary bat	70	416	carcass search	3-day 90-m cleared plot	scavenged	yes
09/16/2021	hoary bat	29	431	carcass search	3-day 90-m cleared plot	scavenged	yes
09/16/2021	silver-haired bat	38	204	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/16/2021	silver-haired bat	44	208	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/16/2021	silver-haired bat	63	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/16/2021	silver-haired bat	30	219	carcass search	twice per week 70-m uncleared plot	dismembered	yes
09/16/2021	silver-haired bat	40	302	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/16/2021	silver-haired bat	3	335	carcass search	twice per week road and pad	intact	no
09/16/2021	silver-haired bat	20	410	carcass search	3-day 90-m cleared plot	scavenged	yes
09/16/2021	silver-haired bat	58	421	carcass search	twice per week road and pad	intact	no
09/16/2021	silver-haired bat	27	423	carcass search	3-day 90-m cleared plot	intact	yes
09/16/2021	silver-haired bat	24	424	carcass search	3-day 90-m cleared plot	intact	yes
09/16/2021	silver-haired bat	93	431	carcass search**	3-day 90-m cleared plot	scavenged	yes
09/17/2021	big brown bat	54	301	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/17/2021	big brown bat	12	307	carcass search	twice per week road and pad	intact	no
09/17/2021	big brown bat	46	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/17/2021	big brown bat	54	319	carcass search	twice per week 70-m uncleared plot	intact	yes
09/17/2021	hoary bat	16	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/17/2021	hoary bat	46	318	carcass search	twice per week 70-m cleared plot	intact	yes
09/17/2021	hoary bat	70	325	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/17/2021	silver-haired bat	35	231	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/17/2021	silver-haired bat	13	306	carcass search	twice per week road and pad	scavenged	no
09/17/2021	silver-haired bat	19	308	carcass search**	twice per week road and pad	intact	no
09/17/2021	silver-haired bat	19	313	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/17/2021	silver-haired bat	22	321	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/17/2021	silver-haired bat	75	325	carcass search**	twice per week 70-m cleared plot	scavenged	yes
09/18/2021	big brown bat	14	332	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/18/2021	eastern red bat	92	401	carcass search**	3-day 90-m cleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/18/2021	hoary bat	27	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/18/2021	hoary bat	25	327	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/18/2021	hoary bat	52	402	carcass search	3-day 90-m cleared plot	intact	yes
09/18/2021	silver-haired bat	59	239	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/18/2021	silver-haired bat	45	239	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/18/2021	silver-haired bat	43	239	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/18/2021	silver-haired bat	35	239	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/18/2021	silver-haired bat	76	338	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/18/2021	silver-haired bat	25	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/18/2021	silver-haired bat	90	342	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/18/2021	silver-haired bat	47	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/18/2021	silver-haired bat	80	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/18/2021	silver-haired bat	55	404	carcass search	3-day 90-m cleared plot	scavenged	yes
09/18/2021	unidentified bat	58	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/19/2021	big brown bat	50	411	carcass search	3-day 90-m cleared plot	intact	yes
09/19/2021	eastern red bat	4	207	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/19/2021	eastern red bat	83	411	carcass search	3-day 90-m cleared plot	intact	yes
09/19/2021	eastern red bat	50	414	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	eastern red bat	95	414	carcass search**	3-day 90-m cleared plot	scavenged	yes
09/19/2021	eastern red bat	52	414	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	eastern red bat	54	414	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	eastern red bat	44	416	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	eastern red bat	30	416	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	eastern red bat	50	420	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	eastern red bat	82	420	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	hoary bat	51	405	carcass search	3-day 90-m cleared plot	intact	yes
09/19/2021	hoary bat	24	405	carcass search	3-day 90-m cleared plot	dismembered	yes
09/19/2021	hoary bat	17	407	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	hoary bat	25	423	carcass search	3-day 90-m cleared plot	intact	yes
09/19/2021	silver-haired bat	48	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/19/2021	silver-haired bat	39	204	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/19/2021	silver-haired bat	38	208	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/19/2021	silver-haired bat	33	210	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/19/2021	silver-haired bat	34	212	carcass search	twice per week 70-m uncleared plot	intact	yes
09/19/2021	silver-haired bat	39	212	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/19/2021	silver-haired bat	40	214	carcass search	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/19/2021	silver-haired bat	46	405	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	silver-haired bat	28	405	carcass search	3-day 90-m cleared plot	intact	yes
09/19/2021	silver-haired bat	38	411	carcass search	3-day 90-m cleared plot	intact	yes
09/19/2021	silver-haired bat	40	415	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	silver-haired bat	52	416	carcass search	3-day 90-m cleared plot	intact	yes
09/19/2021	silver-haired bat	70	420	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	silver-haired bat	5	420	carcass search	3-day 90-m cleared plot	intact	yes
09/19/2021	silver-haired bat	2	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	silver-haired bat	77	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	silver-haired bat	86	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/19/2021	silver-haired bat	14	424	carcass search	3-day 90-m cleared plot	intact	yes
09/19/2021	silver-haired bat	25	431	carcass search	3-day 90-m cleared plot	intact	yes
09/20/2021	big brown bat	34	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/20/2021	big brown bat	10	413	carcass search	twice per week road and pad	intact	no
09/20/2021	eastern red bat	40	228	carcass search**	twice per week road and pad	intact	no
09/20/2021	eastern red bat	59	228	carcass search	twice per week road and pad	scavenged	no
09/20/2021	eastern red bat	25	228	carcass search	twice per week road and pad	scavenged	no
09/20/2021	eastern red bat	46	313	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/20/2021	eastern red bat	42	315	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/20/2021	eastern red bat	41	315	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/20/2021	eastern red bat	39	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/20/2021	hoary bat	5	234	carcass search	twice per week road and pad	scavenged	no
09/20/2021	hoary bat	53	315	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/20/2021	hoary bat	9	325	carcass search	twice per week 70-m cleared plot	intact	yes
09/20/2021	hoary bat	24	421	carcass search	twice per week road and pad	scavenged	no
09/20/2021	silver-haired bat	32	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/20/2021	silver-haired bat	69	229	carcass search	twice per week 70-m uncleared plot	intact	yes
09/20/2021	silver-haired bat	47	238	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/20/2021	silver-haired bat	45	238	carcass search	twice per week 70-m cleared plot	intact	yes
09/20/2021	silver-haired bat	20	313	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/20/2021	silver-haired bat	55	319	carcass search	twice per week 70-m uncleared plot	intact	yes
09/20/2021	silver-haired bat	21	319	carcass search	twice per week 70-m uncleared plot	intact	yes
09/20/2021	silver-haired bat	0	321	carcass search	twice per week 70-m uncleared plot	intact	yes
09/20/2021	silver-haired bat	37	321	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/20/2021	silver-haired bat	30	325	carcass search	twice per week 70-m cleared plot	intact	yes
09/20/2021	silver-haired bat	42	325	carcass search	twice per week 70-m cleared plot	intact	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/20/2021	silver-haired bat	15	325	carcass search	twice per week 70-m cleared plot	intact	yes
09/20/2021	silver-haired bat	37	345	carcass search	twice per week 70-m uncleared plot	intact	yes
09/20/2021	silver-haired bat	33	406	carcass search	twice per week road and pad	scavenged	no
09/20/2021	silver-haired bat	34	406	carcass search	twice per week road and pad	intact	no
09/20/2021	silver-haired bat	38	421	carcass search	twice per week road and pad	intact	no
09/20/2021	silver-haired bat	42	425	carcass search**	twice per week road and pad	intact	no
09/20/2021	silver-haired bat	22	425	carcass search	twice per week road and pad	intact	no
09/20/2021	silver-haired bat	19	425	carcass search	twice per week road and pad	intact	no
09/20/2021	silver-haired bat	35	426	carcass search	twice per week road and pad	intact	no
09/20/2021	silver-haired bat	50	430	carcass search	twice per week road and pad	intact	no
09/20/2021	unidentified bat	41	327	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/21/2021	eastern red bat	61	245	carcass search	twice per week 70-m cleared plot	intact	yes
09/21/2021	eastern red bat	41	254	carcass search	twice per week road and pad	scavenged	no
09/21/2021	eastern red bat	52	329	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/21/2021	eastern red bat	14	336	carcass search	twice per week road and pad	scavenged	no
09/21/2021	eastern red bat	60	339	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/21/2021	eastern red bat	3	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/21/2021	eastern red bat	94	401	carcass search**	3-day 90-m cleared plot	scavenged	yes
09/21/2021	eastern red bat	52	401	carcass search	3-day 90-m cleared plot	intact	yes
09/21/2021	eastern red bat	82	401	carcass search	3-day 90-m cleared plot	intact	yes
09/21/2021	eastern red bat	21	401	carcass search	3-day 90-m cleared plot	intact	yes
09/21/2021	eastern red bat	55	405	carcass search	3-day 90-m cleared plot	scavenged	yes
09/21/2021	hoary bat	60	245	carcass search	twice per week 70-m cleared plot	intact	yes
09/21/2021	hoary bat	43	335	carcass search	twice per week road and pad	intact	no
09/21/2021	hoary bat	89	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/21/2021	Seminole bat	44	254	carcass search	twice per week road and pad	scavenged	no
09/21/2021	silver-haired bat	62	239	carcass search	twice per week 70-m cleared plot	intact	yes
09/21/2021	silver-haired bat	53	322	carcass search	twice per week road and pad	scavenged	no
09/21/2021	silver-haired bat	18	331	carcass search	twice per week 70-m uncleared plot	intact	yes
09/21/2021	silver-haired bat	20	333	carcass search	twice per week 70-m uncleared plot	intact	yes
09/21/2021	silver-haired bat	57	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/21/2021	silver-haired bat	48	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/21/2021	silver-haired bat	67	339	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/21/2021	silver-haired bat	43	342	carcass search	twice per week 70-m uncleared plot	intact	yes
09/21/2021	silver-haired bat	76	342	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/21/2021	silver-haired bat	30	343	carcass search	twice per week 70-m uncleared plot	intact	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/21/2021	silver-haired bat	53	346	carcass search	twice per week 70-m uncleared plot	intact	yes
09/21/2021	silver-haired bat	32	346	carcass search	twice per week 70-m uncleared plot	intact	yes
09/21/2021	silver-haired bat	61	401	carcass search	3-day 90-m cleared plot	intact	yes
09/21/2021	silver-haired bat	71	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/21/2021	silver-haired bat	56	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/21/2021	silver-haired bat	41	402	carcass search	3-day 90-m cleared plot	intact	yes
09/21/2021	silver-haired bat	16	402	carcass search	3-day 90-m cleared plot	intact	yes
09/21/2021	silver-haired bat	59	402	carcass search	3-day 90-m cleared plot	intact	yes
09/21/2021	silver-haired bat	44	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/21/2021	silver-haired bat	50	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/21/2021	silver-haired bat	17	402	carcass search	3-day 90-m cleared plot	intact	yes
09/21/2021	silver-haired bat	9	403	carcass search	3-day 90-m cleared plot	intact	yes
09/21/2021	silver-haired bat	39	403	carcass search	3-day 90-m cleared plot	intact	yes
09/21/2021	silver-haired bat	35	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/21/2021	silver-haired bat	47	404	carcass search	3-day 90-m cleared plot	scavenged	yes
09/21/2021	silver-haired bat	57	404	carcass search	3-day 90-m cleared plot	scavenged	yes
09/21/2021	silver-haired bat	91	404	carcass search**	3-day 90-m cleared plot	scavenged	yes
09/21/2021	silver-haired bat	40	405	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	eastern red bat	59	410	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	eastern red bat	87	411	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	eastern red bat	84	415	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	eastern red bat	42	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	eastern red bat	26	431	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	hoary bat	46	410	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	69	407	carcass search	3-day 90-m cleared plot	intact	yes
09/22/2021	silver-haired bat	55	407	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	38	407	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	49	407	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	58	410	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	14	410	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	35	410	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	47	410	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	20	411	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	71	411	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	83	415	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	40	416	carcass search	3-day 90-m cleared plot	scavenged	yes

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Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/22/2021	silver-haired bat	39	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	54	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	50	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/22/2021	silver-haired bat	1	431	carcass search	3-day 90-m cleared plot	scavenged	yes
09/23/2021	eastern red bat	70	209	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/23/2021	eastern red bat	48	212	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/23/2021	eastern red bat	58	214	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/23/2021	eastern red bat	81	232	carcass search	twice per week road and pad	intact	no
09/23/2021	hoary bat	53	210	carcass search	twice per week 70-m uncleared plot	dismembered	yes
09/23/2021	hoary bat	19	230	carcass search	twice per week road and pad	scavenged	no
09/23/2021	silver-haired bat	35	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/23/2021	silver-haired bat	72	204	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/23/2021	silver-haired bat	48	210	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/23/2021	silver-haired bat	24	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/23/2021	silver-haired bat	85	422	carcass search	twice per week road and pad	intact	no
09/24/2021	eastern red bat	6	231	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/24/2021	eastern red bat	64	231	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/24/2021	eastern red bat	35	245	incidental	twice per week 70-m cleared plot	scavenged	yes
09/24/2021	eastern red bat	56	250	carcass search	twice per week 70-m uncleared plot	intact	yes
09/24/2021	eastern red bat	22	328	incidental	twice per week 70-m uncleared plot	scavenged	yes
09/24/2021	eastern red bat	58	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/24/2021	hoary bat	22	402	carcass search	3-day 90-m cleared plot	intact	yes
09/24/2021	silver-haired bat	47	208	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/24/2021	silver-haired bat	41	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/24/2021	silver-haired bat	34	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/24/2021	silver-haired bat	98	231	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/24/2021	silver-haired bat	46	238	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/24/2021	silver-haired bat	16	239	incidental	twice per week 70-m cleared plot	intact	yes
09/24/2021	silver-haired bat	44	241	carcass search	twice per week 70-m uncleared plot	intact	yes
09/24/2021	silver-haired bat	44	241	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/24/2021	silver-haired bat	51	241	carcass search	twice per week 70-m uncleared plot	dismembered	yes
09/24/2021	silver-haired bat	48	250	carcass search	twice per week 70-m uncleared plot	intact	yes
09/24/2021	silver-haired bat	24	255	carcass search	twice per week road and pad	scavenged	no
09/24/2021	silver-haired bat	31	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/24/2021	silver-haired bat	36	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/24/2021	silver-haired bat	24	315	carcass search	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/24/2021	silver-haired bat	31	316	carcass search	twice per week road and pad	dismembered	no
09/24/2021	silver-haired bat	77	319	carcass search**	twice per week 70-m uncleared plot	intact	yes
09/24/2021	silver-haired bat	76	319	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/24/2021	silver-haired bat	58	321	carcass search	twice per week 70-m uncleared plot	intact	yes
09/24/2021	silver-haired bat	59	325	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/24/2021	silver-haired bat	55	325	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/24/2021	silver-haired bat	69	401	carcass search	3-day 90-m cleared plot	scavenged	yes
09/24/2021	silver-haired bat	37	404	carcass search	3-day 90-m cleared plot	intact	yes
09/24/2021	silver-haired bat	54	405	carcass search	3-day 90-m cleared plot	intact	yes
09/25/2021	big brown bat	62	339	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/25/2021	eastern red bat	58	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/25/2021	eastern red bat	61	329	carcass search	twice per week 70-m uncleared plot	intact	yes
09/25/2021	eastern red bat	15	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/25/2021	eastern red bat	80	414	carcass search	3-day 90-m cleared plot	dismembered	yes
09/25/2021	eastern red bat	14	420	carcass search	3-day 90-m cleared plot	scavenged	yes
09/25/2021	hoary bat	40	328	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/25/2021	hoary bat	31	333	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/25/2021	hoary bat	82	410	carcass search	3-day 90-m cleared plot	intact	yes
09/25/2021	silver-haired bat	44	252	carcass search	twice per week 70-m cleared plot	intact	yes
09/25/2021	silver-haired bat	38	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/25/2021	silver-haired bat	34	328	carcass search	twice per week 70-m uncleared plot	intact	yes
09/25/2021	silver-haired bat	40	329	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/25/2021	silver-haired bat	20	331	carcass search	twice per week 70-m uncleared plot	intact	yes
09/25/2021	silver-haired bat	58	332	carcass search	twice per week 70-m uncleared plot	intact	yes
09/25/2021	silver-haired bat	57	332	carcass search	twice per week 70-m uncleared plot	intact	yes
09/25/2021	silver-haired bat	67	333	carcass search	twice per week 70-m uncleared plot	intact	yes
09/25/2021	silver-haired bat	23	333	carcass search	twice per week 70-m uncleared plot	intact	yes
09/25/2021	silver-haired bat	70	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/25/2021	silver-haired bat	37	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/25/2021	silver-haired bat	75	345	carcass search**	twice per week 70-m uncleared plot	intact	yes
09/25/2021	silver-haired bat	78	407	carcass search	3-day 90-m cleared plot	intact	yes
09/25/2021	silver-haired bat	99	407	carcass search**	3-day 90-m cleared plot	scavenged	yes
09/25/2021	silver-haired bat	24	407	carcass search	3-day 90-m cleared plot	intact	yes
09/25/2021	silver-haired bat	64	407	carcass search	3-day 90-m cleared plot	intact	yes
09/25/2021	silver-haired bat	92	414	carcass search**	3-day 90-m cleared plot	intact	yes
09/25/2021	silver-haired bat	42	415	carcass search	3-day 90-m cleared plot	intact	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/25/2021	silver-haired bat	62	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/25/2021	silver-haired bat	33	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/26/2021	eastern red bat	81	202	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/26/2021	eastern red bat	77	202	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/26/2021	eastern red bat	86	203	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/26/2021	hoary bat	62	211	carcass search	twice per week 70-m uncleared plot	intact	yes
09/26/2021	silver-haired bat	6	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/26/2021	silver-haired bat	65	204	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/26/2021	silver-haired bat	27	204	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/26/2021	silver-haired bat	45	204	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/26/2021	silver-haired bat	58	207	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/26/2021	silver-haired bat	63	209	carcass search	twice per week 70-m uncleared plot	intact	yes
09/26/2021	silver-haired bat	74	210	carcass search**	twice per week 70-m uncleared plot	intact	yes
09/26/2021	silver-haired bat	38	210	carcass search	twice per week 70-m uncleared plot	intact	yes
09/26/2021	silver-haired bat	62	212	carcass search	twice per week 70-m uncleared plot	intact	yes
09/26/2021	silver-haired bat	56	226	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/26/2021	silver-haired bat	61	302	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/26/2021	silver-haired bat	33	302	carcass search	twice per week 70-m cleared plot	intact	yes
09/27/2021	big brown bat	26	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/27/2021	eastern red bat	64	313	carcass search	twice per week 70-m uncleared plot	intact	yes
09/27/2021	hoary bat	18	301	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/27/2021	silver-haired bat	56	241	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/27/2021	silver-haired bat	53	241	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/27/2021	silver-haired bat	65	250	carcass search	twice per week 70-m uncleared plot	intact	yes
09/27/2021	silver-haired bat	48	301	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/27/2021	silver-haired bat	67	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/27/2021	silver-haired bat	45	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/27/2021	silver-haired bat	34	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/27/2021	silver-haired bat	28	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/27/2021	silver-haired bat	26	325	carcass search	twice per week 70-m cleared plot	intact	yes
09/27/2021	silver-haired bat	97	344	carcass search	twice per week road and pad	intact	no
09/27/2021	silver-haired bat	90	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/27/2021	silver-haired bat	79	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/27/2021	silver-haired bat	23	404	carcass search	3-day 90-m cleared plot	scavenged	yes
09/27/2021	silver-haired bat	18	404	carcass search	3-day 90-m cleared plot	intact	yes
09/27/2021	silver-haired bat	40	405	carcass search	3-day 90-m cleared plot	intact	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/28/2021	eastern red bat	35	254	carcass search	twice per week road and pad	scavenged	no
09/28/2021	eastern red bat	49	407	carcass search	3-day 90-m cleared plot	intact	yes
09/28/2021	eastern red bat	74	416	carcass search	3-day 90-m cleared plot	intact	yes
09/28/2021	eastern red bat	71	420	carcass search	3-day 90-m cleared plot	intact	yes
09/28/2021	eastern red bat	51	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/28/2021	hoary bat	28	347	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/28/2021	hoary bat	59	431	carcass search	3-day 90-m cleared plot	intact	yes
09/28/2021	Seminole bat	52	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/28/2021	silver-haired bat	29	221	carcass search	twice per week road and pad	intact	no
09/28/2021	silver-haired bat	69	239	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/28/2021	silver-haired bat	53	245	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/28/2021	silver-haired bat	72	333	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
09/28/2021	silver-haired bat	58	333	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/28/2021	silver-haired bat	53	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/28/2021	silver-haired bat	29	346	carcass search	twice per week 70-m uncleared plot	intact	yes
09/28/2021	silver-haired bat	40	347	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/28/2021	silver-haired bat	50	402	incidental	3-day 90-m cleared plot	intact	yes
09/28/2021	silver-haired bat	51	407	carcass search	3-day 90-m cleared plot	scavenged	yes
09/28/2021	silver-haired bat	77	407	carcass search	3-day 90-m cleared plot	intact	yes
09/28/2021	silver-haired bat	40	420	carcass search	3-day 90-m cleared plot	scavenged	yes
09/28/2021	silver-haired bat	56	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/28/2021	silver-haired bat	32	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/28/2021	silver-haired bat	45	423	carcass search	3-day 90-m cleared plot	intact	yes
09/28/2021	silver-haired bat	45	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/28/2021	silver-haired bat	41	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/28/2021	silver-haired bat	93	424	carcass search**	3-day 90-m cleared plot	scavenged	yes
09/28/2021	silver-haired bat	88	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/29/2021	hoary bat	58	305	carcass search	twice per week road and pad	intact	no
09/29/2021	silver-haired bat	17	312	carcass search	twice per week road and pad	intact	no
09/29/2021	silver-haired bat	1	330	carcass search	twice per week road and pad	intact	no
09/29/2021	silver-haired bat	5	336	carcass search	twice per week road and pad	scavenged	no
09/30/2021	big brown bat	20	401	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	eastern red bat	55	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	eastern red bat	60	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	eastern red bat	38	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	eastern red bat	49	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/30/2021	eastern red bat	30	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	eastern red bat	47	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	eastern red bat	48	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	eastern red bat	56	401	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	eastern red bat	85	401	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	eastern red bat	30	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	eastern red bat	34	404	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	Seminole bat	66	405	carcass search	3-day 90-m cleared plot	dismembered	yes
09/30/2021	silver-haired bat	65	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	silver-haired bat	47	207	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	silver-haired bat	56	210	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	silver-haired bat	68	211	carcass search	twice per week 70-m uncleared plot	intact	yes
09/30/2021	silver-haired bat	52	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	silver-haired bat	65	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	silver-haired bat	52	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	silver-haired bat	7	321	incidental	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	silver-haired bat	75	401	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	silver-haired bat	16	401	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	silver-haired bat	56	402	carcass search	3-day 90-m cleared plot	dismembered	yes
09/30/2021	silver-haired bat	45	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	silver-haired bat	45	403	carcass search	3-day 90-m cleared plot	intact	yes
09/30/2021	silver-haired bat	79	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	silver-haired bat	82	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	silver-haired bat	56	403	carcass search	3-day 90-m cleared plot	intact	yes
09/30/2021	silver-haired bat	11	404	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	silver-haired bat	69	404	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	silver-haired bat	30	404	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	silver-haired bat	19	405	carcass search	3-day 90-m cleared plot	intact	yes
09/30/2021	silver-haired bat	50	405	carcass search	3-day 90-m cleared plot	intact	yes
09/30/2021	silver-haired bat	65	405	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	silver-haired bat	12	405	carcass search	3-day 90-m cleared plot	scavenged	yes
10/01/2021	eastern red bat	39	318	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/01/2021	eastern red bat	51	410	carcass search	3-day 90-m cleared plot	intact	yes
10/01/2021	eastern red bat	44	410	carcass search	3-day 90-m cleared plot	scavenged	yes
10/01/2021	eastern red bat	76	423	carcass search	3-day 90-m cleared plot	scavenged	yes
10/01/2021	eastern red bat	88	423	carcass search	3-day 90-m cleared plot	intact	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
10/01/2021	eastern red bat	11	424	carcass search	3-day 90-m cleared plot	scavenged	yes
10/01/2021	eastern red bat	53	429	carcass search	twice per week road and pad	intact	no
10/01/2021	silver-haired bat	68	226	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/01/2021	silver-haired bat	61	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/01/2021	silver-haired bat	73	313	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
10/01/2021	silver-haired bat	15	313	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/01/2021	silver-haired bat	61	325	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/01/2021	silver-haired bat	53	325	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/01/2021	silver-haired bat	67	325	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/01/2021	silver-haired bat	12	410	carcass search	3-day 90-m cleared plot	intact	yes
10/01/2021	silver-haired bat	46	414	carcass search	3-day 90-m cleared plot	scavenged	yes
10/01/2021	silver-haired bat	18	415	carcass search	3-day 90-m cleared plot	intact	yes
10/01/2021	silver-haired bat	74	416	carcass search	3-day 90-m cleared plot	scavenged	yes
10/01/2021	silver-haired bat	83	423	carcass search	3-day 90-m cleared plot	intact	yes
10/01/2021	silver-haired bat	30	424	carcass search	3-day 90-m cleared plot	scavenged	yes
10/01/2021	silver-haired bat	58	424	carcass search	3-day 90-m cleared plot	scavenged	yes
10/02/2021	eastern red bat	11	212	carcass search	twice per week 70-m uncleared plot	intact	yes
10/02/2021	eastern red bat	8	310	carcass search**	twice per week road and pad	intact	no
10/02/2021	eastern red bat	43	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/02/2021	eastern red bat	35	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/02/2021	eastern red bat	9	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/02/2021	silver-haired bat	36	332	carcass search	twice per week 70-m uncleared plot	dismembered	yes
10/03/2021	big brown bat	33	218	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/03/2021	eastern red bat	48	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/03/2021	eastern red bat	72	224	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
10/03/2021	eastern red bat	57	226	carcass search	twice per week 70-m uncleared plot	dismembered	yes
10/03/2021	hoary bat	24	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/03/2021	silver-haired bat	47	402	carcass search	3-day 90-m cleared plot	scavenged	yes
10/03/2021	silver-haired bat	40	403	carcass search	3-day 90-m cleared plot	scavenged	yes
10/04/2021	big brown bat	1	430	carcass search	twice per week road and pad	intact	no
10/04/2021	eastern red bat	63	318	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/04/2021	eastern red bat	23	321	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/04/2021	eastern red bat	56	415	carcass search	3-day 90-m cleared plot	intact	yes
10/04/2021	eastern red bat	39	423	carcass search	3-day 90-m cleared plot	scavenged	yes
10/04/2021	silver-haired bat	50	229	carcass search	twice per week 70-m uncleared plot	intact	yes
10/04/2021	silver-haired bat	30	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes

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Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
10/04/2021	silver-haired bat	27	303	carcass search	twice per week 70-m uncleared plot	intact	yes
10/04/2021	silver-haired bat	64	325	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/04/2021	silver-haired bat	7	411	carcass search	3-day 90-m cleared plot	intact	yes
10/04/2021	silver-haired bat	48	424	carcass search	3-day 90-m cleared plot	scavenged	yes
10/04/2021	unidentified bat	52	315	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/04/2021	unidentified bat	10	424	carcass search	3-day 90-m cleared plot	scavenged	yes
10/05/2021	hoary bat	54	331	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/05/2021	silver-haired bat	22	347	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/05/2021	unidentified non-myotis	64	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/06/2021	silver-haired bat	74	401	carcass search	3-day 90-m cleared plot	scavenged	yes
10/06/2021	silver-haired bat	56	403	carcass search	3-day 90-m cleared plot	scavenged	yes
10/07/2021	big brown bat	1	430	carcass search	twice per week road and pad	intact	no
10/07/2021	eastern red bat	43	218	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/07/2021	eastern red bat	65	302	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/07/2021	silver-haired bat	70	226	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/07/2021	silver-haired bat	13	430	carcass search	twice per week road and pad	intact	no
10/07/2021	unidentified bat	59	226	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/08/2021	silver-haired bat	12	250	carcass search	twice per week 70-m uncleared plot	intact	yes
10/08/2021	silver-haired bat	6	253	carcass search	twice per week road and pad	scavenged	no
10/08/2021	silver-haired bat	14	301	carcass search	twice per week 70-m uncleared plot	intact	yes
10/08/2021	silver-haired bat	43	327	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/08/2021	silver-haired bat	30	330	carcass search	twice per week road and pad	scavenged	no
10/09/2021	big brown bat	36	252	carcass search	twice per week 70-m cleared plot	intact	yes
10/09/2021	eastern red bat	58	404	carcass search	3-day 90-m cleared plot	scavenged	yes
10/09/2021	silver-haired bat	63	239	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/09/2021	silver-haired bat	26	245	carcass search	twice per week 70-m cleared plot	intact	yes
10/09/2021	silver-haired bat	19	342	carcass search	twice per week 70-m uncleared plot	intact	yes
10/09/2021	silver-haired bat	1	403	carcass search	3-day 90-m cleared plot	scavenged	yes
10/09/2021	unidentified bat	38	315	carcass search	twice per week 70-m uncleared plot	dismembered	yes
10/10/2021	eastern red bat	8	202	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/10/2021	eastern red bat	65	423	carcass search	3-day 90-m cleared plot	intact	yes
10/10/2021	eastern red bat	43	424	carcass search	3-day 90-m cleared plot	scavenged	yes
10/10/2021	silver-haired bat	24	208	carcass search	twice per week 70-m uncleared plot	intact	yes
10/10/2021	silver-haired bat	72	211	carcass search**	twice per week 70-m uncleared plot	intact	yes
10/10/2021	silver-haired bat	51	411	carcass search	3-day 90-m cleared plot	intact	yes
10/10/2021	silver-haired bat	38	423	carcass search	3-day 90-m cleared plot	intact	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
10/10/2021	silver-haired bat	66	423	carcass search	3-day 90-m cleared plot	dismembered	yes
10/10/2021	silver-haired bat	6	423	carcass search	3-day 90-m cleared plot	scavenged	yes
10/10/2021	silver-haired bat	12	424	carcass search	3-day 90-m cleared plot	intact	yes
10/10/2021	silver-haired bat	61	424	carcass search	3-day 90-m cleared plot	scavenged	yes
10/11/2021	hoary bat	30	238	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/11/2021	hoary bat	47	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/11/2021	Seminole bat	16	413	carcass search	twice per week road and pad	intact	no
10/11/2021	silver-haired bat	24	228	carcass search**	twice per week road and pad	scavenged	no
10/11/2021	silver-haired bat	45	238	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/11/2021	silver-haired bat	75	241	carcass search**	twice per week 70-m uncleared plot	scavenged	yes
10/11/2021	silver-haired bat	66	301	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/11/2021	silver-haired bat	52	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/11/2021	silver-haired bat	56	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/11/2021	silver-haired bat	24	313	carcass search	twice per week 70-m uncleared plot	intact	yes
10/11/2021	silver-haired bat	47	315	carcass search	twice per week 70-m uncleared plot	intact	yes
10/11/2021	silver-haired bat	30	321	carcass search	twice per week 70-m uncleared plot	intact	yes
10/11/2021	silver-haired bat	47	327	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/11/2021	silver-haired bat	112	421	carcass search**	twice per week road and pad	intact	no
10/11/2021	silver-haired bat	30	421	carcass search	twice per week road and pad	scavenged	no
10/12/2021	hoary bat	58	248	carcass search**	twice per week road and pad	intact	no
10/12/2021	hoary bat	40	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/12/2021	hoary bat	94	403	carcass search**	3-day 90-m cleared plot	scavenged	yes
10/12/2021	hoary bat	28	405	carcass search	3-day 90-m cleared plot	scavenged	yes
10/12/2021	silver-haired bat	61	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/12/2021	silver-haired bat	57	239	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/12/2021	silver-haired bat	49	239	carcass search	twice per week 70-m cleared plot	dismembered	yes
10/12/2021	silver-haired bat	19	320	carcass search	twice per week road and pad	scavenged	no
10/12/2021	silver-haired bat	32	343	carcass search	twice per week 70-m uncleared plot	intact	yes
10/12/2021	silver-haired bat	69	402	carcass search	3-day 90-m cleared plot	scavenged	yes
10/12/2021	silver-haired bat	20	403	carcass search	3-day 90-m cleared plot	scavenged	yes
10/12/2021	silver-haired bat	38	403	carcass search	3-day 90-m cleared plot	scavenged	yes
10/12/2021	unidentified bat	67	245	carcass search	twice per week 70-m cleared plot	dismembered	yes
10/13/2021	eastern red bat	20	411	carcass search	3-day 90-m cleared plot	intact	yes
10/13/2021	hoary bat	50	415	carcass search	3-day 90-m cleared plot	intact	yes
10/13/2021	hoary bat	50	415	carcass search	3-day 90-m cleared plot	intact	yes
10/13/2021	silver-haired bat	65	410	carcass search	3-day 90-m cleared plot	intact	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine		Turbine Search Type	Search Area Type	Physical Condition	Aided Search
10/13/2021	silver-haired bat	57	414	carcass search	3-day 90-m cleared plot	scavenged	yes
10/13/2021	silver-haired bat	45	416	carcass search	3-day 90-m cleared plot	scavenged	yes
10/13/2021	silver-haired bat	57	420	carcass search	3-day 90-m cleared plot	scavenged	yes
10/13/2021	silver-haired bat	41	424	carcass search	3-day 90-m cleared plot	scavenged	yes
10/14/2021	eastern red bat	11	302	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/14/2021	eastern red bat	52	427	carcass search	twice per week road and pad	intact	no
10/14/2021	silver-haired bat	32	202	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/14/2021	silver-haired bat	14	413	carcass search	twice per week road and pad	intact	no
10/15/2021	hoary bat	55	229	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/15/2021	silver-haired bat	51	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/15/2021	silver-haired bat	52	315	carcass search	twice per week 70-m uncleared plot	intact	yes
10/15/2021	silver-haired bat	26	331	carcass search	twice per week 70-m uncleared plot	intact	yes
10/16/2021	eastern red bat	69	407	carcass search	3-day 90-m cleared plot	intact	yes
10/16/2021	eastern red bat	15	414	carcass search	3-day 90-m cleared plot	intact	yes
10/16/2021	hoary bat	14	407	carcass search	3-day 90-m cleared plot	intact	yes
10/16/2021	silver-haired bat	87	414	carcass search	3-day 90-m cleared plot	intact	yes
10/16/2021	silver-haired bat	81	423	carcass search	3-day 90-m cleared plot	intact	yes
10/16/2021	silver-haired bat	68	431	carcass search	3-day 90-m cleared plot	intact	yes
Bird Carcasses							
04/01/2021	brown creeper	82	403	carcass search	3-day 90-m cleared plot	dismembered	yes
04/01/2021	horned lark	15	328	carcass search	weekly road and pad	scavenged	no
04/01/2021	killdeer	17	328	carcass search	weekly road and pad	scavenged	no
04/01/2021	unidentified kinglet	80	402	carcass search	3-day 90-m cleared plot	dismembered	yes
04/01/2021	unidentified kinglet	88	411	carcass search	3-day 90-m cleared plot	scavenged	yes
04/01/2021	unidentified owl	68	411	carcass search	3-day 90-m cleared plot	dismembered	yes
04/02/2021	American tree sparrow	85	423	carcass search	daily 90-m cleared plot	intact	no
04/02/2021	Cooper's hawk	59	420	carcass search	3-day 90-m cleared plot	feather spot	yes
04/03/2021	field sparrow	66	416	carcass search	daily 90-m cleared plot	scavenged	no
04/03/2021	golden-crowned kinglet	85	423	carcass search	daily 90-m cleared plot	intact	no
04/04/2021	golden-crowned kinglet	88	403	carcass search	3-day 90-m cleared plot	intact	yes
04/04/2021	horned lark	86	403	carcass search	3-day 90-m cleared plot	intact	yes
04/06/2021	golden-crowned kinglet	68	410	carcass search	daily 90-m cleared plot	intact	no
04/06/2021	golden-crowned kinglet	62	410	carcass search	daily 90-m cleared plot	intact	no
04/06/2021	red-tailed hawk	45	241	carcass search	weekly road and pad	scavenged	no
04/07/2021	golden-crowned kinglet	67	250	carcass search	weekly road and pad	intact	no
04/07/2021	golden-crowned kinglet	32	309	carcass search	weekly road and pad	intact	no

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
04/07/2021	ruby-crowned kinglet	35	308	carcass search	weekly road and pad	intact	no
04/07/2021	unidentified kinglet	8	411	carcass search	3-day 90-m cleared plot	dismembered	yes
04/07/2021	unidentified small bird	53	402	carcass search	3-day 90-m cleared plot	dismembered	yes
04/08/2021	golden-crowned kinglet	82	431	carcass search	daily 90-m cleared plot	intact	no
04/08/2021	unidentified kinglet	70	419	carcass search	3-day 90-m cleared plot	scavenged	yes
04/10/2021	golden-crowned kinglet	81	407	carcass search	3-day 90-m cleared plot	scavenged	yes
04/10/2021	golden-crowned kinglet	6	411	carcass search	3-day 90-m cleared plot	scavenged	yes
04/10/2021	golden-crowned kinglet	52	423	carcass search	daily 90-m cleared plot	scavenged	no
04/10/2021	horned lark	66	402	carcass search	3-day 90-m cleared plot	scavenged	yes
04/10/2021	unidentified kinglet	71	411	carcass search	3-day 90-m cleared plot	scavenged	yes
04/11/2021	golden-crowned kinglet	44	420	carcass search	3-day 90-m cleared plot	scavenged	yes
04/11/2021	ring-necked pheasant	43	416	carcass search	daily 90-m cleared plot	feather spot	no
04/13/2021	horned lark	53	225	carcass search	weekly road and pad	scavenged	no
04/14/2021	red-tailed hawk	122	309	carcass search	weekly road and pad	dismembered	no
04/16/2021	European starling	47	411	carcass search	3-day 90-m cleared plot	intact	yes
04/16/2021	unidentified passerine	82	431	carcass search	daily 90-m cleared plot	dismembered	no
04/19/2021	chipping sparrow	58	407	carcass search	3-day 90-m cleared plot	intact	yes
04/19/2021	European starling	83	410	carcass search	daily 90-m cleared plot	intact	no
04/19/2021	golden-crowned kinglet	85	404	carcass search	3-day 90-m cleared plot	scavenged	yes
04/19/2021	killdeer	25	236	carcass search	weekly road and pad	scavenged	no
04/20/2021	unidentified small bird	75	415	carcass search	3-day 90-m cleared plot	feather spot	yes
04/23/2021	hermit thrush	89	421	carcass search	3-day 90-m cleared plot	intact	yes
04/26/2021	horned lark	80	407	carcass search	3-day 90-m cleared plot	intact	yes
04/26/2021	killdeer	63	407	carcass search	3-day 90-m cleared plot	intact	yes
04/26/2021	unidentified kinglet	56	407	carcass search	3-day 90-m cleared plot	feather spot	yes
04/27/2021	horned lark	3	225	carcass search	weekly road and pad	intact	no
04/27/2021	ruby-crowned kinglet	54	410	carcass search	daily 90-m cleared plot	intact	no
04/27/2021	ruby-crowned kinglet	82	431	carcass search	daily 90-m cleared plot	intact	no
04/28/2021	horned lark	1	346	carcass search	weekly road and pad	dismembered	no
04/28/2021	horned lark	64	431	carcass search	daily 90-m cleared plot	intact	no
04/29/2021	horned lark	71	415	carcass search	3-day 90-m cleared plot	scavenged	yes
04/29/2021	swamp sparrow	106	421	carcass search	3-day 90-m cleared plot	scavenged	yes
04/29/2021	unidentified kinglet	94	415	carcass search	3-day 90-m cleared plot	scavenged	yes
04/29/2021	unidentified kinglet	58	419	carcass search	3-day 90-m cleared plot	scavenged	yes
05/02/2021	black-and-white warbler	76	405	carcass search	daily 90-m cleared plot	scavenged	no
05/02/2021	field sparrow	57	416	carcass search	daily 90-m cleared plot	intact	no

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
05/02/2021	red-eyed vireo	74	419	carcass search	3-day 90-m cleared plot	scavenged	yes
05/02/2021	rose-breasted grosbeak	89	420	carcass search	3-day 90-m cleared plot	dismembered	yes
05/02/2021	ruby-crowned kinglet	80	419	carcass search	3-day 90-m cleared plot	intact	yes
05/02/2021	ruby-crowned kinglet	71	420	carcass search	3-day 90-m cleared plot	intact	yes
05/02/2021	ruby-crowned kinglet	60	421	carcass search	3-day 90-m cleared plot	intact	yes
05/02/2021	ruby-crowned kinglet	87	421	carcass search	3-day 90-m cleared plot	dismembered	yes
05/02/2021	sedge wren	53	410	carcass search	daily 90-m cleared plot	scavenged	no
05/02/2021	swamp sparrow	59	410	carcass search	daily 90-m cleared plot	scavenged	no
05/02/2021	unidentified kinglet	62	424	carcass search	3-day 90-m cleared plot	dismembered	yes
05/02/2021	yellow-throated vireo	46	410	incidental	daily 90-m cleared plot	intact	no
05/03/2021	chipping sparrow	90	410	carcass search	daily 90-m cleared plot	intact	no
05/04/2021	American redstart	19	403	carcass search	3-day 90-m cleared plot	scavenged	yes
05/04/2021	bobolink	32	403	carcass search	3-day 90-m cleared plot	feather spot	yes
05/04/2021	ruby-crowned kinglet	49	428	carcass search	weekly road and pad	intact	no
05/04/2021	swamp sparrow	92	402	carcass search	3-day 90-m cleared plot	scavenged	yes
05/04/2021	unidentified kinglet	47	403	carcass search	3-day 90-m cleared plot	scavenged	yes
05/04/2021	unidentified kinglet	47	422	carcass search	weekly road and pad	scavenged	no
05/04/2021	unidentified warbler	65	411	carcass search	3-day 90-m cleared plot	intact	yes
05/04/2021	unidentified warbler	56	416	carcass search	daily 90-m cleared plot	intact	no
05/05/2021	chipping sparrow	37	405	carcass search	daily 90-m cleared plot	scavenged	no
05/05/2021	chipping sparrow	66	424	carcass search	3-day 90-m cleared plot	scavenged	yes
05/05/2021	indigo bunting	59	424	carcass search	3-day 90-m cleared plot	scavenged	yes
05/05/2021	red-tailed hawk	5	310	carcass search	weekly road and pad	intact	no
05/05/2021	swamp sparrow	56	419	carcass search	3-day 90-m cleared plot	intact	yes
05/05/2021	unidentified kinglet	73	419	carcass search	3-day 90-m cleared plot	scavenged	yes
05/05/2021	unidentified kinglet	97	419	carcass search	3-day 90-m cleared plot	feather spot	yes
05/05/2021	unidentified kinglet	96	420	carcass search	3-day 90-m cleared plot	scavenged	yes
05/05/2021	white-throated sparrow	48	421	carcass search	3-day 90-m cleared plot	scavenged	yes
05/06/2021	horned lark	44	336	carcass search	weekly road and pad	scavenged	no
05/07/2021	horned lark	42	402	carcass search	3-day 90-m cleared plot	intact	yes
05/07/2021	swamp sparrow	67	407	carcass search	3-day 90-m cleared plot	scavenged	yes
05/07/2021	unidentified kinglet	61	411	carcass search	3-day 90-m cleared plot	scavenged	yes
05/07/2021	unidentified passerine	85	402	carcass search	3-day 90-m cleared plot	scavenged	yes
05/07/2021	unidentified sparrow	65	403	carcass search	3-day 90-m cleared plot	scavenged	yes
05/08/2021	Cape May warbler	52	421	carcass search	3-day 90-m cleared plot	scavenged	yes
05/08/2021	unidentified kinglet	88	421	carcass search	3-day 90-m cleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
05/08/2021	unidentified kinglet	85	424	carcass search	3-day 90-m cleared plot	scavenged	yes
05/08/2021	unidentified warbler	95	421	carcass search	3-day 90-m cleared plot	scavenged	yes
05/08/2021	unidentified warbler	74	424	carcass search	3-day 90-m cleared plot	scavenged	yes
05/10/2021	chimney swift	71	404	carcass search	3-day 90-m cleared plot	scavenged	yes
05/10/2021	horned lark	3	406	carcass search	weekly road and pad	intact	no
05/11/2021	horned lark	47	421	carcass search	3-day 90-m cleared plot	scavenged	yes
05/11/2021	unidentified small bird	67	421	carcass search	3-day 90-m cleared plot	intact	yes
05/12/2021	black-throated green warbler	19	313	carcass search	weekly road and pad	intact	no
05/13/2021	blue jay	44	431	carcass search	daily 90-m cleared plot	intact	no
05/13/2021	horned lark	26	318	carcass search	weekly road and pad	intact	no
05/13/2021	horned lark	7	331	carcass search	weekly road and pad	intact	no
05/13/2021	unidentified small bird	100	407	carcass search	3-day 90-m cleared plot	feather spot	yes
05/13/2021	unidentified warbler	99	316	carcass search	weekly road and pad	scavenged	no
05/14/2021	unidentified small bird	82	421	carcass search	3-day 90-m cleared plot	dismembered	yes
05/14/2021	unidentified warbler	97	421	carcass search	3-day 90-m cleared plot	dismembered	yes
05/15/2021	red-tailed hawk	68	431	carcass search	daily 90-m cleared plot	dismembered	no
07/28/2021	horned lark	78	416	incidental	3-day 90-m cleared plot	scavenged	yes
07/29/2021	turkey vulture	18	332	incidental	twice per week 70-m uncleared plot	scavenged	yes
08/01/2021	horned lark	28	345	incidental	twice per week 70-m uncleared plot	scavenged	yes
08/01/2021	horned lark	24	415	incidental	3-day 90-m cleared plot	scavenged	yes
08/01/2021	turkey vulture	3	332	incidental	twice per week 70-m uncleared plot	scavenged	yes
08/02/2021	horned lark	59	416	carcass search	3-day 90-m cleared plot	scavenged	yes
08/02/2021	horned lark	73	424	carcass search	3-day 90-m cleared plot	scavenged	yes
08/02/2021	killdeer	5	313	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/02/2021	killdeer	41	414	carcass search	3-day 90-m cleared plot	scavenged	yes
08/03/2021	killdeer	78	252	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/03/2021	killdeer	8	340	carcass search	twice per week road and pad	scavenged	no
08/05/2021	common grackle	19	208	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/05/2021	horned lark	68	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/05/2021	horned lark	64	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/05/2021	horned lark	85	410	carcass search	3-day 90-m cleared plot	feather spot	yes
08/05/2021	killdeer	71	416	carcass search	3-day 90-m cleared plot	scavenged	yes
08/06/2021	killdeer	4	313	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/06/2021	turkey vulture	61	318	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/07/2021	horned lark	8	328	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/07/2021	horned lark	51	339	carcass search	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/07/2021	killdeer	39	328	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/07/2021	killdeer	36	328	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/07/2021	killdeer	47	329	carcass search	twice per week 70-m uncleared plot	feather spot	yes
08/07/2021	red-tailed hawk	149	332	incidental	twice per week 70-m uncleared plot	scavenged	yes
08/08/2021	dickcissel	0	212	carcass search	twice per week 70-m uncleared plot	intact	yes
08/08/2021	purple martin	26	411	carcass search	3-day 90-m cleared plot	intact	yes
08/10/2021	horned lark	6	324	carcass search	twice per week road and pad	scavenged	no
08/10/2021	killdeer	27	316	carcass search	twice per week road and pad	scavenged	no
08/10/2021	killdeer	35	317	incidental	twice per week road and pad	scavenged	no
08/10/2021	turkey vulture	47	347	carcass search	twice per week 70-m uncleared plot	dismembered	yes
08/11/2021	American kestrel	10	407	carcass search	3-day 90-m cleared plot	scavenged	yes
08/11/2021	horned lark	68	416	carcass search	3-day 90-m cleared plot	scavenged	yes
08/12/2021	horned lark	68	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/12/2021	horned lark	81	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/12/2021	horned lark	79	302	carcass search	twice per week 70-m cleared plot	dismembered	yes
08/13/2021	horned lark	13	402	carcass search	3-day 90-m cleared plot	intact	yes
08/14/2021	barn swallow	60	431	carcass search	3-day 90-m cleared plot	scavenged	yes
08/14/2021	unidentified empidonax	97	431	carcass search	3-day 90-m cleared plot	scavenged	yes
08/15/2021	horned lark	65	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/16/2021	brown-headed cowbird	37	404	carcass search	3-day 90-m cleared plot	scavenged	yes
08/16/2021	killdeer	54	402	carcass search	3-day 90-m cleared plot	scavenged	yes
08/17/2021	turkey vulture	80	346	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/19/2021	horned lark	7	402	carcass search	3-day 90-m cleared plot	feather spot	yes
08/19/2021	horned lark	25	403	carcass search	3-day 90-m cleared plot	intact	yes
08/19/2021	horned lark	17	405	carcass search	3-day 90-m cleared plot	scavenged	yes
08/19/2021	killdeer	85	402	incidental	3-day 90-m cleared plot	feather spot	yes
08/20/2021	killdeer	62	315	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/20/2021	mourning dove	88	415	carcass search	3-day 90-m cleared plot	scavenged	yes
08/21/2021	unidentified small bird	1	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/22/2021	horned lark	72	212	carcass search	twice per week 70-m uncleared plot	intact	yes
08/23/2021	horned lark	6	408	carcass search	twice per week road and pad	intact	no
08/23/2021	horned lark	35	409	carcass search	twice per week road and pad	dismembered	no
08/23/2021	horned lark	67	410	carcass search	3-day 90-m cleared plot	feather spot	yes
08/23/2021	horned lark	35	416	carcass search	3-day 90-m cleared plot	scavenged	yes
08/23/2021	killdeer	100	232	carcass search	twice per week road and pad	scavenged	no
08/23/2021	killdeer	79	343	carcass search	twice per week 70-m uncleared plot	scavenged	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
08/24/2021	horned lark	23	347	carcass search	twice per week 70-m uncleared plot	dismembered	yes
08/24/2021	unidentified small bird	16	332	carcass search	twice per week 70-m uncleared plot	dismembered	yes
08/26/2021	horned lark	2	204	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/26/2021	horned lark	4	204	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/26/2021	horned lark	65	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/26/2021	horned lark	31	212	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/26/2021	horned lark	22	414	carcass search	3-day 90-m cleared plot	scavenged	yes
08/26/2021	indigo bunting	57	302	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/26/2021	unidentified passerine	61	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/28/2021	chimney swift	19	342	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/28/2021	unidentified small bird	36	328	carcass search	twice per week 70-m uncleared plot	feather spot	yes
08/29/2021	horned lark	63	203	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/29/2021	horned lark	51	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/29/2021	horned lark	27	212	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/29/2021	horned lark	88	212	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/29/2021	horned lark	32	414	carcass search	3-day 90-m cleared plot	scavenged	yes
08/30/2021	unidentified raptor	65	318	carcass search	twice per week 70-m cleared plot	scavenged	yes
08/31/2021	horned lark	18	315	carcass search	twice per week 70-m uncleared plot	feather spot	yes
08/31/2021	horned lark	20	402	carcass search	3-day 90-m cleared plot	intact	yes
08/31/2021	mallard	76	329	carcass search	twice per week 70-m uncleared plot	scavenged	yes
08/31/2021	red-eyed vireo	50	402	carcass search	3-day 90-m cleared plot	intact	yes
08/31/2021	red-eyed vireo	52	404	carcass search	3-day 90-m cleared plot	intact	yes
08/31/2021	unidentified blackbird	26	331	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/01/2021	horned lark	18	414	carcass search	3-day 90-m cleared plot	scavenged	yes
09/01/2021	horned lark	0	414	carcass search	3-day 90-m cleared plot	scavenged	yes
09/03/2021	American redstart	20	303	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	American redstart	32	312	carcass search	twice per week road and pad	scavenged	no
09/03/2021	horned lark	52	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	killdeer	29	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/03/2021	ovenbird	50	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/03/2021	turkey vulture	14	348	carcass search	twice per week road and pad	intact	no
09/03/2021	unidentified passerine	42	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/04/2021	American redstart	80	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/04/2021	horned lark	35	431	carcass search	3-day 90-m cleared plot	scavenged	yes
09/04/2021	killdeer	215	344	incidental	twice per week road and pad	scavenged	no
09/04/2021	magnolia warbler	59	329	carcass search	twice per week 70-m uncleared plot	intact	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/04/2021	northern parula	0	423	carcass search	3-day 90-m cleared plot	intact	yes
09/04/2021	unidentified warbler	82	423	carcass search	3-day 90-m cleared plot	dismembered	yes
09/05/2021	horned lark	44	209	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/06/2021	killdeer	28	327	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/06/2021	red-eyed vireo	97	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/06/2021	unidentified large bird	55	401	carcass search	3-day 90-m cleared plot	scavenged	yes
09/07/2021	blackpoll warbler	64	252	carcass search	twice per week 70-m cleared plot	feather spot	yes
09/07/2021	chestnut-sided warbler	99	404	carcass search	3-day 90-m cleared plot	scavenged	yes
09/07/2021	horned lark	41	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/07/2021	horned lark	51	416	carcass search	3-day 90-m cleared plot	intact	yes
09/07/2021	horned lark	66	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/07/2021	killdeer	43	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/07/2021	red-eyed vireo	48	420	carcass search	3-day 90-m cleared plot	intact	yes
09/07/2021	turkey vulture	47	347	carcass search	twice per week 70-m uncleared plot	dismembered	yes
09/07/2021	unidentified thrush	71	414	carcass search	3-day 90-m cleared plot	dismembered	yes
09/07/2021	unidentified warbler	71	415	carcass search	3-day 90-m cleared plot	scavenged	yes
09/08/2021	unidentified warbler	27	404	carcass search	3-day 90-m cleared plot	scavenged	yes
09/09/2021	American redstart	49	401	carcass search	3-day 90-m cleared plot	scavenged	yes
09/09/2021	bay-breasted warbler	23	425	carcass search	twice per week road and pad	intact	no
09/09/2021	horned lark	48	209	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/09/2021	horned lark	44	218	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/09/2021	horned lark	16	414	incidental	3-day 90-m cleared plot	scavenged	yes
09/09/2021	red-eyed vireo	81	402	carcass search	3-day 90-m cleared plot	scavenged	yes
09/09/2021	red-eyed vireo	95	412	carcass search	twice per week road and pad	scavenged	no
09/09/2021	unidentified passerine	73	302	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/10/2021	chimney swift	56	414	carcass search	3-day 90-m cleared plot	intact	yes
09/10/2021	Philadelphia vireo	42	315	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/10/2021	red-breasted nuthatch	29	311	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/10/2021	red-eyed vireo	56	411	carcass search	3-day 90-m cleared plot	intact	yes
09/10/2021	unidentified small bird	74	238	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/11/2021	unidentified kinglet	31	328	carcass search	twice per week 70-m uncleared plot	dismembered	yes
09/12/2021	horned lark	37	208	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/12/2021	horned lark	3	210	carcass search	twice per week 70-m uncleared plot	dismembered	yes
09/12/2021	Tennessee warbler	61	302	carcass search	twice per week 70-m cleared plot	scavenged	yes
09/13/2021	bay-breasted warbler	47	321	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/13/2021	European starling	9	420	carcass search	3-day 90-m cleared plot	intact	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine Search Type	Search Area Type	Physical Condition	Aided Search
09/13/2021	horned lark	69	431	carcass search	3-day 90-m cleared plot	scavenged yes
09/13/2021	red-eyed vireo	34	424	carcass search	3-day 90-m cleared plot	scavenged yes
09/13/2021	unidentified small bird	72	415	carcass search	3-day 90-m cleared plot	scavenged yes
09/13/2021	unidentified vireo	82	238	carcass search	twice per week 70-m cleared plot	scavenged yes
09/13/2021	yellow-billed cuckoo	64	241	carcass search	twice per week 70-m uncleared plot	scavenged yes
09/14/2021	horned lark	67	239	carcass search	twice per week 70-m cleared plot	scavenged yes
09/14/2021	turkey vulture	23	331	carcass search	twice per week 70-m uncleared plot	scavenged yes
09/14/2021	turkey vulture	15	332	carcass search	twice per week 70-m uncleared plot	scavenged yes
09/15/2021	red-breasted nuthatch	57	403	carcass search	3-day 90-m cleared plot	scavenged yes
09/16/2021	horned lark	73	208	carcass search	twice per week 70-m uncleared plot	scavenged yes
09/16/2021	horned lark	5	210	carcass search	twice per week 70-m uncleared plot	scavenged yes
09/16/2021	horned lark	94	211	carcass search	twice per week 70-m uncleared plot	scavenged yes
09/16/2021	horned lark	68	424	carcass search	3-day 90-m cleared plot	scavenged yes
09/16/2021	magnolia warbler	64	209	carcass search	twice per week 70-m uncleared plot	scavenged yes
09/16/2021	marsh wren	50	424	carcass search	3-day 90-m cleared plot	scavenged yes
09/16/2021	red-eyed vireo	35	340	carcass search	twice per week road and pad	dismembered no
09/16/2021	red-eyed vireo	30	407	carcass search	3-day 90-m cleared plot	dismembered yes
09/17/2021	Nashville warbler	29	243	carcass search	twice per week road and pad	intact no
09/17/2021	red-eyed vireo	11	321	carcass search	twice per week 70-m uncleared plot	intact yes
09/18/2021	bay-breasted warbler	74	401	carcass search	3-day 90-m cleared plot	scavenged yes
09/18/2021	blackpoll warbler	65	239	carcass search	twice per week 70-m cleared plot	scavenged yes
09/18/2021	horned lark	67	239	carcass search	twice per week 70-m cleared plot	feather spot yes
09/18/2021	magnolia warbler	68	401	carcass search	3-day 90-m cleared plot	scavenged yes
09/18/2021	unidentified small bird	44	342	carcass search	twice per week 70-m uncleared plot	scavenged yes
09/18/2021	unidentified vireo	72	338	carcass search	twice per week 70-m uncleared plot	scavenged yes
09/18/2021	unidentified vireo	28	339	carcass search	twice per week 70-m uncleared plot	scavenged yes
09/18/2021	yellow-billed cuckoo	52	338	carcass search	twice per week 70-m uncleared plot	scavenged yes
09/19/2021	black-throated green warbler	88	423	carcass search	3-day 90-m cleared plot	scavenged yes
09/19/2021	chimney swift	28	411	carcass search	3-day 90-m cleared plot	scavenged yes
09/19/2021	horned lark	30	211	carcass search	twice per week 70-m uncleared plot	scavenged yes
09/19/2021	horned lark	56	414	carcass search	3-day 90-m cleared plot	intact yes
09/19/2021	horned lark	29	423	carcass search	3-day 90-m cleared plot	dismembered yes
09/19/2021	unidentified blackbird	91	420	carcass search	3-day 90-m cleared plot	scavenged yes
09/21/2021	tree swallow	60	339	carcass search	twice per week 70-m uncleared plot	intact yes
09/21/2021	turkey vulture	19	332	carcass search	twice per week 70-m uncleared plot	scavenged yes
09/24/2021	golden-crowned kinglet	40	401	carcass search	3-day 90-m cleared plot	scavenged yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
09/24/2021	unidentified small bird	26	231	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/24/2021	unidentified wren	64	241	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/25/2021	golden-crowned kinglet	60	410	carcass search	3-day 90-m cleared plot	scavenged	yes
09/25/2021	Philadelphia vireo	50	407	carcass search	3-day 90-m cleared plot	scavenged	yes
09/28/2021	Blackburnian warbler	69	424	carcass search	3-day 90-m cleared plot	scavenged	yes
09/28/2021	horned lark	32	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/28/2021	horned lark	81	423	carcass search	3-day 90-m cleared plot	scavenged	yes
09/28/2021	ruby-throated hummingbird	55	424	carcass search	3-day 90-m cleared plot	intact	yes
09/28/2021	turkey vulture	56	347	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/28/2021	turkey vulture	97	411	carcass search	3-day 90-m cleared plot	scavenged	yes
09/28/2021	unidentified small bird	45	347	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/28/2021	unidentified wren	89	411	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	Blackburnian warbler	16	302	carcass search	twice per week 70-m cleared plot	intact	yes
09/30/2021	golden-crowned kinglet	20	204	carcass search	twice per week 70-m uncleared plot	dismembered	yes
09/30/2021	golden-crowned kinglet	70	403	carcass search	3-day 90-m cleared plot	scavenged	yes
09/30/2021	horned lark	79	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes
09/30/2021	unidentified kinglet	70	204	carcass search	twice per week 70-m uncleared plot	dismembered	yes
10/01/2021	golden-crowned kinglet	41	318	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/01/2021	golden-crowned kinglet	38	406	carcass search	twice per week road and pad	intact	no
10/01/2021	horned lark	70	325	carcass search	twice per week 70-m cleared plot	scavenged	yes
10/01/2021	horned lark	62	424	carcass search	3-day 90-m cleared plot	feather spot	yes
10/01/2021	horned lark	90	424	carcass search	3-day 90-m cleared plot	scavenged	yes
10/01/2021	magnolia warbler	55	423	carcass search	3-day 90-m cleared plot	scavenged	yes
10/01/2021	swamp sparrow	41	222	carcass search	twice per week road and pad	intact	no
10/02/2021	horned lark	64	345	carcass search	twice per week 70-m uncleared plot	intact	yes
10/02/2021	killdeer	26	331	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/03/2021	ruby-crowned kinglet	6	319	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/03/2021	unidentified small bird	4	202	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/04/2021	American redstart	40	407	carcass search	3-day 90-m cleared plot	scavenged	yes
10/04/2021	horned lark	87	231	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/04/2021	horned lark	36	407	carcass search	3-day 90-m cleared plot	scavenged	yes
10/04/2021	horned lark	47	423	carcass search	3-day 90-m cleared plot	intact	yes
10/04/2021	rock pigeon	94	420	carcass search	3-day 90-m cleared plot	scavenged	yes
10/04/2021	ruby-crowned kinglet	59	407	carcass search	3-day 90-m cleared plot	scavenged	yes
10/04/2021	unidentified warbler	68	407	carcass search	3-day 90-m cleared plot	scavenged	yes
10/04/2021	unidentified wren	83	411	carcass search	3-day 90-m cleared plot	dismembered	yes

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Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
10/05/2021	brown-headed cowbird	4	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/06/2021	palm warbler	24	405	carcass search	3-day 90-m cleared plot	intact	yes
10/07/2021	golden-crowned kinglet	72	416	carcass search	3-day 90-m cleared plot	scavenged	yes
10/07/2021	golden-crowned kinglet	50	420	carcass search	3-day 90-m cleared plot	intact	yes
10/07/2021	gray catbird	50	414	carcass search	3-day 90-m cleared plot	scavenged	yes
10/07/2021	red-eyed vireo	34	427	carcass search	twice per week road and pad	intact	no
10/07/2021	unidentified small bird	66	219	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/08/2021	golden-crowned kinglet	65	241	carcass search	twice per week 70-m uncleared plot	intact	yes
10/08/2021	horned lark	17	306	carcass search	twice per week road and pad	scavenged	no
10/09/2021	magnolia warbler	74	404	carcass search	3-day 90-m cleared plot	scavenged	yes
10/09/2021	Tennessee warbler	93	404	carcass search	3-day 90-m cleared plot	scavenged	yes
10/09/2021	unidentified kingbird	73	343	carcass search	twice per week 70-m uncleared plot	dismembered	yes
10/09/2021	unidentified passerine	60	343	carcass search	twice per week 70-m uncleared plot	dismembered	yes
10/09/2021	unidentified small bird	25	331	carcass search	twice per week 70-m uncleared plot	feather spot	yes
10/10/2021	American redstart	75	416	carcass search	3-day 90-m cleared plot	scavenged	yes
10/10/2021	golden-crowned kinglet	74	431	carcass search	3-day 90-m cleared plot	intact	yes
10/10/2021	horned lark	57	207	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/10/2021	horned lark	18	211	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/10/2021	ruby-crowned kinglet	37	212	carcass search	twice per week 70-m uncleared plot	intact	yes
10/10/2021	unidentified kinglet	47	416	carcass search	3-day 90-m cleared plot	scavenged	yes
10/11/2021	Tennessee warbler	25	430	carcass search	twice per week road and pad	scavenged	no
10/12/2021	European starling	49	346	carcass search	twice per week 70-m uncleared plot	feather spot	yes
10/12/2021	golden-crowned kinglet	57	343	carcass search	twice per week 70-m uncleared plot	intact	yes
10/12/2021	golden-crowned kinglet	54	402	carcass search	3-day 90-m cleared plot	scavenged	yes
10/12/2021	golden-crowned kinglet	22	405	carcass search	3-day 90-m cleared plot	intact	yes
10/12/2021	horned lark	53	338	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/12/2021	killdeer	67	405	carcass search	3-day 90-m cleared plot	scavenged	yes
10/12/2021	mourning dove	17	335	carcass search	twice per week road and pad	intact	no
10/12/2021	unidentified small bird	99	345	carcass search	twice per week 70-m uncleared plot	scavenged	yes
10/13/2021	unidentified kinglet	10	420	carcass search	3-day 90-m cleared plot	scavenged	yes
10/15/2021	golden-crowned kinglet	58	250	carcass search	twice per week 70-m uncleared plot	intact	yes
10/15/2021	horned lark	29	303	carcass search	twice per week 70-m uncleared plot	dismembered	yes
10/15/2021	horned lark	62	402	carcass search	3-day 90-m cleared plot	dismembered	yes
10/15/2021	unidentified small bird	74	402	carcass search	3-day 90-m cleared plot	dismembered	yes
10/15/2021	unidentified sparrow	90	401	carcass search	3-day 90-m cleared plot	intact	yes
10/16/2021	European starling	59	407	carcass search	3-day 90-m cleared plot	intact	yes

Appendix A. Carcasses found at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Found Date	Species	Distance from Turbine	Turbine	Search Type	Search Area Type	Physical Condition	Aided Search
10/16/2021	unidentified kingbird	79	414	carcass search	3-day 90-m cleared plot	scavenged	yes
10/16/2021	unidentified small bird	58	423	carcass search	3-day 90-m cleared plot	scavenged	yes

** Carcass was found outside the search area.

m = meter.

**Appendix B. Searcher Efficiency, Carcass Persistence, and Truncated Weighted
Likelihood Area Adjustment Estimate Model Fitting Results**

Appendix B1. Searcher efficiency models for bats found by humans from the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Covariates	k Value	AICc	Delta AICc
Plot Search Type	0.67	72.79	0*
Season + Plot Search Type	0.67	74.56	1.77
Season	0.67	86.00	13.21
No Covariates	0.67	89.69	16.90

* Selected model.

AICc = corrected Akaike Information Criterion.

n = 91.

Appendix B2. Searcher efficiency models for bats found by dogs from the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

Covariates	k Value	AICc	Delta AICc
Plot Search Type	0.67	87.24	0
No Covariates	0.67	87.78	0.54*
Season + Plot Search Type	0.67	89.28	2.04
Season	0.67	89.82	2.58

* Selected model.

AICc = corrected Akaike Information Criterion.

n = 73.

Appendix B3. Carcass persistence models with covariates and distributions for bats placed on non-dog aided plots at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021 (n = 58).

Location Covariates	Scale Covariates	Distribution	AICc	Delta AICc
Season	No Covariates	lognormal	260.68	0
Season	No Covariates	loglogistic	261.86	1.18
Season	Season	lognormal	262.24	1.56
No Covariates	No Covariates	lognormal	262.33	1.65*
Season + PlotSearchType	No Covariates	lognormal	262.92	2.24
Season	Season	loglogistic	263.43	2.75
No Covariates	No Covariates	loglogistic	263.61	2.93
PlotSearchType	No Covariates	lognormal	263.61	2.93
Season + PlotSearchType	No Covariates	loglogistic	264.06	3.38
No Covariates	Season	lognormal	264.33	3.65
No Covariates	PlotSearchType	lognormal	264.47	3.79
Season + PlotSearchType	Season	lognormal	264.58	3.90
Season	Season + PlotSearchType	lognormal	264.64	3.96
PlotSearchType	No Covariates	loglogistic	264.76	4.08
Season + PlotSearchType	PlotSearchType	lognormal	265.18	4.50
No Covariates	Season	loglogistic	265.53	4.85
No Covariates	PlotSearchType	loglogistic	265.74	5.06
Season + PlotSearchType	Season	loglogistic	265.75	5.07
Season	Season + PlotSearchType	loglogistic	265.83	5.15
PlotSearchType	PlotSearchType	lognormal	265.84	5.16
Season + PlotSearchType	PlotSearchType	loglogistic	266.34	5.66

Appendix B3. Carcass persistence models with covariates and distributions for bats placed on non-dog aided plots at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021 (n = 58).

Location Covariates	Scale Covariates	Distribution	AICc	Delta AICc
No Covariates	Season + PlotSearchType	lognormal	266.62	5.94
PlotSearchType	PlotSearchType	loglogistic	267.02	6.34
Season + PlotSearchType	Season + PlotSearchType	lognormal	267.07	6.39
No Covariates	Season + PlotSearchType	loglogistic	267.83	7.15
PlotSearchType	Season + PlotSearchType	lognormal	267.94	7.26
Season + PlotSearchType	Season + PlotSearchType	loglogistic	268.24	7.56
Season	-	exponential	268.27	7.59
PlotSearchType	Season + PlotSearchType	loglogistic	269.03	8.35
Season	No Covariates	Weibull	269.09	8.41
Season + PlotSearchType	-	exponential	270.41	9.73
Season	Season	Weibull	271.33	10.65
Season + PlotSearchType	No Covariates	Weibull	271.33	10.65
No Covariates	No Covariates	Weibull	271.55	10.87
No Covariates	-	exponential	271.68	11.00
PlotSearchType	-	exponential	272.52	11.84
PlotSearchType	No Covariates	Weibull	272.74	12.06
Season + PlotSearchType	Season	Weibull	273.67	12.99
Season	Season + PlotSearchType	Weibull	273.73	13.05
Season + PlotSearchType	PlotSearchType	Weibull	273.73	13.05
No Covariates	Season	Weibull	273.75	13.07
No Covariates	PlotSearchType	Weibull	273.77	13.09
PlotSearchType	PlotSearchType	Weibull	275.05	14.37
No Covariates	Season + PlotSearchType	Weibull	276.06	15.38
Season + PlotSearchType	Season + PlotSearchType	Weibull	276.16	15.48
PlotSearchType	Season + PlotSearchType	Weibull	277.36	16.68

* Selected model.

AICc = corrected Akaike Information Criterion.

Appendix B4. Carcass persistence models with covariates and distributions for bats placed on dog-handler searched plots at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021 (n = 42).

Location Covariates	Scale Covariates	Distribution	AICc	Delta AICc
No Covariates	Season	loglogistic	175.95	0*
No Covariates	Season	Weibull	176.38	0.43
No Covariates	Season	lognormal	176.63	0.68
Season + PlotSearchType	Season	loglogistic	177.06	1.11
Season + PlotSearchType	Season	Weibull	177.67	1.72
Season + PlotSearchType	Season	lognormal	177.68	1.73
Season	Season	loglogistic	177.88	1.93
No Covariates	Season + PlotSearchType	loglogistic	178.36	2.41
Season	Season	lognormal	178.50	2.55
No Covariates	Season + PlotSearchType	Weibull	178.64	2.69
PlotSearchType	Season + PlotSearchType	Weibull	178.77	2.82
Season	Season	Weibull	178.81	2.86

Appendix B4. Carcass persistence models with covariates and distributions for bats placed on dog-handler searched plots at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021 (n = 42).

Location Covariates	Scale Covariates	Distribution	AICc	Delta AICc
No Covariates	Season + PlotSearchType	lognormal	178.97	3.02
Season + PlotSearchType	Season + PlotSearchType	loglogistic	179.75	3.80
PlotSearchType	Season + PlotSearchType	loglogistic	179.89	3.94
Season + PlotSearchType	Season + PlotSearchType	Weibull	180.36	4.41
Season + PlotSearchType	Season + PlotSearchType	lognormal	180.36	4.41
Season	Season + PlotSearchType	loglogistic	180.44	4.49
PlotSearchType	-	exponential	180.54	4.59
PlotSearchType	No Covariates	Weibull	180.59	4.64
PlotSearchType	Season + PlotSearchType	lognormal	180.63	4.68
Season	Season + PlotSearchType	lognormal	181.08	5.13
Season	Season + PlotSearchType	Weibull	181.09	5.14
No Covariates	No Covariates	Weibull	181.90	5.95
Season + PlotSearchType	-	exponential	181.96	6.01
Season + PlotSearchType	No Covariates	Weibull	182.34	6.39
No Covariates	-	exponential	182.53	6.58
PlotSearchType	PlotSearchType	Weibull	182.83	6.88
PlotSearchType	No Covariates	loglogistic	183.34	7.39
Season + PlotSearchType	No Covariates	loglogistic	183.58	7.63
No Covariates	No Covariates	loglogistic	183.60	7.65
No Covariates	PlotSearchType	Weibull	184.06	8.11
Season	No Covariates	Weibull	184.22	8.27
Season + PlotSearchType	PlotSearchType	Weibull	184.68	8.73
Season	-	exponential	184.73	8.78
PlotSearchType	No Covariates	lognormal	184.87	8.92
No Covariates	PlotSearchType	loglogistic	185.02	9.07
No Covariates	No Covariates	lognormal	185.03	9.08
PlotSearchType	PlotSearchType	loglogistic	185.05	9.10
Season + PlotSearchType	No Covariates	lognormal	185.07	9.12
Season + PlotSearchType	PlotSearchType	loglogistic	185.08	9.13
Season	No Covariates	loglogistic	185.46	9.51
Season + PlotSearchType	PlotSearchType	lognormal	186.52	10.57
PlotSearchType	PlotSearchType	lognormal	186.61	10.66
Season	No Covariates	lognormal	186.76	10.81
No Covariates	PlotSearchType	lognormal	186.80	10.85

* Selected model.

AICc = corrected Akaike Information Criterion.

Appendix B5. Truncated weighted maximum (TWL) likelihood search area adjustment models for the Timber Road Wind Farm, Paulding County, Ohio, from April 1, 2021 – October 16, 2021. Separate TWL models were fit across blade length stratum, (50 m n = 258, 56 m n = 372, 68 m n = 166, 74 m n = 395) and pooled across all stratum (n = 1197). The distributions and AICc scores are presented for the top 10 overall stratified models and the top pooled model¹.

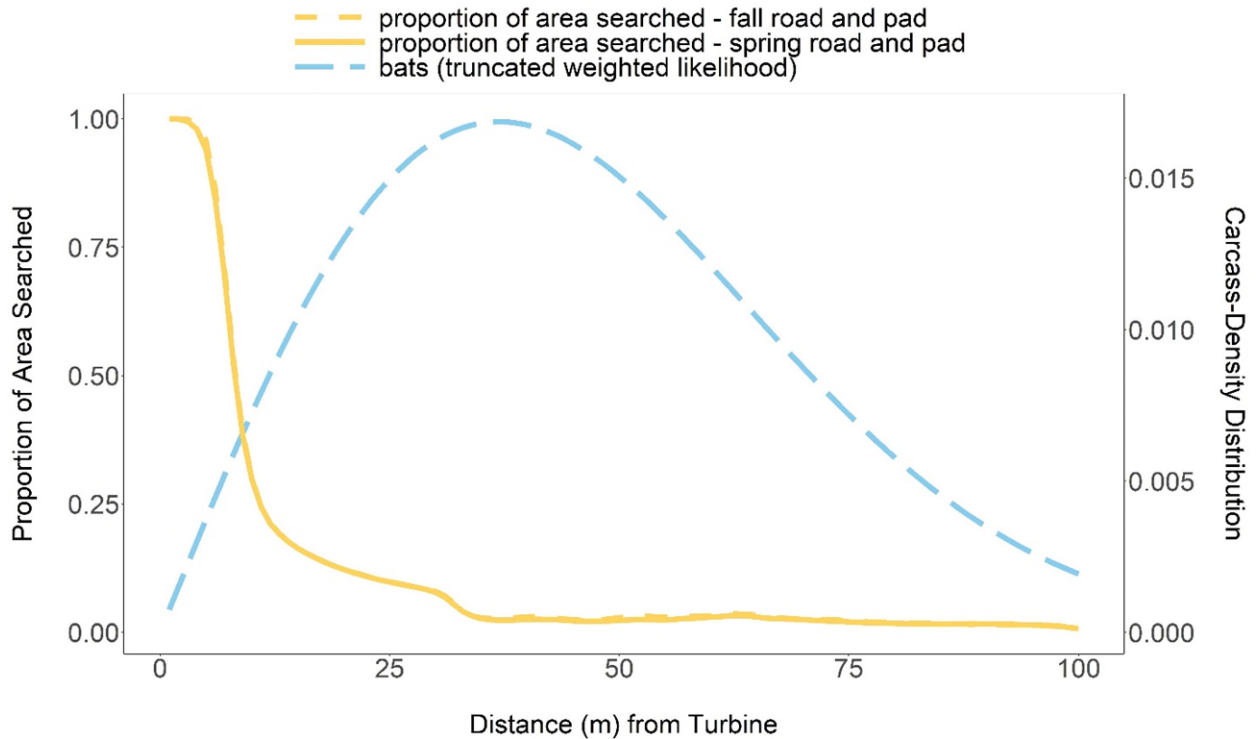
Size Class	Blade Length				Pooled	AIC	Delta AIC
	Phase II – 50 m	Phase III – 56 m	Phase IV – 68 m	Phase IV – 74 m			
Bat	Rayleigh	normal	Gompertz	normal	NA	31196.57	0.00*
	Weibull	normal	Gompertz	normal	NA	31198.04	1.47
	Rayleigh	normal	Gompertz	Gompertz	NA	31199.86	3.28
	gamma	normal	Gompertz	normal	NA	31200.95	4.38
	Rayleigh	Weibull	Gompertz	normal	NA	31201.24	4.66
	Weibull	normal	Gompertz	Gompertz	NA	31201.33	4.75
	Rayleigh	Rayleigh	Gompertz	normal	NA	31201.73	5.16
	Weibull	Weibull	Gompertz	normal	NA	31202.71	6.13
	Weibull	Rayleigh	Gompertz	normal	NA	31203.2	6.62
	gamma	normal	Gompertz	Gompertz	NA	31204.23	7.66
–	–	–	–	Rayleigh [†]	31196.60	176.4	

*Selected Model.

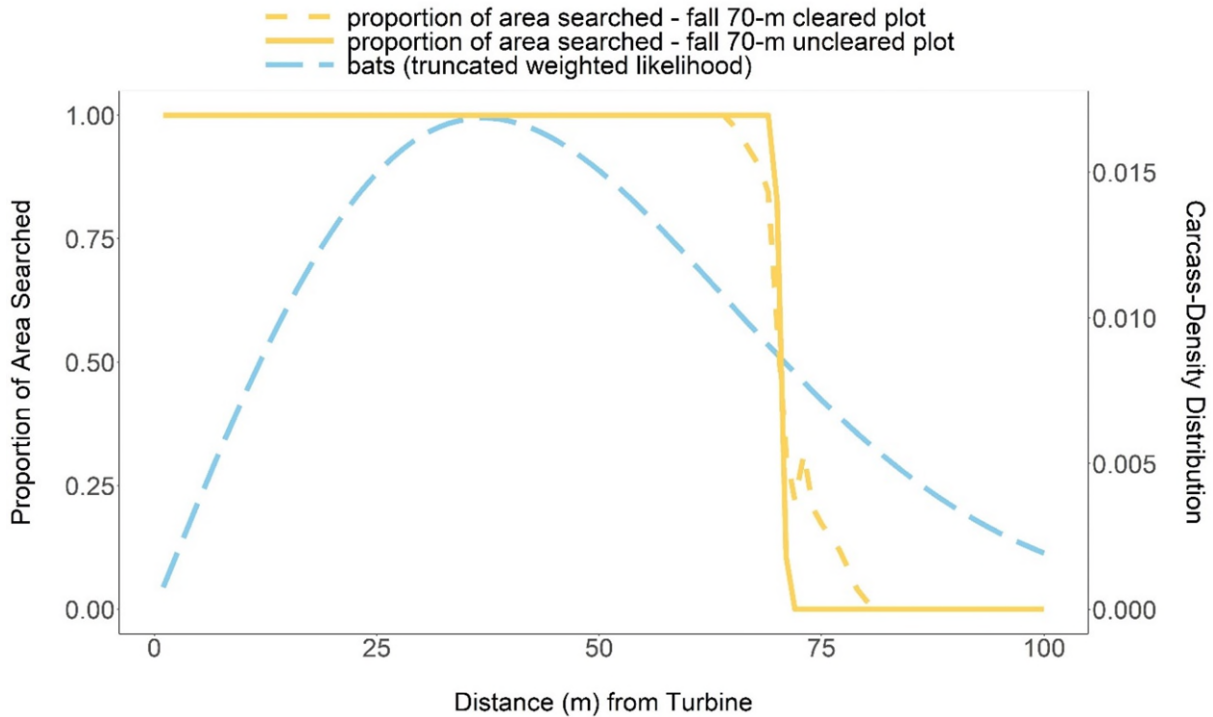
[†] Model included for comparison. Not a top 10 model.

m = meter; AICc = corrected Akaike Information Criterion.

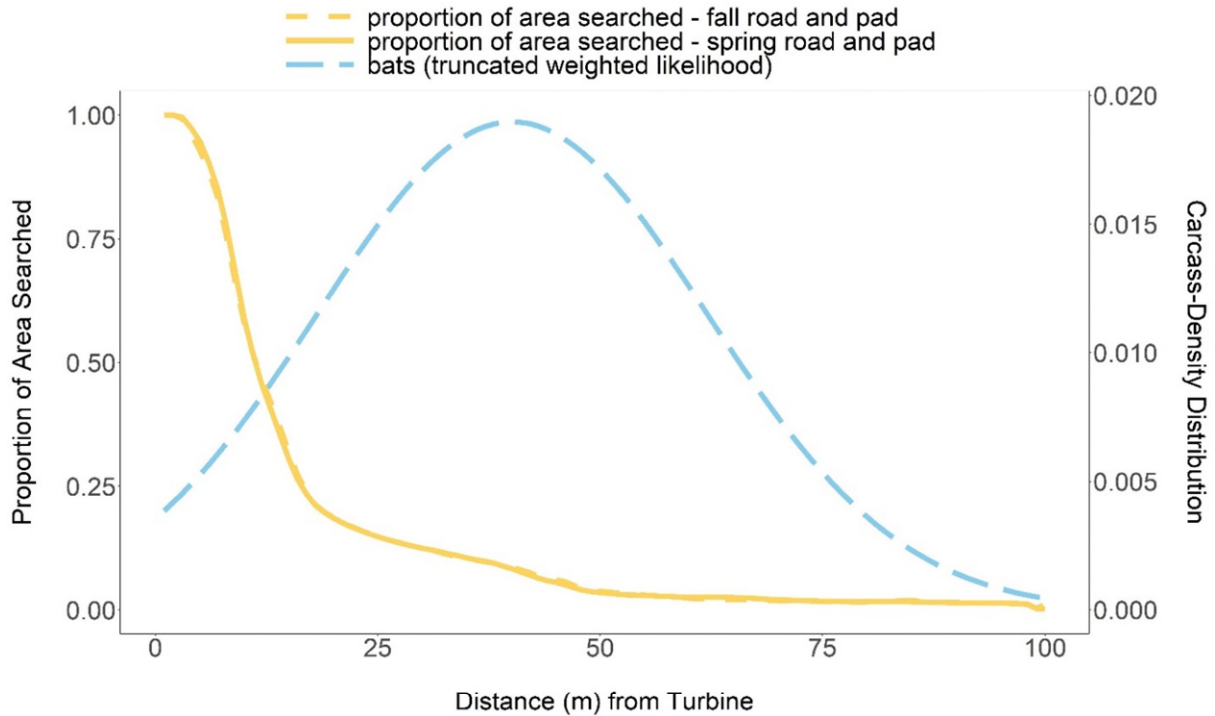
¹ The AICc for each stratified model was calculated by summing the AICc inputs (loglikelihood, number of parameters plus three, and number of data points) for each of the stratum specific models, and recalculating AICc. The number of parameters was increased by three for each stratified model to account for the indicator variables necessary to differentiate the carcass density beyond the “baseline” stratum).



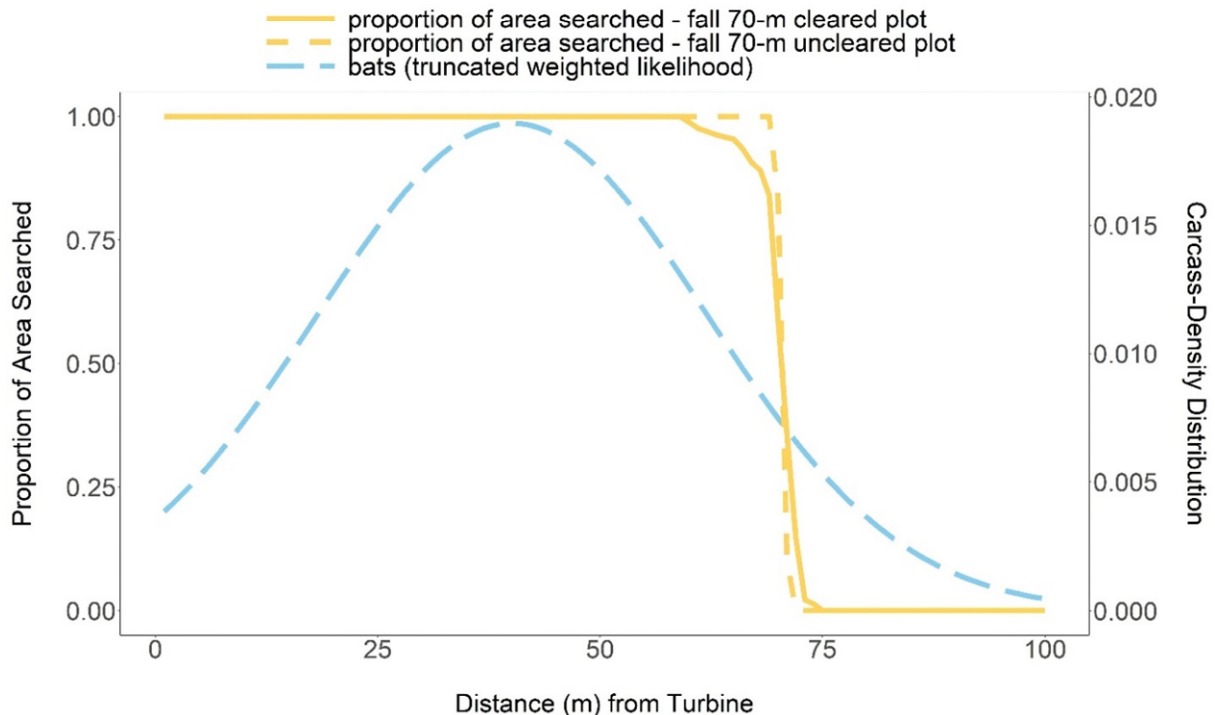
Appendix B6. Density of bat carcasses per area searched at all 100-meter (m) roads and pads surrounding turbines with 50-m blades at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.



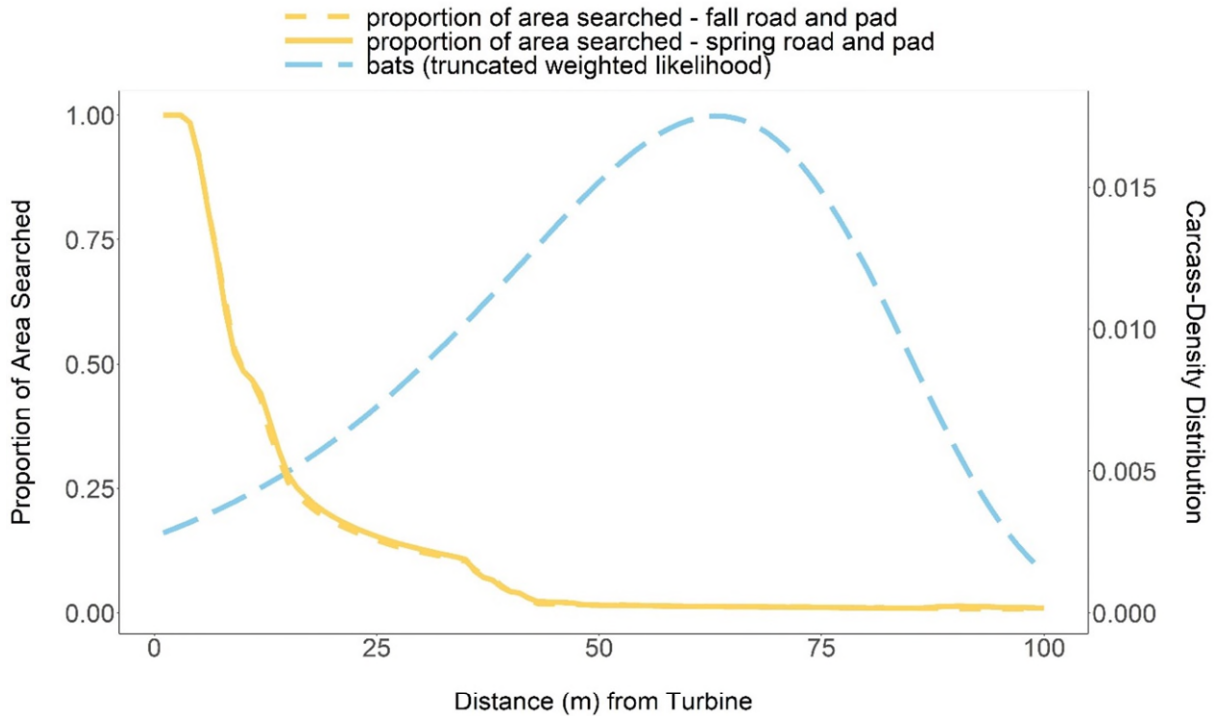
Appendix B7. Density of bat carcasses per area searched at all 70-meter (m) cleared and uncleared plots surrounding turbines with 50-m blades at the Timber Road Wind Farm, Paulding County, Ohio, from August 1 – October 16, 2021.



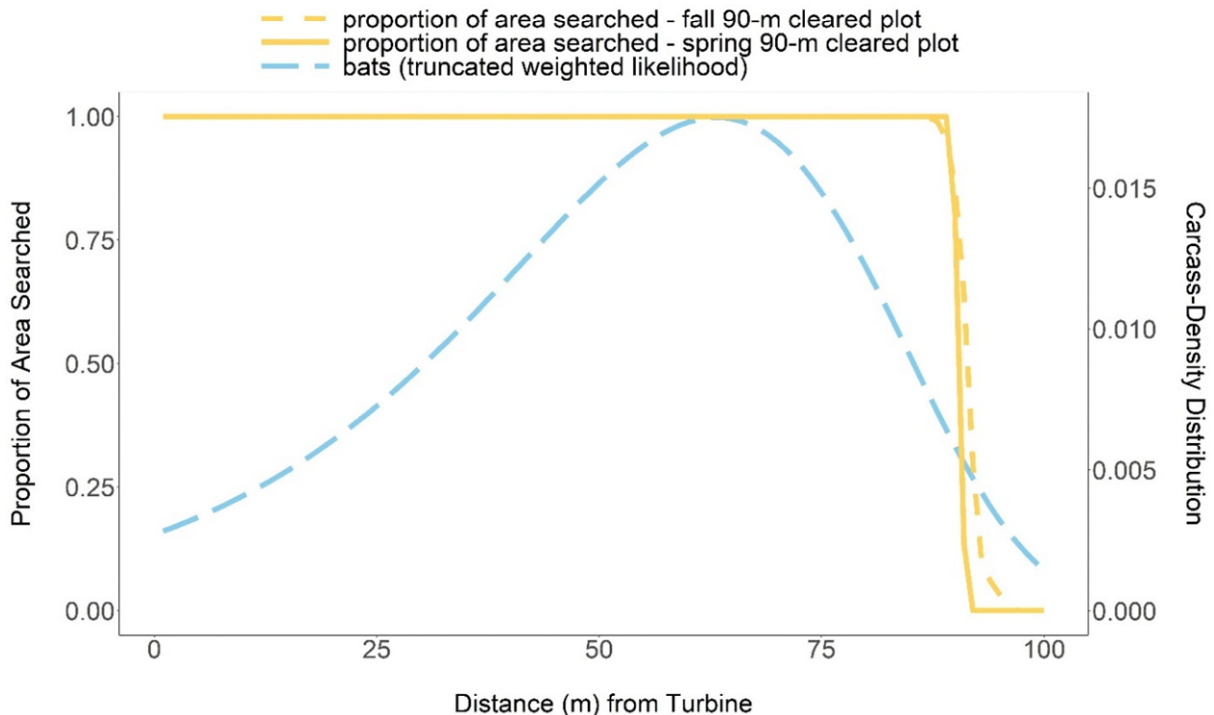
Appendix B8. Density of bat carcasses per area searched at all 100-meter (m) roads and pads surrounding turbines with 57-m blades at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.



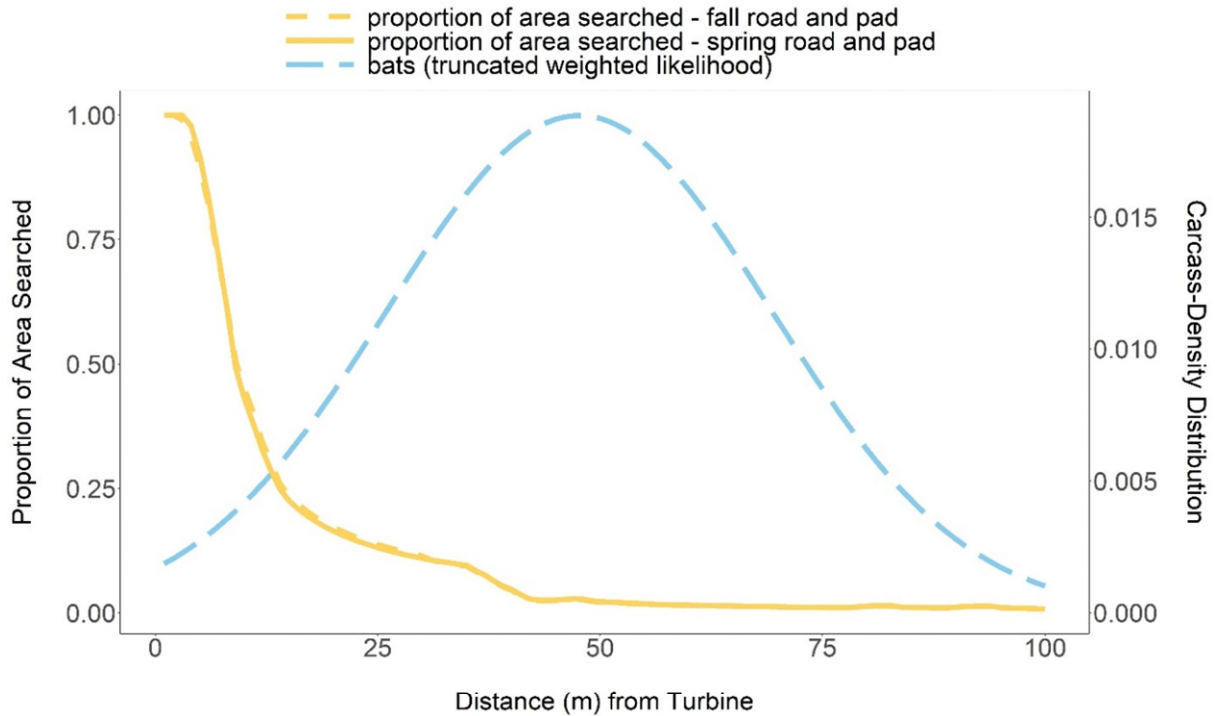
Appendix B9. Density of bat carcasses per area searched at all 70-meter (m) cleared and uncleared plots surrounding turbines with 57-m blades at the Timber Road Wind Farm, Paulding County, Ohio, from August 1 – October 16, 2021.



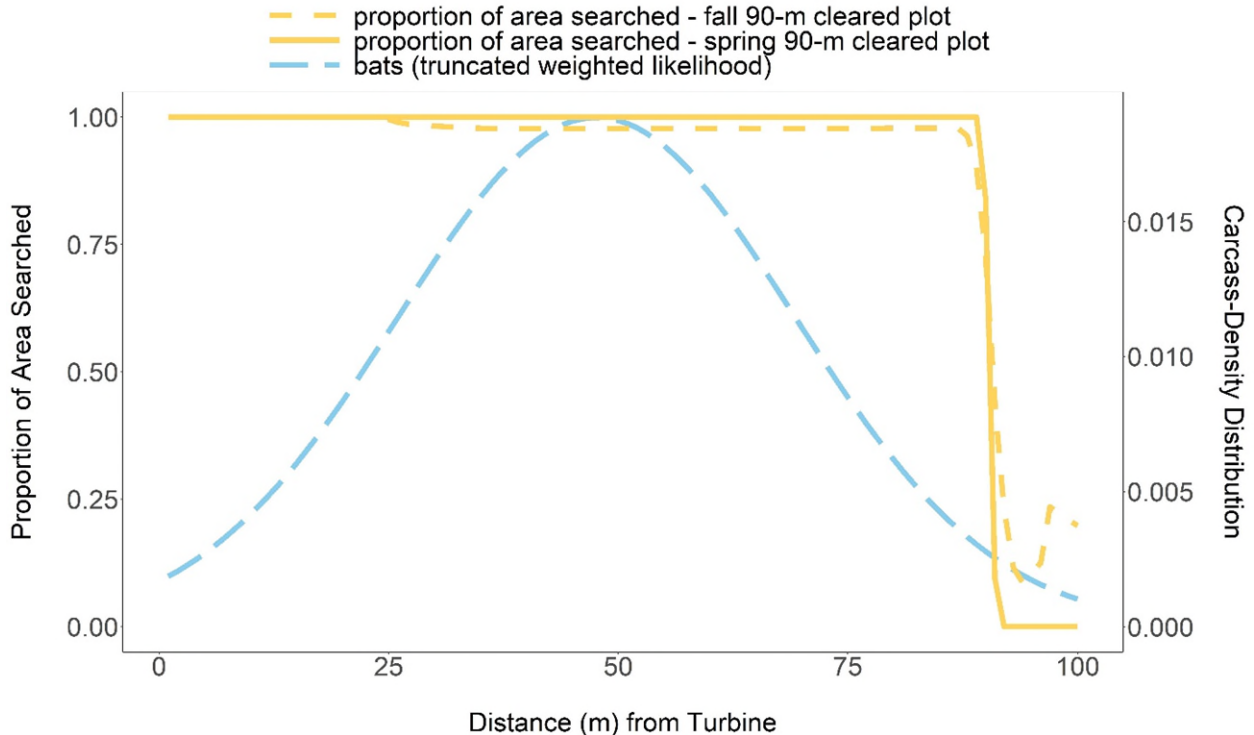
Appendix B10. Density of bat carcasses per area searched at all 100-meter (m) roads and pads surrounding turbines with 68-m blades at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.



Appendix B11. Density of bat carcasses per area searched at all 90-meter (m) cleared plots surrounding turbines with 68-m blades at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.



Appendix B12. Density of bat carcasses per area searched at all 100-meter (m) road and pads surrounding turbines with 75-m blades at the Timber Road IV Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.



Appendix B13. Density of bat carcasses per area searched at all 90-meter (m) cleared plots surrounding turbines with 75-m blades at the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15 and August 1 – October 16, 2021.

**Appendix C. Inputs for Single Class and Multiple Class Modules in Evidence of
Absence and Screenshots of the Inputs and Outputs for the Single Class and Multiple
Class Modules**

Appendix C1. Inputs needed to run Evidence of Absence: Single Class Module for the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15, 2021 and August 1 – October 16, 2021.

Season	Plot Type	Blade Length	Search interval (I)	Number of searches ²	Spatial Coverage (a)	Searcher Efficiency		Carcass Persistence ³			
						Available	Found	Shape (α)	Scale (β)	Scale Lower Limit (β)	Scale Upper Limit (β)
spring	100-m road and pad	50m	7	6	0.07	71	65	1.84	2.39	2.03	2.76
spring	100-m road and pad	57m	7	7	0.13	71	65	1.84	2.39	2.03	2.76
spring	100-m road and pad	68m	7	6	0.07	71	65	1.84	2.39	2.03	2.76
spring	100-m road and pad	75m	7	6	0.07	71	65	1.84	2.39	2.03	2.76
spring	90-m cleared ¹	68m	1	43	0.97	20	9	1.84	2.39	2.03	2.76
spring	90-m cleared ¹	75m	1	42	0.98	20	9	1.84	2.39	2.03	2.76
spring	90-m cleared	68m	3	15	0.97	73	53	2.87	16.61	11.54	23.9
spring	90-m cleared	75m	3	15	0.98	73	53	2.87	16.61	11.54	23.9
fall	100-m road and pad	50m	3.5	21	0.07	71	65	1.84	2.39	2.03	2.76
fall	100-m road and pad	57m	3.5	21	0.13	71	65	1.84	2.39	2.03	2.76
fall	100-m road and pad	68m	3.5	21	0.06	71	65	1.84	2.39	2.03	2.76
fall	100-m road and pad	75m	3.5	21	0.07	71	65	1.84	2.39	2.03	2.76
fall	70-m uncleared	50m	3.5	22	0.84	73	53	0.75	16.61	11.54	23.9
fall	70-m uncleared	57m	3.5	21	0.91	73	53	0.75	16.61	11.54	23.9
fall	70-m cleared	50m	3.5	19	0.85	73	53	0.75	16.61	11.54	23.9
fall	70-m cleared	57m	3.5	22	0.91	73	53	0.75	16.61	11.54	23.9
fall	90-m cleared	68m	3	26	0.97	73	53	0.75	16.61	11.54	23.9
fall	90-m cleared	75m	3	26	0.96	73	53	0.75	16.61	11.54	23.9

^{1.} Human searched 90-meter (m) cleared plot, all other uncleared and cleared plots are dog-handler searched.

^{2.} The Evidence of Absence Graphical User Interface requires adding an additional search, which is automatically excluded as a clearing search. Therefore, to use the GUI, the user must add 1 to each of these reported numbers of searches.

^{3.} A lognormal distribution was used for carcass persistence distribution non-dog aided search plots (100-m road and pad and daily 90-m cleared plots) and a log-logistic distribution was used for carcass persistence distribution on dog aided search plots (90-m cleared plots, 70-m cleared plots, and 70-m uncleared plots).

Appendix C2. Inputs needed to run Evidence of Absence to combine across plot types within each season: Multiple Class Module for the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15, 2021, and August 1 – October 16, 2021.

Season	Plot Type	Blade Length	Ba	Bb	Within-season Sampling Fraction (Weights; DWP)
spring	100-m road and pad	50 m	430	7338.85	0.41
spring	100-m road and pad	57 m	363.09	3376.32	0.36
spring	100-m road and pad	68 m	453.54	8506.45	0.03
spring	100-m road and pad	75 m	411.13	7260.34	0.09
spring	90-m cleared ¹	68 m	15.6	6.91	0.01
spring	90-m cleared ¹	75 m	15.67	6.79	0.03
spring	90-m cleared	68 m	138.37	20.4	0.01
spring	90-m cleared	75 m	131.22	18.12	0.06
fall	100-m road and pad	50 m	818.15	11658.21	0.25
fall	100-m road and pad	57 m	975.35	7754.89	0.19
fall	100-m road and pad	68 m	987.81	16361.32	0.02
fall	100-m road and pad	75 m	887.88	13491.77	0.10
fall	70-m uncleared	50 m	204.82	119.54	0.13
fall	70-m uncleared	57 m	198.99	91.4	0.15
fall	70-m cleared	50 m	198.72	113.71	0.03
fall	70-m cleared	57 m	182.76	85.63	0.02
fall	90-m cleared	68 m	165.29	55.78	0.03
fall	90-m cleared	75 m	160.42	57.37	0.08

¹: Non-dog aided 90-m cleared plot, all other uncleared and cleared plots are dog aided.

m = meter.

Appendix C3. Inputs needed to run Evidence of Absence to combine across seasons in 2021: Multiple Class Module for the Timber Road Wind Farm, Paulding County, Ohio, from April 1 – May 15, 2021, and August 1 – October 16, 2021.

Season	Ba	Bb	Seasonal Arrival Proportions (Weights; DWP)
Spring	1322.29	7193.73	0.11
Fall	2084.97	3899.95	0.89

Appendix C4. Inputs needed to run Evidence of Absence: Multiple Class Module for the Timber Road Wind Farm, Paulding County, Ohio, from 2020 – 2021.

Year	Ba	Bb	Weights (ρ)
2020	323.4201	1417.479	0.89
2021	2381.963	4899.431	1

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd) 2021-04-01

Formula

Search interval (I) 7

Number of searches 7

Custom Edit/View

span = 182, l (mean) = 7

Spatial coverage (a) 0.07

Temporal coverage (v) 0.11

Estimate g

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $\hat{k} = 0.736$ View Edit

Carcasses removed after one search

Carcasses available 71

Carcasses found 65

$\hat{p} = 0.915$, with 95% CI = [0.834, 0.964]

Factor by which searcher efficiency changes with each search (k) 0.67

Persistence Distribution

Use field trials to estimate parameters View/Edit

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.531$ for $l_r = 7$, with 95% CIs: $r \in [0.419, 0.651]$, $\beta \in [0.488, 1.854]$

Enter parameter estimates manually View

Parameters

shape (α) 1.84

scale (β) 2.39 lwr 2.03 upr 2.74

$r = 0.809$ for $l_r = 7$, with 95% CI: $r \in [0.738, 0.869]$

Fatality estimation (M, λ)

Carcass Count (X) 0 Estimate M

Credibility level (1 - α) 0.9 Estimate λ

One-sided CI (M*) Two-sided CI

Close

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)

Results:

Full site for full year

Estimated $g = 0.00585$, 95% CI = [0.00528, 0.00646]

Fitted beta distribution parameters for estimated g : $B_a = 378.1144$, $B_b = 64208.9151$

Full site for monitored period, 01-Apr-2021 through 20-May-2021

Estimated $g = 0.0532$, 95% CI = [0.048, 0.0587]

Fitted beta distribution parameters for estimated g : $B_a = 360.0415$, $B_b = 6405.1291$

Temporal coverage (within year) = 0.11

Searched area for monitored period, 01-Apr-2021 through 20-May-2021

Estimated $g = 0.76$, 95% CI = [0.68, 0.832]

Fitted beta distribution parameters for estimated g : $B_a = 91.1196$, $B_b = 28.7283$

Input:

Search parameters

trial carcasses placed = 71, carcasses found = 65

estimated searcher efficiency: $p = 0.915$, 95% CI = [0.834, 0.964]

$k = 0.67$

Search schedule: Search interval (I) = 7, number of searches = 7, span = 49

spatial coverage: 0.07 temporal coverage: 0.11

Carcass persistence:

Lognormal persistence distribution

shape (α) = 1.84 and scale (β) = 2.39

95% CI $\beta = [2.03, 2.76]$

$r = 0.809$ for $l_r = 7$ with 95% CI = [0.738, 0.869]

Parameters entered manually

Uniform arrivals

Appendix C5. Spring 100-m road/pad 50m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, l (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $k = 0.736$

Carcasses removed after one search

Carcasses available

Carcasses found

$\hat{p} = 0.915$, with 95% CI = [0.834, 0.964]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.531$ for $l_r = 7$, with 95% CIs: $r \in [0.419, 0.651]$, $\beta \in [0.488, 1.854]$

Enter parameter estimates manually

Parameters

shape (α)

scale (β) lwr upr

$r = 0.809$ for $l_r = 7$, with 95% CI: $r \in [0.738, 0.869]$

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)

Results:

Full site for full year

Estimated $g = 0.0109$, 95% CI = [0.00992, 0.012]

Fitted beta distribution parameters for estimated g : $B_a = 419.2051$, $B_b = 37920.3711$

Full site for monitored period, 01-Apr-2021 through 27-May-2021

Estimated $g = 0.0994$, 95% CI = [0.0901, 0.109]

Fitted beta distribution parameters for estimated g : $B_a = 381.6108$, $B_b = 3457.6214$

Temporal coverage (within year) = 0.11

Searched area for monitored period, 01-Apr-2021 through 27-May-2021

Estimated $g = 0.765$, 95% CI = [0.689, 0.833]

Fitted beta distribution parameters for estimated g : $B_a = 100.0092$, $B_b = 30.7895$

Input:

Search parameters

trial carcasses placed = 71, carcasses found = 65

estimated searcher efficiency: $p = 0.915$, 95% CI = [0.834, 0.964]

$k = 0.67$

Search schedule: Search interval (I) = 7, number of searches = 8, span = 56

spatial coverage: 0.13 temporal coverage: 0.11

Carcass persistence:

Lognormal persistence distribution

shape (α) = 1.84 and scale (β) = 2.39

95% CI $\beta = [2.03, 2.76]$

$r = 0.809$ for $l_r = 7$ with 95% CI = [0.738, 0.869]

Parameters entered manually

Uniform arrivals

Appendix C6. Spring 100-m road/pad 57m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, l (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $\hat{k} = 0.736$

Carcasses removed after one search

Carcasses available

Carcasses found

$\hat{p} = 0.915$, with 95% CI = [0.834, 0.964]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.531$ for $l_r = 7$, with 95% CIs: $r \in [0.419, 0.651]$, $\beta \in [0.488, 1.854]$

Enter parameter estimates manually

Parameters

shape (α)

scale (β) lwr upr

$r = 0.809$ for $l_r = 7$, with 95% CI: $r \in [0.738, 0.869]$

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

```

=====
Results:

Full site for full year
  Estimated g = 0.00584, 95% CI = [0.00522, 0.0065]
  Fitted beta distribution parameters for estimated g: Ba = 319.8631, Bb = 54423.6729

Full site for monitored period, 01-Apr-2021 through 20-May-2021
  Estimated g = 0.0531, 95% CI = [0.0475, 0.0591]
  Fitted beta distribution parameters for estimated g: Ba = 304.5962, Bb = 5429.9419
  Temporal coverage (within year) = 0.11

Searched area for monitored period, 01-Apr-2021 through 20-May-2021
  Estimated g = 0.759, 95% CI = [0.672, 0.836]
  Fitted beta distribution parameters for estimated g: Ba = 78.1665, Bb = 24.8466

=====
Input:
Search parameters
  trial carcasses placed = 71, carcasses found = 65
  estimated searcher efficiency: p = 0.915, 95% CI = [0.834, 0.964]
  k = 0.67
  Search schedule: Search interval (I) = 7, number of searches = 7, span = 49
  spatial coverage: 0.07      temporal coverage: 0.11

-----
Carcass persistence:
Lognormal persistence distribution
  shape (a) = 1.84 and scale (B) = 2.39
  95% CI B = [2.03, 2.76]
  r = 0.809 for lr = 7 with 95% CI = [0.738, 0.869]
  Parameters entered manually
Uniform arrivals
  
```

Appendix C7. Spring 100-m road/pad 68m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, I (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $k = 0.736$

Carcasses removed after one search

Carcasses available

Carcasses found

$\hat{p} = 0.915$, with 95% CI = [0.834, 0.964]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.531$ for $I_r = 7$, with 95% CIs: $r \in [0.419, 0.651]$, $\beta \in [0.488, 1.854]$

Enter parameter estimates manually

Parameters

Exponential

Weibull

Log-Logistic

Lognormal

shape (α)

scale (β) lwr upr

$r = 0.809$ for $I_r = 7$, with 95% CI: $r \in [0.738, 0.869]$

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)

Results:

Full site for full year

Estimated g = 0.00588, 95% CI = [0.00531, 0.00648]

Fitted beta distribution parameters for estimated g: Ba = 387.0992, Bb = 65461.0382

Full site for monitored period, 01-Apr-2021 through 20-May-2021

Estimated g = 0.0534, 95% CI = [0.0483, 0.0589]

Fitted beta distribution parameters for estimated g: Ba = 368.5197, Bb = 6527.3198

Temporal coverage (within year) = 0.11

Searched area for monitored period, 01-Apr-2021 through 20-May-2021

Estimated g = 0.763, 95% CI = [0.684, 0.834]

Fitted beta distribution parameters for estimated g: Ba = 93.1197, Bb = 28.854

Input:

Search parameters

trial carcasses placed = 71, carcasses found = 65

estimated searcher efficiency: $p = 0.915$, 95% CI = [0.834, 0.964]

$k = 0.67$

Search schedule: Search interval (I) = 7, number of searches = 7, span = 49

spatial coverage: 0.07 temporal coverage: 0.11

Carcass persistence:

Lognormal persistence distribution

shape (α) = 1.84 and scale (β) = 2.39

95% CI β = [2.03, 2.76]

$r = 0.809$ for $I_r = 7$ with 95% CI = [0.738, 0.869]

Parameters entered manually

Uniform arrivals

Appendix C8. Spring 100-m road/pad 75m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, l (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $\hat{k} = 0.736$

Carcasses removed after one search

Carcasses available

Carcasses found

$\hat{p} = 0.45$, with 95% CI = [0.251, 0.662]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.835$ for $l_r = 1$, with 95% CIs: $r \in [0.725, 0.93]$, $\beta \in [0.488, 1.854]$

Enter parameter estimates manually

Parameters

shape (α)

scale (β) lwr upr

$r = 0.986$ for $l_r = 1$, with 95% CI: $r \in [0.974, 0.993]$

Fatality estimation (M, λ)

Carcass Count (X) **One-sided CI (M*)** **Two-sided CI**

Credibility level (1 - α)

```

R Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)
=====
Results:

Full site for full year
  Estimated g = 0.0763, 95% CI = [0.0558, 0.0997]
  Fitted beta distribution parameters for estimated g: Ba = 42.6561, Bb = 516.2439

Full site for monitored period, 01-Apr-2021 through 15-May-2021
  Estimated g = 0.694, 95% CI = [0.489, 0.864]
  Fitted beta distribution parameters for estimated g: Ba = 14.9892, Bb = 6.6242
  Temporal coverage (within year) = 0.11

Searched area for monitored period, 01-Apr-2021 through 15-May-2021
  Estimated g = 0.715, 95% CI = [0.501, 0.887]
  Fitted beta distribution parameters for estimated g: Ba = 13.8053, Bb = 5.5015

=====
Input:
Search parameters
  trial carcasses placed = 20, carcasses found = 9
  estimated searcher efficiency: p = 0.45, 95% CI = [0.251, 0.662]
  k = 0.67
  Search schedule: Search interval (I) = 1, number of searches = 44, span = 44
  spatial coverage: 0.97      temporal coverage: 0.11

-----
Carcass persistence:
Lognormal persistence distribution
  shape (a) = 1.84 and scale (b) = 2.39
  95% CI b = [2.03, 2.76]
  r = 0.986 for lr = 1 with 95% CI = [0.974, 0.993]
  Parameters entered manually
Uniform arrivals
  
```

Appendix C9. Spring 90-m human searched cleared plot 68m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, l (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $\hat{k} = 0.736$

Carcasses removed after one search

Carcasses available

Carcasses found

$\hat{p} = 0.45$, with 95% CI = [0.251, 0.662]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.835$ for $l_r = 1$, with 95% CIs: $r \in [0.725, 0.93]$, $\beta \in [0.488, 1.854]$

Enter parameter estimates manually

Parameters

shape (α)

scale (β) lwr upr

$r = 0.986$ for $l_r = 1$, with 95% CI: $r \in [0.974, 0.993]$

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

```

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)
=====
Results:

Full site for full year
  Estimated g = 0.0769, 95% CI = [0.0563, 0.1]
  Fitted beta distribution parameters for estimated g: Ba = 43.1171, Bb = 517.6214

Full site for monitored period, 01-Apr-2021 through 14-May-2021
  Estimated g = 0.699, 95% CI = [0.494, 0.868]
  Fitted beta distribution parameters for estimated g: Ba = 15.0401, Bb = 6.4873
  Temporal coverage (within year) = 0.11

Searched area for monitored period, 01-Apr-2021 through 14-May-2021
  Estimated g = 0.713, 95% CI = [0.502, 0.883]
  Fitted beta distribution parameters for estimated g: Ba = 14.2487, Bb = 5.7366

=====
Input:
Search parameters
  trial carcasses placed = 20, carcasses found = 9
  estimated searcher efficiency: p = 0.45, 95% CI = [0.251, 0.662]
  k = 0.67
  Search schedule: Search interval (I) = 1, number of searches = 43, span = 43
  spatial coverage: 0.98      temporal coverage: 0.11

Carcass persistence:
  Lognormal persistence distribution
  shape (a) = 1.84 and scale (B) = 2.39
  95% CI B = [2.03, 2.76]
  r = 0.986 for lr = 1 with 95% CI = [0.974, 0.993]
  Parameters entered manually
  Uniform arrivals
  
```

Appendix C10. Spring 90-m human searched cleared plot 75m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd) 2021-04-01

Formula

Search interval (I) 3

Number of searches 16

Custom [Edit/View](#)

span = 182, l (mean) = 7

Spatial coverage (a) 0.97

Temporal coverage (v) 0.11

[Estimate g](#)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $k = 0.736$ [View](#) [Edit](#)

Carcasses removed after one search

Carcasses available 73

Carcasses found 53

$\hat{p} = 0.726$, with 95% CI = [0.616, 0.818]

Factor by which searcher efficiency changes with each search (k) 0.67

Persistence Distribution

Use field trials to estimate parameters [View/Edit](#)

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.679$ for $l_r = 3$, with 95% CIs: $r \in [0.568, 0.807]$, $\beta \in [0.488, 1.854]$

Enter parameter estimates manually [View](#)

Parameters

Exponential
Weibull
Log-Logistic
Lognormal

shape (α) 2.87

scale (β) 16.61 lwr 11.54 upr 23.9

$r = 0.998$ for $l_r = 3$, with 95% CI: $r \in [0.995, 0.999]$

Fatality estimation (M, λ)

Carcass Count (X) 0 [Estimate M](#)

Credibility level (1 - α) 0.9 [Estimate \$\lambda\$](#)

One-sided CI (M*) Two-sided CI

[Close](#)

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)

Results:

Full site for full year

Estimated $g = 0.0961$, 95% CI = [0.0903, 0.102]

Fitted beta distribution parameters for estimated g : $B_a = 940.9963$, $B_b = 8852.8746$

Full site for monitored period, 01-Apr-2021 through 19-May-2021

Estimated $g = 0.873$, 95% CI = [0.817, 0.921]

Fitted beta distribution parameters for estimated g : $B_a = 133.7492$, $B_b = 19.3791$

Temporal coverage (within year) = 0.11

Searched area for monitored period, 01-Apr-2021 through 19-May-2021

Estimated $g = 0.9$, 95% CI = [0.84, 0.948]

Fitted beta distribution parameters for estimated g : $B_a = 102.7226$, $B_b = 11.3571$

Input:

Search parameters

trial carcasses placed = 73, carcasses found = 53

estimated searcher efficiency: $p = 0.726$, 95% CI = [0.616, 0.818]

$k = 0.67$

Search schedule: Search interval (I) = 3, number of searches = 16, span = 48

spatial coverage: 0.97 temporal coverage: 0.11

Carcass persistence:

Log-Logistic persistence distribution

shape (α) = 2.87 and scale (β) = 16.61

95% CI $\beta = [11.54, 23.9]$

$r = 0.998$ for $l_r = 3$ with 95% CI = [0.995, 0.999]

Parameters entered manually

Uniform arrivals

Appendix C11. Spring 90-m dog-handler searched cleared plot 68m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, l (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $k = 0.736$

Carcasses removed after one search

Carcasses available

Carcasses found

$\hat{p} = 0.726$, with 95% CI = [0.616, 0.818]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.679$ for $l_r = 3$, with 95% CIs: $r \in [0.568, 0.807]$, $\beta \in [0.488, 1.854]$

Enter parameter estimates manually

Parameters

shape (α)

scale (β) lwr upr

$r = 0.998$ for $l_r = 3$, with 95% CI: $r \in [0.995, 0.999]$

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)

Results:

Full site for full year

Estimated g = 0.097, 95% CI = [0.091, 0.103]

Fitted beta distribution parameters for estimated g: Ba = 880.4792, Bb = 8194.3364

Full site for monitored period, 01-Apr-2021 through 19-May-2021

Estimated g = 0.882, 95% CI = [0.823, 0.931]

Fitted beta distribution parameters for estimated g: Ba = 119.0686, Bb = 15.9268

Temporal coverage (within year) = 0.11

Searched area for monitored period, 01-Apr-2021 through 19-May-2021

Estimated g = 0.9, 95% CI = [0.838, 0.948]

Fitted beta distribution parameters for estimated g: Ba = 100.1711, Bb = 11.1272

Input:

Search parameters

trial carcasses placed = 73, carcasses found = 53

estimated searcher efficiency: $p = 0.726$, 95% CI = [0.616, 0.818]

k = 0.67

Search schedule: Search interval (I) = 3, number of searches = 16, span = 48

spatial coverage: 0.98 temporal coverage: 0.11

Carcass persistence:

Log-Logistic persistence distribution

shape (α) = 2.87 and scale (β) = 16.61

95% CI β = [11.54, 23.9]

$r = 0.998$ for $l_r = 3$ with 95% CI = [0.995, 0.999]

Parameters entered manually

Uniform arrivals

Appendix C12. Spring 90-m dog-handler searched cleared plot 75m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, I (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $\hat{k} = 0.736$

Carcasses removed after one search

Carcasses available

Carcasses found

$\hat{p} = 0.915$, with 95% CI = [0.834, 0.964]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.653$ for $I_r = 3.5$, with 95% CIs: $r = [0.541, 0.775]$, $\beta = [0.488, 1.854]$

Enter parameter estimates manually

Parameters

shape (α)

scale (β) lwr upr

$r = 0.909$ for $I_r = 3.5$, with 95% CI: $r \in [0.863, 0.944]$

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)

Results:

Full site for full year

Estimated $g = 0.0543$, 95% CI = [0.0508, 0.0579]

Fitted beta distribution parameters for estimated g : $B_a = 848.3654$, $B_b = 14776.1461$

Full site for monitored period, 01-Aug-2021 through 17-Oct-2021

Estimated $g = 0.061$, 95% CI = [0.0571, 0.0651]

Fitted beta distribution parameters for estimated g : $B_a = 842.3349$, $B_b = 12964.6858$

Temporal coverage (within year) = 0.89

Searched area for monitored period, 01-Aug-2021 through 17-Oct-2021

Estimated $g = 0.872$, 95% CI = [0.811, 0.922]

Fitted beta distribution parameters for estimated g : $B_a = 120.6285$, $B_b = 17.784$

Input:

Search parameters

trial carcasses placed = 71, carcasses found = 65

estimated searcher efficiency: $p = 0.915$, 95% CI = [0.834, 0.964]

$k = 0.67$

Search schedule: Search interval (I) = 3.5, number of searches = 22, span = 77

spatial coverage: 0.07 temporal coverage: 0.89

Carcass persistence:

Lognormal persistence distribution

shape (α) = 1.84 and scale (β) = 2.39

95% CI $\beta = [2.03, 2.76]$

$r = 0.909$ for $I_r = 3.5$ with 95% CI = [0.863, 0.944]

Parameters entered manually

Uniform arrivals

Appendix C13. Fall 100-m road/pad 50m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, I (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $\hat{k} = 0.736$

Carcasses removed after one search

Carcasses available

Carcasses found

$\hat{p} = 0.915$, with 95% CI = [0.834, 0.964]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.653$ for $I_r = 3.5$, with 95% CIs: $r = [0.541, 0.775]$, $\beta = [0.488, 1.854]$

Enter parameter estimates manually

Parameters

shape (α)

scale (β) lwr upr

$r = 0.909$ for $I_r = 3.5$, with 95% CI: $r \in [0.863, 0.944]$

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)

Results:

Full site for full year

Estimated $g = 0.101$, 95% CI = [0.0956, 0.107]

Fitted beta distribution parameters for estimated g : $B_a = 1167.4454$, $B_b = 10393.8196$

Full site for monitored period, 01-Aug-2021 through 17-Oct-2021

Estimated $g = 0.113$, 95% CI = [0.107, 0.12]

Fitted beta distribution parameters for estimated g : $B_a = 1151.2245$, $B_b = 8995.3389$

Temporal coverage (within year) = 0.89

Searched area for monitored period, 01-Aug-2021 through 17-Oct-2021

Estimated $g = 0.873$, 95% CI = [0.822, 0.916]

Fitted beta distribution parameters for estimated g : $B_a = 164.3689$, $B_b = 23.9572$

Input:

Search parameters

trial carcasses placed = 71, carcasses found = 65

estimated searcher efficiency: $p = 0.915$, 95% CI = [0.834, 0.964]

$k = 0.67$

Search schedule: Search interval (I) = 3.5, number of searches = 22, span = 77

spatial coverage: 0.13 temporal coverage: 0.89

Carcass persistence:

Lognormal persistence distribution

shape (α) = 1.84 and scale (β) = 2.39

95% CI $\beta = [2.03, 2.76]$

$r = 0.909$ for $I_r = 3.5$ with 95% CI = [0.863, 0.944]

Parameters entered manually

Uniform arrivals

Appendix C14. Fall 100-m road/pad 57m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd) 2021-08-01

Formula

Search interval (I) 3.5

Number of searches 22

Custom Edit/View

span = 182, l (mean) = 7

Spatial coverage (a) 0.06

Temporal coverage (v) 0.89

Estimate g

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $k = 0.736$ View Edit

Carcasses removed after one search

Carcasses available 71

Carcasses found 65

$\hat{p} = 0.915$, with 95% CI = [0.834, 0.964]

Factor by which searcher efficiency changes with each search (k) 0.67

Persistence Distribution

Use field trials to estimate parameters View/Edit

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.653$ for $l_r = 3.5$, with 95% CIs: $r = [0.541, 0.775]$, $\beta = [0.488, 1.854]$

Enter parameter estimates manually View

Parameters

shape (α) 1.84

scale (β) 2.39 lwr 2.03 upr 2.76

$r = 0.909$ for $l_r = 3.5$, with 95% CI: $r \in [0.863, 0.944]$

Fatality estimation (M, λ)

Carcass Count (X) 0 Estimate M

Credibility level (1 - α) 0.9 Estimate λ

One-sided CI (M*) Two-sided CI

Close

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)

Results:

Full site for full year

Estimated $g = 0.0465$, 95% CI = [0.0437, 0.0495]

Fitted beta distribution parameters for estimated g : $B_a = 966.3243$, $B_b = 19792.613$

Full site for monitored period, 01-Aug-2021 through 17-Oct-2021

Estimated $g = 0.0523$, 95% CI = [0.0491, 0.0556]

Fitted beta distribution parameters for estimated g : $B_a = 960.485$, $B_b = 17403.3706$

Temporal coverage (within year) = 0.89

Searched area for monitored period, 01-Aug-2021 through 17-Oct-2021

Estimated $g = 0.872$, 95% CI = [0.814, 0.92]

Fitted beta distribution parameters for estimated g : $B_a = 132.7648$, $B_b = 19.5395$

Input:

Search parameters

trial carcasses placed = 71, carcasses found = 65

estimated searcher efficiency: $p = 0.915$, 95% CI = [0.834, 0.964]

$k = 0.67$

Search schedule: Search interval (I) = 3.5, number of searches = 22, span = 77

spatial coverage: 0.06 temporal coverage: 0.89

Carcass persistence:

Lognormal persistence distribution

shape (α) = 1.84 and scale (β) = 2.39

95% CI $\beta = [2.03, 2.76]$

$r = 0.909$ for $l_r = 3.5$ with 95% CI = [0.863, 0.944]

Parameters entered manually

Uniform arrivals

Appendix C15. Fall 100-m road/pad 68m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, l (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: p e [0.53, 0.675], k e [0.657, 0.818]

p̂ = 0.62, k̂ = 0.736

Carcasses removed after one search

Carcasses available

Carcasses found

p̂ = 0.915, with 95% CI = [0.834, 0.964]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

r = 0.653 for lr = 3.5, with 95% CIs: r = [0.541, 0.775], β = [0.488, 1.854]

Enter parameter estimates manually

Parameters

shape (α)

scale (β) lwr upr

r = 0.909 for lr = 3.5, with 95% CI: r e [0.863, 0.944]

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

```

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)
=====
Results:

Full site for full year
  Estimated g = 0.0543, 95% CI = [0.051, 0.0576]
  Fitted beta distribution parameters for estimated g: Ba = 987.4508, Bb = 17202.2794

Full site for monitored period, 01-Aug-2021 through 17-Oct-2021
  Estimated g = 0.061, 95% CI = [0.0573, 0.0647]
  Fitted beta distribution parameters for estimated g: Ba = 980.4345, Bb = 15093.455
  Temporal coverage (within year) = 0.89

Searched area for monitored period, 01-Aug-2021 through 17-Oct-2021
  Estimated g = 0.871, 95% CI = [0.816, 0.918]
  Fitted beta distribution parameters for estimated g: Ba = 141.278, Bb = 20.8605

=====
Input:
Search parameters
  trial carcasses placed = 71, carcasses found = 65
  estimated searcher efficiency: p = 0.915, 95% CI = [0.834, 0.964]
  k = 0.67
  Search schedule: Search interval (I) = 3.5, number of searches = 22, span = 77
  spatial coverage: 0.07      temporal coverage: 0.89

Carcass persistence:
  Lognormal persistence distribution
  shape (α) = 1.84 and scale (β) = 2.39
  95% CI β = [2.03, 2.76]
  r = 0.909 for lr = 3.5 with 95% CI = [0.863, 0.944]
  Parameters entered manually
  Uniform arrivals
  
```

Appendix C16. Fall 100-m road/pad 75m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, l (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $\hat{k} = 0.736$

Carcasses removed after one search

Carcasses available

Carcasses found

$\hat{p} = 0.726$, with 95% CI = [0.616, 0.818]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.653$ for $l_r = 3.5$, with 95% CIs: $r \in [0.541, 0.775]$, $\beta \in [0.488, 1.854]$

Enter parameter estimates manually

Parameters

shape (α)

scale (β) lwr upr

$r = 0.854$ for $l_r = 3.5$, with 95% CI: $r \in [0.817, 0.884]$

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

```

Estimated detection probability (g)
-----
Summary statistics for estimation of detection probability (g)
-----
Results:

Full site for full year
  Estimated g = 0.562, 95% CI = [0.516, 0.608]
  Fitted beta distribution parameters for estimated g: Ba = 252.5947, Bb = 196.8762

Full site for monitored period, 01-Aug-2021 through 20-Oct-2021
  Estimated g = 0.631, 95% CI = [0.579, 0.682]
  Fitted beta distribution parameters for estimated g: Ba = 213.1606, Bb = 124.4184
  Temporal coverage (within year) = 0.89

Searched area for monitored period, 01-Aug-2021 through 20-Oct-2021
  Estimated g = 0.752, 95% CI = [0.688, 0.81]
  Fitted beta distribution parameters for estimated g: Ba = 144.0821, Bb = 47.5899

-----
Input:
Search parameters
  trial carcasses placed = 73, carcasses found = 53
  estimated searcher efficiency: p = 0.726, 95% CI = [0.616, 0.818]
  k = 0.67
  Search schedule: Search interval (I) = 3.5, number of searches = 23, span = 80.5
  spatial coverage: 0.84    temporal coverage: 0.89

-----
Carcass persistence:
  Log-Logistic persistence distribution
  shape (a) = 0.75 and scale (B) = 16.61
  95% CI B = [11.54, 23.9]
  r = 0.854 for l_r = 3.5 with 95% CI = [0.817, 0.884]
  Parameters entered manually
  Uniform arrivals
  
```

Appendix C17. Fall 70-m dog-handler searched uncleared plot 50m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, l (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $\hat{k} = 0.736$

Carcasses removed after one search

Carcasses available

Carcasses found

$\hat{p} = 0.726$, with 95% CI = [0.616, 0.818]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.653$ for $l_r = 3.5$, with 95% CIs: $r \in [0.541, 0.775]$, $\beta \in [0.488, 1.854]$

Enter parameter estimates manually

Parameters

shape (α)

scale (β) lwr upr

$r = 0.854$ for $l_r = 3.5$, with 95% CI: $r \in [0.817, 0.884]$

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)

=====

Results:

Full site for full year

Estimated g = 0.609, 95% CI = [0.554, 0.662]

Fitted beta distribution parameters for estimated g: Ba = 191.9109, Bb = 123.4056

Full site for monitored period, 01-Aug-2021 through 17-Oct-2021

Estimated g = 0.684, 95% CI = [0.622, 0.743]

Fitted beta distribution parameters for estimated g: Ba = 155.484, Bb = 71.8811

Temporal coverage (within year) = 0.89

Searched area for monitored period, 01-Aug-2021 through 17-Oct-2021

Estimated g = 0.751, 95% CI = [0.683, 0.815]

Fitted beta distribution parameters for estimated g: Ba = 122.3373, Bb = 40.4568

=====

Input:

Search parameters

trial carcasses placed = 73, carcasses found = 53

estimated searcher efficiency: $p = 0.726$, 95% CI = [0.616, 0.818]

$k = 0.67$

Search schedule: Search interval (I) = 3.5, number of searches = 22, span = 77

spatial coverage: 0.91 temporal coverage: 0.89

Carcass persistence:

Log-Logistic persistence distribution

shape (α) = 0.75 and scale (β) = 16.61

95% CI β = [11.54, 23.9]

$r = 0.854$ for $l_r = 3.5$ with 95% CI = [0.817, 0.884]

Parameters entered manually

Uniform arrivals

=====

Appendix C18. Fall 70-m dog-handler searched uncleared plot 57m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, l (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: p e [0.53, 0.675], k e [0.657, 0.818]

p̂ = 0.62, k̂ = 0.736

Carcasses removed after one search

Carcasses available

Carcasses found

p̂ = 0.726, with 95% CI = [0.616, 0.818]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

r = 0.653 for Ir = 3.5, with 95% CIs: r = [0.541, 0.775], β = [0.488, 1.854]

Enter parameter estimates manually

Parameters

shape (α)

scale (β) lwr upr

r = 0.854 for Ir = 3.5, with 95% CI: r e [0.817, 0.884]

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)

=====

Results:

Full site for full year

Estimated g = 0.566, 95% CI = [0.517, 0.614]

Fitted beta distribution parameters for estimated g: Ba = 227.7008, Bb = 174.6724

Full site for monitored period, 01-Aug-2021 through 10-Oct-2021

Estimated g = 0.636, 95% CI = [0.581, 0.689]

Fitted beta distribution parameters for estimated g: Ba = 191.4474, Bb = 109.6484

Temporal coverage (within year) = 0.89

Searched area for monitored period, 01-Aug-2021 through 10-Oct-2021

Estimated g = 0.748, 95% CI = [0.682, 0.809]

Fitted beta distribution parameters for estimated g: Ba = 132.5948, Bb = 44.6612

=====

Input:

Search parameters

trial carcasses placed = 73, carcasses found = 53

estimated searcher efficiency: p = 0.726, 95% CI = [0.616, 0.818]

k = 0.67

Search schedule: Search interval (I) = 3.5, number of searches = 20, span = 70

spatial coverage: 0.85 temporal coverage: 0.89

Carcass persistence:

Log-Logistic persistence distribution

shape (α) = 0.75 and scale (β) = 16.61

95% CI β = [11.54, 23.9]

r = 0.854 for Ir = 3.5 with 95% CI = [0.817, 0.884]

Parameters entered manually

Uniform arrivals

Appendix C19. Fall 70-m dog-handler searched cleared plot 50m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, l (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $k = 0.736$

Carcasses removed after one search

Carcasses available

Carcasses found

$\hat{p} = 0.726$, with 95% CI = [0.616, 0.818]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.653$ for $l_r = 3.5$, with 95% CIs: $r = [0.541, 0.775]$, $\beta = [0.488, 1.854]$

Enter parameter estimates manually

Parameters

shape (α)

scale (β) lwr upr

$r = 0.854$ for $l_r = 3.5$, with 95% CI: $r \in [0.817, 0.884]$

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)

Results:

Full site for full year

Estimated g = 0.61, 95% CI = [0.56, 0.658]

Fitted beta distribution parameters for estimated g: Ba = 234.3414, Bb = 150.027

Full site for monitored period, 01-Aug-2021 through 20-Oct-2021

Estimated g = 0.685, 95% CI = [0.629, 0.738]

Fitted beta distribution parameters for estimated g: Ba = 189.4309, Bb = 87.0976

Temporal coverage (within year) = 0.89

Searched area for monitored period, 01-Aug-2021 through 20-Oct-2021

Estimated g = 0.753, 95% CI = [0.69, 0.81]

Fitted beta distribution parameters for estimated g: Ba = 148.6505, Bb = 48.8175

Input:

Search parameters

trial carcasses placed = 73, carcasses found = 53

estimated searcher efficiency: $p = 0.726$, 95% CI = [0.616, 0.818]

$k = 0.67$

Search schedule: Search interval (I) = 3.5, number of searches = 23, span = 80.5

spatial coverage: 0.91 temporal coverage: 0.89

Carcass persistence:

Log-Logistic persistence distribution

shape (α) = 0.75 and scale (β) = 16.61

95% CI β = [11.54, 23.9]

$r = 0.854$ for $l_r = 3.5$ with 95% CI = [0.817, 0.884]

Parameters entered manually

Uniform arrivals

Appendix C20. Fall 70-m dog-handler searched cleared plot 57m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, l (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $\hat{k} = 0.736$

Carcasses removed after one search

Carcasses available

Carcasses found

$\hat{p} = 0.726$, with 95% CI = [0.616, 0.818]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.679$ for $l_r = 3$, with 95% CIs: $r = [0.561, 0.792]$, $\beta = [0.488, 1.854]$

Enter parameter estimates manually

Parameters

Exponential

Weibull

Log-Logistic

Lognormal

shape (α)

scale (β) lwr upr

$r = 0.867$ for $l_r = 3$, with 95% CI: $r \in [0.833, 0.895]$

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)

=====

Results:

Full site for full year

Estimated g = 0.664, 95% CI = [0.61, 0.715]

Fitted beta distribution parameters for estimated g: Ba = 205.0687, Bb = 103.9815

Full site for monitored period, 01-Aug-2021 through 21-Oct-2021

Estimated g = 0.746, 95% CI = [0.684, 0.802]

Fitted beta distribution parameters for estimated g: Ba = 155.7427, Bb = 53.1526

Temporal coverage (within year) = 0.89

Searched area for monitored period, 01-Aug-2021 through 21-Oct-2021

Estimated g = 0.769, 95% CI = [0.705, 0.826]

Fitted beta distribution parameters for estimated g: Ba = 141.68, Bb = 42.6523

=====

Input:

Search parameters

trial carcasses placed = 73, carcasses found = 53

estimated searcher efficiency: $p = 0.726$, 95% CI = [0.616, 0.818]

$k = 0.67$

Search schedule: Search interval (I) = 3, number of searches = 27, span = 81

spatial coverage: 0.97 temporal coverage: 0.89

Carcass persistence:

Log-Logistic persistence distribution

shape (α) = 0.75 and scale (β) = 16.61

95% CI β = [11.54, 23.9]

$r = 0.867$ for $l_r = 3$ with 95% CI = [0.833, 0.895]

Parameters entered manually

Uniform arrivals

Appendix C21. Fall 90-m dog-handler searched cleared plot 68m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Single Class Module

Edit Help

Detection Probability (g)

Search Schedule

Start of monitoring (yyyy-mm-dd)

Formula

Search interval (I)

Number of searches

Custom

span = 182, l (mean) = 7

Spatial coverage (a)

Temporal coverage (v)

Searcher Efficiency

Carcasses available for several searches

95% CIs: $p \in [0.53, 0.675]$, $k \in [0.657, 0.818]$

$\hat{p} = 0.62$, $\hat{k} = 0.736$

Carcasses removed after one search

Carcasses available

Carcasses found

$\hat{p} = 0.726$, with 95% CI = [0.616, 0.818]

Factor by which searcher efficiency changes with each search (k)

Persistence Distribution

Use field trials to estimate parameters

Distribution: Lognormal with shape (α) = 4.078 and scale (β) = 1.171

$r = 0.679$ for $l_r = 3$, with 95% CIs: $r \in [0.561, 0.792]$, $\beta \in [0.488, 1.854]$

Enter parameter estimates manually

Parameters

shape (α)

scale (β) lwr upr

$r = 0.867$ for $l_r = 3$, with 95% CI: $r \in [0.833, 0.895]$

Fatality estimation (M, λ)

Carcass Count (X) One-sided CI (M*) Two-sided CI

Credibility level (1 - α)

Estimated detection probability (g)

Summary statistics for estimation of detection probability (g)

=====

Results:

Full site for full year

Estimated $g = 0.656$, 95% CI = [0.605, 0.705]

Fitted beta distribution parameters for estimated g : $B_a = 223.9282$, $B_b = 117.479$

Full site for monitored period, 01-Aug-2021 through 21-Oct-2021

Estimated $g = 0.737$, 95% CI = [0.678, 0.792]

Fitted beta distribution parameters for estimated g : $B_a = 169.7203$, $B_b = 60.5865$

Temporal coverage (within year) = 0.89

Searched area for monitored period, 01-Aug-2021 through 21-Oct-2021

Estimated $g = 0.768$, 95% CI = [0.706, 0.824]

Fitted beta distribution parameters for estimated g : $B_a = 151.1436$, $B_b = 45.7423$

=====

Input:

Search parameters

trial carcasses placed = 73, carcasses found = 53

estimated searcher efficiency: $p = 0.726$, 95% CI = [0.616, 0.818]

$k = 0.67$

Search schedule: Search interval (I) = 3, number of searches = 27, span = 81

spatial coverage: 0.96 temporal coverage: 0.89

Carcass persistence:

Log-Logistic persistence distribution

shape (α) = 0.75 and scale (β) = 16.61

95% CI β = [11.54, 23.9]

$r = 0.867$ for $l_r = 3$ with 95% CI = [0.833, 0.895]

Parameters entered manually

Uniform arrivals

Appendix C22. Fall 90-m dog-handler searched cleared plot 75m blade length inputs and outputs from the Evidence of Absence Graphical User Interface Single Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in Appendix C1.

EoA, v2.0.7 - Multiple Class Module

Edit Help

Options

Overall

Estimate total mortality (M)

Credibility level (1 - α)

One-sided CI (M^*)

Two-sided CI

Estimate overall detection probability (g)

Individual classes

Calculate g parameters from monitoring data

Enter g parameters manually

Actions

Add class Calculate Clear Close

Class	dwp	X	Ba	Bb	ĝ	95% CI
unsearched	0	0	---	---	0	[0, 0]
S 100-RP 50m	0.41	0	430	7338.85	0.05535	[0.0504, 0.0605]
S 100-RP 57m	0.36	0	363.09	3376.32	0.0971	[0.0878, 0.107]
S 100-RP 68m	0.03	0	453.54	8506.45	0.05062	[0.0462, 0.0553]
S 100-RP 75m	0.09	0	411.13	7260.34	0.05359	[0.0487, 0.0587]
S 90-CI 68m NA	0.01	0	15.6	6.91	0.693	[0.493, 0.861]
S 90-CI 75m NA	0.03	0	15.67	6.79	0.6977	[0.498, 0.864]
S 90-CI 68m	0.01	0	138.37	20.4	0.8715	[0.815, 0.919]
S 90-CI 75m	0.06	0	131.22	18.12	0.8787	[0.822, 0.926]
F 100-RP 50m	0.25	0	818.15	11658.21	0.06558	[0.0613, 0.07]
F 100-RP 57m	0.19	0	975.35	7754.89	0.1117	[0.105, 0.118]
F 100-RP 68m	0.02	0	987.81	16361.32	0.05694	[0.0535, 0.0604]
F 100-RP 75m	0.1	0	887.88	13491.77	0.06175	[0.0579, 0.0657]
F 70-UC 50m	0.13	0	204.82	119.54	0.6315	[0.578, 0.683]
F 70-UC 57m	0.15	0	198.99	91.4	0.6853	[0.631, 0.737]
F 70-CI 50m	0.03	0	198.72	113.71	0.636	[0.582, 0.688]
F 70-CI 57m	0.02	0	182.76	85.63	0.6809	[0.624, 0.735]
F 70-CI 68m	0.03	0	165.29	55.78	0.7477	[0.689, 0.803]
F 70-CI 75m	0.08	0	160.42	57.37	0.7366	[0.676, 0.793]

Estimated detection probability (g) for multiple classes

F 100-RP 75m	0.1	0	887.9	1.349e+04	0.062	[0.058, 0.066]
F 70-UC 50m	0.13	0	204.8	119.5	0.631	[0.578, 0.683]
F 70-UC 57m	0.15	0	199	91.4	0.685	[0.631, 0.737]
F 70-CI 50m	0.03	0	198.7	113.7	0.636	[0.582, 0.688]
F 70-CI 57m	0.02	0	182.8	85.63	0.681	[0.624, 0.735]
F 70-CI 68m	0.03	0	165.3	55.78	0.748	[0.689, 0.803]
F 70-CI 75m	0.08	0	160.4	57.37	0.737	[0.676, 0.793]

Results for full site

Detection probability

Estimated g = 0.249, 95% CI = [0.241, 0.256]

Fitted beta distribution parameters for estimated g: Ba = 3518.9073, Bb = 10637.2663

Mortality

Test of assumed relative weights (rho)

Class	Assumed	Fitted (95% CI)
unsearched	-1.000	NA
S 100-RP 50m	0.410	[0.001, 1.056]
S 100-RP 57m	0.360	[0.001, 0.700]
S 100-RP 68m	0.030	[0.002, 1.056]
S 100-RP 75m	0.090	[0.002, 0.984]
S 90-CI 68m NA	0.010	[0.000, 0.137]
S 90-CI 75m NA	0.030	[0.000, 0.123]
S 90-CI 68m	0.010	[0.000, 0.102]
S 90-CI 75m	0.060	[0.000, 0.109]
F 100-RP 50m	0.250	[0.001, 0.978]
F 100-RP 57m	0.190	[0.001, 0.656]
F 100-RP 68m	0.020	[0.001, 0.984]
F 100-RP 75m	0.100	[0.001, 0.989]
F 70-UC 50m	0.130	[0.000, 0.145]
F 70-UC 57m	0.150	[0.000, 0.144]
F 70-CI 50m	0.030	[0.000, 0.145]
F 70-CI 57m	0.020	[0.000, 0.140]
F 70-CI 68m	0.030	[0.000, 0.134]
F 70-CI 75m	0.080	[0.000, 0.120]

p = 1 for likelihood ratio test of H0: assumed rho = true rho

Appendix C23. Inputs and outputs from the Evidence of Absence Graphical User Interface Multiple Class Module for Indiana bat and northern long-eared bat. Inputs are based on values reported in the main text and Appendices C2 – C4.

EoA, v2.0.7 - Multiple Years Module

Edit Help

Past monitoring and operations data

Year	ρ	X	Ba	Bb	\hat{g}	95% CI
2020	0.89	1	323.4	1417.479	0.1858	[0.168, 0.204]
2021	1	1	2381.963	4899.431	0.3271	[0.316, 0.338]

Options

Fatalities

Estimate M Credibility level (1 - α)

Total mortality One-sided CI (M*)

Two-sided CI

Project parameters

Total years in project

Mortality threshold (T)

Track past mortality

Projection of future mortality and estimates

Future monitoring and operations

g and ρ unchanged from most recent year

g and ρ constant, different from most recent year

g 95% CI: ρ

g and ρ vary among future years

Average Rate

Estimate average annual fatality rate (λ)

Annual rate threshold (τ)

Credibility level for CI (1 - α)

Short-term rate ($\lambda > \tau$) Term: α

Reversion test ($\lambda < \rho \tau$) ρ α

Actions

Short-term Trigger

Short-term trigger: Test of average fatality rate (λ) over 2 years

Years: 2020 - 2021

Results

Estimated overall detection probability: $g = 0.261$, 95% CI = [0.25, 0.271]

Ba = 1811, Bb = 5139.3

Estimated annual fatality rate over the past 2 years: $\lambda = 4.8$, 95% CI = [0.797, 12.3]

$P(\lambda > 10.8) = 0.0467$

Compliance: Cannot infer $\lambda > 10.8$ with 90% credibility

Input

Threshold for short-term rate (τ) = 10.8 per year

Period	rel_wt	X	Ba	Bb	ghat	95% CI
2020	0.890	1	323.4	1417	0.186	[0.168, 0.204]
2021	1.000	1	2382	4899	0.327	[0.316, 0.338]

Appendix C24. Inputs and outputs from the Evidence of Absence Graphical User Interface Multiple Years Module for the M* calculation for Indiana bat, and inputs and outputs from the Evidence of Absence Graphical User Interface Multiple Years Module for the short-term trigger test for Indiana bat.

```

Mortality over 2 years
Summary statistics for total mortality through 2 years
-----
Results
M* = 8 for 1 - a = 0.5, i.e., P(M <= 8) >= 50%

Estimated overall detection probability: g = 0.261, 95% CI = [0.25, 0.271]
    Ba = 1811, Bb = 5139.3

Estimated baseline fatality rate: lambda = 5.079, 95% CI = [0.844, 13]

Test of assumed relative weights (rho) and potential bias           Fitted rho
Assumed rho      95% CI
    0.89      [0.168, 1.831]
    1         [0.056, 1.706]

p = 0.6329 for likelihood ratio test of H0: assumed rho = true rho
Quick test of relative bias: 0.909

Posterior distribution of M
m      p(M = m)  p(M > m)
0      0.0000   1.0000
1      0.0000   1.0000
2      0.0337   0.9663
3      0.0630   0.9033
4      0.0821   0.8212
5      0.0914   0.7298
6      0.0933   0.6365
7      0.0898   0.5467
8      0.0832   0.4635
9      0.0748   0.3887
10     0.0658   0.3229
11     0.0568   0.2661
12     0.0484   0.2177
13     0.0407   0.1771
14     0.0339   0.1432
15     0.0279   0.1153
16     0.0229   0.0924
17     0.0186   0.0737
18     0.0151   0.0586
19     0.0122   0.0465
20     0.0097   0.0367
21     0.0078   0.0290
22     0.0062   0.0228
23     0.0049   0.0179
24     0.0039   0.0140
25     0.0031   0.0109
26     0.0024   0.0085
27     0.0019   0.0066
28     0.0015   0.0051
29     0.0012   0.0040
30     0.0009   0.0031
31     0.0007   0.0024
32     0.0005   0.0018
33     0.0004   0.0014

```

Appendix C24 continued. Inputs and outputs from the Evidence of Absence Graphical User Interface Multiple Years Module for the M* calculation for Indiana bat, and inputs and outputs from the Evidence of Absence Graphical User Interface Multiple Years Module for the short-term trigger test for Indiana bat.

EoA, v2.0.7 - Multiple Years Module

Edit Help

Past monitoring and operations data

Year	ρ	X	Ba	Bb	\hat{g}	95% CI
2020	0.89	1	323.4	1417.479	0.1858	[0.168, 0.204]
2021	1	1	2381.963	4899.431	0.3271	[0.316, 0.338]

Options

Fatalities

Estimate M Credibility level (1 - α)

Total mortality One-sided CI (M*)

Two-sided CI

Project parameters

Total years in project

Mortality threshold (T)

Track past mortality

Projection of future mortality and estimates

Future monitoring and operations

g and ρ unchanged from most recent year

g and ρ constant, different from most recent year

g 95% CI: ρ

g and ρ vary among future years

Average Rate

Estimate average annual fatality rate (λ)

Annual rate threshold (τ)

Credibility level for CI (1 - α)

Short-term rate ($\lambda > \tau$) Term: α

Reversion test ($\lambda < \rho \tau$) ρ α

Actions

Short-term Trigger

Short-term trigger: Test of average fatality rate (λ) over 2 years

Years: 2020 - 2021

=====

Results

Estimated overall detection probability: $g = 0.261$, 95% CI = [0.25, 0.271]

Ba = 1811, Bb = 5139.3

Estimated annual fatality rate over the past 2 years: $\lambda = 4.8$, 95% CI = [0.797, 12.3]

$P(\lambda > 2.5) = 0.7606$

Compliance: Cannot infer $\lambda > 2.5$ with 90% credibility

Input

Threshold for short-term rate (τ) = 2.5 per year

Period	rel_wt	X	Ba	Bb	ghat	95% CI
2020	0.890	1	323.4	1417	0.186	[0.168, 0.204]
2021	1.000	1	2382	4899	0.327	[0.316, 0.338]

Appendix C25. Inputs and outputs from the Evidence of Absence Graphical User Interface Multiple Years Module for the short-term trigger test for northern long-eared bat, and inputs and outputs from the Evidence of Absence Graphical User Interface Multiple Years Module for the M* calculation for northern long-eared bat.


```

R Mortality over 2 years
-----
Summary statistics for total mortality through 2 years
-----
Results
M* = 8 for 1 - a = 0.5, i.e., P(M <= 8) >= 50%

Estimated overall detection probability: g = 0.261, 95% CI = [0.25, 0.271]
Ba = 1811, Bb = 5139.3

Estimated baseline fatality rate: lambda = 5.079, 95% CI = [0.844, 13]

Test of assumed relative weights (rho) and potential bias           Fitted rho
Assumed rho      95% CI
0.89      [0.172, 1.825]
1         [0.064, 1.713]

p = 0.6329 for likelihood ratio test of H0: assumed rho = true rho
Quick test of relative bias: 0.909

Posterior distribution of M
m      p(M = m) p(M > m)
0      0.0000  1.0000
1      0.0000  1.0000
2      0.0337  0.9663
3      0.0630  0.9033
4      0.0821  0.8212
5      0.0914  0.7298
6      0.0933  0.6365
7      0.0898  0.5467
8      0.0832  0.4635
9      0.0748  0.3887
10     0.0658  0.3229
11     0.0568  0.2661
12     0.0484  0.2177
13     0.0407  0.1771
14     0.0339  0.1432
15     0.0279  0.1153
16     0.0229  0.0924
17     0.0186  0.0737
18     0.0151  0.0586
19     0.0122  0.0465
20     0.0097  0.0367
21     0.0078  0.0290
22     0.0062  0.0228
23     0.0049  0.0179
24     0.0039  0.0140
25     0.0031  0.0109
26     0.0024  0.0085
27     0.0019  0.0066
28     0.0015  0.0051
29     0.0012  0.0040
30     0.0009  0.0031
31     0.0007  0.0024
32     0.0005  0.0018
33     0.0004  0.0014

```

Appendix C25 Inputs and outputs from the Evidence of Absence Graphical User Interface Multiple Years Module for the short-term trigger test for northern long-eared bat, and inputs and outputs from the Evidence of Absence Graphical User Interface Multiple Years Module for the M* calculation for northern long-eared bat.