

Draft Environmental Impact Statement Volume 2 – Appendix Y (Part C)

October 2024

U.S. 6219, Section 050
Transportation Improvement Project
Meyersdale, PA to Old Salisbury Road, MD







Draft Environmental Impact Statement

U.S. 6219, Section 050 Transportation Improvement Project *Meyersdale, PA to Old Salisbury Road, MD*

APPENDIX Y (Part C): Biological Assessment

FALL BAT HARP TRAPPING AND ACOUSTIC SURVEYS

U.S. Route 219 Improvements Project, S.R. 6219, Section 020 Somerset County, Pennsylvania, September 30 – October 2, 2013



Site 1 - Portal

Bat Conservation and Management, Inc. Carlisle, Pennsylvania

Fall Bat Harp Trapping & Acoustic Surveys U.S. 219 Improvements Project S.R. 6219, Section 020 Somerset County, PA

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Introduction

The U.S. 219 Improvements Project, S.R. 6219, Section 020 is located between Somerset and Meyersdale, PA in Somerset County. The project concerns the construction of approximately 10 miles (16 km) of new highway. Surveys conducted by Skelly and Loy in 2012 within the project area found two bat hibernacula.

A Pennsylvania Natural Diversity Inventory (PNDI) letter from the Pennsylvania Game Commission (PGC) dated January 10, 2013 to the Pennsylvania Department of Transportation (PennDOT) required that certain measures be taken by PennDOT to avoid and minimize impacts of the project to the Pennsylvania state threatened eastern small-footed myotis (*Myotis leibii*). One of the measures to be taken required that the two hibernacula identified in 2012 be surveyed during fall swarming for each year of construction (estimated to occur for 5 years; from 2013-2017) and for at least one year post-construction (estimated to occur in 2018) following the PGC trapping protocol. These efforts have become ever more important as the deadly White-nosed syndrome (WNS) fungus continues to have severe effects on remaining populations of Pennsylvania's hibernating bat species. Therefore this annual monitoring has the potential to provide important population surveillance data for the management of these at-risk animals.

This report summarizes the results of the first year of fall swarming trapping surveys as required in the January 10, 2013 PNDI letter from the PGC. The surveys were conducted utilizing harp trapping, thermal image video recording, and acoustic survey methods. Results confirm that this site remains a vital over-wintering habitat resource for several Pennsylvania bat species.

Methods

Capture Survey

Surveys were conducted from 30 September – 2 October 2013 at two locations (Table 1 and Figures 1 and 2). Both locations were surveyed for three nights with one harp trap, and an acoustic bat detector (Table 1). In addition, bat activity was observed using a thermal imaging video camera for one night at Site 1. Capture and acoustic surveys began 30 minutes prior to sunset and continued for a minimum of five hours. The survey night was considered valid if the temperature remained above 50°F (10°C) for the first two hours of sampling and did not fall below 35°F (1.6°C) by midnight and if a minimum of three hours of the survey were free of heavy rain, thunderstorms, and/or high winds.

Harp trapping involved placing frames threaded with two vertical layers of monofilament line at the portal entrance. Bats attempting to pass through the trap were captured either by colliding with the lines or by entering the space between the frames. Once their forward flight momentum is reduced by contact with the lines, they flutter down into a catch bag where they are held until physically removal for identification. This method of sampling is designed for use at roosts where the potential for catching large numbers of bats during a short time is likely and is more appropriate than mist-netting, which requires that each individual bat be carefully untangled (Tuttle 1974). Two harp trap sizes (Bat Conservation and Management, Inc., Carlisle, PA) were used for this project, a small trap measuring 3 feet square (1 meter square) and a large trap measuring 6 feet x 7 feet (1.8 x 2.1 meters). The harp traps were placed to best cover the entrances of each hibernacula, and then the remaining space surrounding the traps was obstructed using bird netting to maintain natural airflow in and out of the sites, while funneling the bats into the trap. The harp traps were checked a minimum of every 30 minutes for captured bats.

Photographs were taken at each survey site (Appendix A) and the weather conditions during sampling, and general habitat information were recorded (Appendix B). Each captured bat was identified to species and then metrics including sex, age, and reproductive status were determined (Appendix B). Age classification was determined by degree of ossification of the epiphyseal plates of the finger bones (Brunet-Rossinni and Wilkinson 2009). The reproductive condition of females was noted by inspection of the mammary glands and of males by the inspecting for spermatozoa in the epididymis (Racey 2009).

Acoustic Survey

Surveying for bats can be a labor-intensive process, especially when harp traps are used to physically capture individuals to confirm species identification. In recent years, the collection of acoustic recordings of ultrasonic bat echolocation calls has been determined to be an effective, and efficient way to document many bat species, without the disturbance caused by physical capture efforts (Ahlén and Baagoe 1999; Biscardi et al. 2004; Duchamp et al. 2006; and Gannon and Sherwin 2004). Many bat species are easy to distinguish amongst based on their echolocation call types alone (Barclay 1999). And, in areas with depauperate *Myotis* species fauna, documentation of *Myotis* species bats is often more efficient using acoustic recording rather than deploying physical capture methods (Ford et al. 2011).

A Pettersson D500X bat detector (Pettersson Elektronik, Uppsala, Sweden) was placed within 23 feet (7 meters) of each portal entrance. Detector microphones were placed 6.5 feet (2 meters) or higher above the ground and orientated towards the largest volume of airspace directly in front of the entrance for each site surveyed. Each detector was stationary and programmed to record for at least five hours, beginning at ½ hour before local sunset. Recorded echolocation calls were post-processed using SonoBat call analysis software (SonoBat, Arcata, CA). This process attributed meta-data from the survey effort to each recording, while preserving the date-time stamp when each recording was made forming a permanent record of each echolocation call recorded during the inventory. Recorded bat passes were tallied for each mine portal in one-hour increments beginning at ½ hour before sunset and continuing for five hours.

Unlike capture surveys, results from acoustic surveys indicate *indices* of bat activity, not *absolute numbers of individuals* present on the landscape. For example, when results report 40 "bat passes" at a site, it does not mean that there were 40 individual bats echolocating over the microphones. There could have been a single bat making 40 passes throughout the night, or 40 individuals each making a single pass, or anything in between. But when results are compared from site to site at a parcel, or from night to night, or between parcels, relative activities can be determined, especially when total monitoring time is consistent between sites, or accounted for with an appropriate multiplier.

Nevertheless, acoustics provide an efficient survey tool for assessing a three-dimensional area of habitat, as in this survey. The obvious advantage of acoustic monitoring is that bats that may not be captured using harp traps, that cover a two-dimensional space, may be recorded acoustically. But, because the D500x detectors system is extremely sensitive and may record bats even some distance behind the microphone, interloping species will be recorded during acoustic surveys at entrances that are not necessarily entering or exiting the site. And, due to fundamental differences in hardware among manufacturers, it is virtually impossible to compare results of surveys unless temporal, spatial, and/or hardware variations are accounted for from night to night and/or site to site.

All acoustic recordings collected were also analyzed using the SonoBat automatic classifier (North-northeast version) allowing species classifications to be determined by the computer, along with metrics to assign confidence to the decisions. It should be noted that any automated classification software can render inaccurate results in many situations especially when recording bats performing behaviors that result in: inspection calls (e.g., approach phase), attack calls (e.g. acquisition or feeding-buzz), social calls or directives between species and among individuals, and call variations due to multiple individual bats in the same airspace. Moreover, the use of stationary microphones to record mobile bats on

the wing often results in poor, out of range recordings that are picked up by microphones on a tangent or off-axis to the best volume of microphone detection. Therefore, all recordings are manually reviewed to attempt to identify if any of these situations existed and classifications for those recordings were amended or eliminated from consideration when reporting species results.

During the manual vetting process, each recording was verified to probable species or species group, based on the results from the automated classification and the visual inspection of the spectrogram (i.e., the call frequency and intensity vs. time display) associated with the entire call sequence. John Chenger performed all manual vetting of the recordings collected during this effort. He has over 20-years of experience with collecting and analyzing bat echolocation calls from North American bat species, and over 7-years of experience using SonoBat software for these types of analyses.

When recordings were confidently assigned to species (defined for the purposes of this survey as having ≥ 5 fully-formed, high-quality call pulses in a sequence that received a discriminant probability classification to species of ≥ 0.95) recordings were labeled with a four-character species identification code, comprised of the first two letters of the genus and species designation for each bat (e.g., for *Eptesicus fuscus*, the species code is EPFU).

But, because bats exhibit considerable plasticity in their vocalizations, and there can be considerable overlap in call parameters among species, this can potentially result in a recording from one species exhibiting parameters that match the expected parameter space of another species. When this occurs, it results in an ambiguous classification between one or more species. For example, *Myotis lucifugus* and *Myotis sodalis* have largely overlapping data-spaces for the vast-majority of their call parameters and only rarely will produce dis-ambiguous call types. When these species *did not* produce sufficiently disambiguous call types, the classification was considered to be indeterminate and identified as LUSO, indicating a dis-ambiguous *Myotis <u>lu</u>cifugus/Myotis <u>so</u>dalis*. In fact, many *Myotis* species will produce call types that can completely share data-space with each other, and no confident consensus can be made between them. In this situation, the recording will be simply identified as MYUN for "Myotis species unknown." Finally, many times a recording will contain a "fragmentary" sequence of bat echolocation pulses, either as the bat moves in and out of the volume of detection for the microphone, or as it speeds by the microphone, and fewer than 5 fully formed call pulses are recorded. In these instances, it is clear that a bat was present, but not enough content is available in the recording to render a species determination. For these cases, the recording was identified as either LFUK to indicate a bat of unknown species below ~35 kHz (e.g., Eptesicus fuscus, big brown bat; Lasionycteris noctivagans, silver-haired bat; or Lasiurus cinereus, hoary bat), and similarly HFUK indicates an unknown bat species above ~35 kHz (e.g., Lasiurus borealis, eastern red bat;

Myotis leibii, eastern small-footed myotis, *M. lucifugus*, little brown myotis; *M. septentrionalis*, northern myotis; *M. sodalis*, Indiana myotis; or *Perimyotis subflavus*, tricolored bat).

Visual Recording Survey

A final survey method was deployed during this project specifically to identify bats actually using the site entrances while creating the least amount of disturbance at the site. Because bats have body temperatures approaching 100°F (37°C) and if they fly into or out of the AMLFs where the air temperature is significantly cooler, thermal imaging video can easily identify any bats actively using the sites (Gillam et al. 2010 and Hirstov et al. 2010). Thus thermal imaging video recording is an ideal survey tool for this application. It also brings a fourth inventory and monitoring method to the survey, thus helping to eliminate bias inherent in just a single capture method (Larsen et al. 2007) and significantly increase the chances of documenting occupancy, especially during a short survey window as in this project.

During this project, thermal infrared video was collected simultaneously with acoustic recordings while also conducting the physical capture efforts on the first capture night at Site 1 Portal. A FLIR/Indigo Systems thermal infrared camera (FLIR Systems Inc., Wilsonville, OR) was positioned so the field of view covered the approach to the mine feature. All video was manually observed determine bat activity and behavior in real time. These visual observations were supplementing, not in lieu of, other bat activity assessment methods.

Results

Capture Survey Results

Harp traps were set in the entrances of each of two (2) hibernation sites for a period of three (3) nights each. Trapping began ½ hour before sundown and lasted for five (5) hours each night for a total of 15-trap hours per site, and 30-trap hours total for the entire survey period. A total of 26 bats of 2 species were captured during this survey effort: 1 northern myotis (*Myotis septentrionalis*), and 25 tri-colored bats (*Perimyotis subflavus*; Table 3). Of the 26 bats, 42% (n=11) were female and 58% (n=15) were male (Table 3). All of the captured bats were non-reproductive adults with the exception of 1 juvenile female and 1 scrotal male (Table 4). Overall, the captured bats were non-reproductive adults with the exception of one scrotal male and one juvenile female.

Site 1, the main Portal had the most captures (75% of the bats captured during this survey), with both species (*Myotis septentrionalis* and *Perimyotis subflavus*) and 20 individuals (1.73 bats per trap-hour). Site 4, the airshaft, had just 1 species (*P. subflavus*) and 6 individuals (0.4 bats per trap-hour). Previous capture efforts at these two sites in 2012 returned greater species diversity (5 species) and captures per trap-hour (2-4 bats per trap-hour), perhaps due to a longer survey period (15-nights, over 30-days) and/or less WNS affects in 2012 at these sites. Weather conditions in 2013 remained within PGC trapping parameters found in Protocol for Assessing Bat Use of Potential Hibernacula 9/10/12 throughout the 3-day survey period. Results of the 2012 and 2013 capture surveys are summarized in Table 5 of this report.

Acoustic Survey Results

Bat detectors were deployed near the entrances of each of two (2) hibernation sites for a period of three (3) nights each. Monitoring began ½ hour before sundown and lasted for eight (8) hours on nights 1 and 2, and five (6) hours on night 3 for a total of 22-detector hours at each site and 44-detector hours for the entire survey period. A total of 197 bat passes from four (4) confidently identified species, and three (3) ambiguous species-guilds were recorded. Species with confidently identified recordings included: *Eptesicus fuscus*, big brown bat (0.5%); *Lasionycteris noctivagans*, silver-haired bat (1%); *Myotis leibii*, eastern small-footed myotis (1%), and *Perimyotis subflavus*, tri-colored bat (23%). Additionally, ambiguous call-sequences were recorded for high-frequency species (13%) and low-frequency species (11%) and bat passes that could not be identified to any species or guild (50.5%).

Site 1, the main portal, had the most activity with 155 bat passes (79% of the activity recorded during this survey), with the greatest amount of species diversity. This site had an average of approximately 7 bat passes per hour for the 22 survey hours and averaged 50 bat passes per night. This site also returned two confident recordings from the Pennsylvania state threatened species, *Myotis leibii*, the eastern small-footed bat. Site 4, the airshaft had less activity and less species diversity. There was an average of just 2 bat passes per hour for the 22 survey hours, and 14 bat passes per night for the three survey nights at this site. A complete summary of the confidently identified species at each site is noted in Table 1 and hourly activity summaries for each survey night at each site is noted in Table 2 of this report.

Acoustic activity at the two sites investigated during this survey is consistent with activity around hibernacula at this time of year. More recordings were collected in the later hours of monitoring than during the earlier hours of monitoring, which is typical, as bats tend to arrive at hibernacula after 2230h during the fall swarming period. The bulk of the species identified during the acoustic survey are species known to use underground rock

resources as over-wintering habitat. The scant recordings from *Lasionycteris noctivagans*, a "tree bat" only rarely associated with overwintering in rocky habitats, likely represent either interloping individuals, or curious individuals checking out the site as they are occasionally known to do.

Visual Recording Results

A number of visual observations of bats entering or exiting portals were witnessed during this survey on 9/30/13 at Site 1 Portal, and is noted in Table 1. This is further evidence that bats are actively using the feature surveyed during this project, and that conclusions from the acoustic results are correct. Bat activity near these sites represents occupancy of the site and not incidental interlopers. Recording conditions outside both sites are ideal for capturing evidence of bat use, with a large field of view through which relatively warm bats are easy to distinguish from the relatively cold background of the hibernacula entrances, with little interference from rocks, vegetation, or other structures that will return disruptive heat-signatures.

Overall, the results of this 2013 bat-detection survey indicate that these previously identified hibernation sites remain important over-wintering habitat for several Pennsylvania bat species, including *Myotis septentrionalis*, and *Perimyotis subflavus*, two species which have been hit hardest by WNS affects, with the former currently under petition by the U.S. Fish and Wildlife Service (FWS) for endangered species listing. Additionally, confirmed acoustic records from the Pennsylvania state threatened species *Myotis leibii* at the Site 1 portal further strengthen recommendations for continued protection and management of this site for bat habitat. As per PGC protocols, recommendations for the installation of bat-friendly gates at one or both of these sites are warranted. Additional mitigation involving the alteration, stabilization, and management of the entrances to these sites may be required, though comments on procedures or protocols for these activities are beyond the scope of the information collected during this survey and will require additional site investigation and study.

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Figures



Figure 1. Survey location: Site 1 Portal, Somerset County, PA



Figure 2. Survey location: Site 4 Airshaft, Somerset County, PA

Tables

Table 1. Survey site coordinates, monitoring results, and habitat descriptions.

NAD 27 datum	Latitude/ Longitude	Survey Method(s)	Physical Captures	Acoustic Activity*	Identified Bat Calls [*]	Visual Observations	Remarks
Site 1 Portal	39° 52′ 21.1″ 79° 02′ 56.2″	1– 3' Harp Trap, 1– D500x, 1– Thermal Camera	1– MYSE 19- PESU	155	(1) EPFU (1) LANO (2) MYLE 32 (PESU)	240 minutes; ~1 to 2 bats intermittently between 2000- 2330	11'w x 4'h portal located ~50' below road with knee deep stream and strong breeze emerging. Large ceiling collapse 100' inside portal. Trap hung in entrance drip line surrounded by plastic netting. D500x placed 30' from entrance with external mic 2.5m above ground orientated into open space approaching portal.
Site 4 Shaft	39° 53′ 31.0″ 79° 02′ 20.4″	1– 6' Harp Trap, 1– D500x	6- PESU	42	(1) LANO (13) PESU	n/a	Airshaft located on forested slope ~150' from gravel driveway in large tract of open forest. Shaft inside a small brick building drops ~30' to horizontal tunnel. Detector placed ~1.5m above ground, 3m from building, with mic pointed into open space approaching shaft.

Abbreviations used in this table: EPFU = Eptesicus fuscus (big brown bat), LANO = Lasionycteris noctivagans (silver-haired bat), MYLE = Myotis leibii (eastern small-footed myotis), PESU = Perimyotis subflavus (tri-colored bat).

Table 2. Acoustic summary with hourly breakdowns of activity at survey sites.

		Surve	y Dat	e: 30	Sep	temb	er		Sı	ırvey l	Date:	1 Octo	ber		;	Survey	/ Date	: 2 Oc	tober		AVE. bat	TOTAL
SITE	1 st hr	2 nd hr	3 rd hr	4 th hr	5 th hr	6 th hr	7/8 th hr	1 st hr	2 nd hr	3 rd hr	4 th hr	5 th hr	6 th hr	7/8 th hr	1 st hr	2 nd hr	3 rd hr	4 th hr	5 th hr	6 th hr	passes	bat passes
Site 1	0	6	15	19	14	4	0	3	7	40	20	0	3	0	1	1	6	14	0	2	7.1/hr.	455
Site 1 Totals				58							73						24	4			51.7/night	155
Site 4	0	0	4	20	1	0	0	0	1	0	1	6	0	2	0	1	0	0	3	3	1.9/hr.	42
Site 4 Totals				25							10						7				14/night	42
																		GRA	ND TO	TAL	4.5/hr.	197

Totals represent total number of bat passes per hour/per survey night; averages represent total number of bat passes per hour/night for the monitoring period.

Grand total represents the total number of bat passes from all sites with an average number of bat passes per hour for all 44-hours of monitoring.

^{*} Acoustic Activity identified only recordings identified as "bat calls," with a "bat call" described as any recording containing at least one obvious bat echolocation pulse.

Identified Bat Calls include all recordings expertly (manually) vetted and attributed to species or species guild. It does not indicate absolute number of bats.

Acoustic data represent 44 hours of recording conducted over 3 nights beginning 30 minutes before sunset at the two sites.

Table 3. Bat capture totals

	Myo	tis sep	tentrio	nalis	Per	imyotis	subfla	vus		тот	ALS		
	Fen	nale	M	ale	Fen	nale	Ma	ale	Fen	nale	Ma	ale	SITE TOTALS
	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	TOTALO
Site 1	1	-	0	-	7	1	11	-	9	-	11	-	20
Site 4	0	-	0	-	2	-	4	-	2	-	4	-	6
Tatala	1	-	0	-	9	1	15	-	11	-	15	_	26
Totals		1	l			25			26				26

Scientific names used in this table: Myotis septentrionalis (northern myotis), Perimyotis subflavus (tri-colored bat).

Abbreviations used in this table: Ad = adult; Juv = juvenile.

Table 4. Reproductive condition of captured bats

	MY	OSEP		PEF	RSUB		ТОТ	ALS	
	Female	M	ale	Female	Ma	le	Female	Ma	le
	NR	SCR	NR	NR	SCR	NR	NR	SCR	NR
Site 1	1	0	0	8	0	11	9	0	11
Site 4	0	0	0	2	1	3	2	1	3
T-4-1-	1	0	0	10	1	14	11	1	14
Totals		1	•	2	25	•	2	:6	

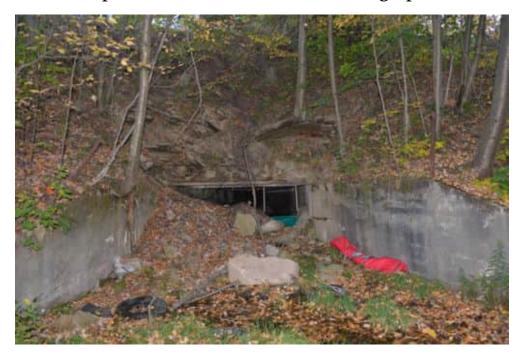
Abbreviations used in this table: MYOSEP = Myotis septentrionalis; PERSUB = Perimyotis subflavus; F = female, M = male, NR = non-reproductive, SCR = scrotal.

Table 5. Annual Capture Summary Comparison

		EPTFUS	MYOLEI	MYOLUC	MYOSEP	PERSUB	TOTALS	EFFICIENCY
2012	Site1	7	2	100	69	333	511	32.5
	Site2	•	-	26	59	225	311	19.4
2012	Totals	7	2	126	128	558	822	26
2013	Site1	-	_	-	1	19	20	6.7
	Site2	-	_	-	-	6	6	2
20131	otals	ı	-	-	1	25	26	4.3

Appendix A

Representative Mist Net Site Photographs



Site 1 – Portal

Landscape photo showing 3' harp trap and acoustic detector (above)

Cropped photo showing 3' harp trap (below)





Site 4 – Airshaft

Landscape photo showing 6' harp trap and acoustic detector (above)

Cropped photo showing 6' harp trap (below)



Appendix B

Site Survey Data Sheets

Instructions

All information mass be investigated each night. Partially complete forms will not be excepted. Completed forms are to be turned in to the Turn Leader each recenting.

PROJECT: Name of the senire survey project.

SITES: The number given to every true tale in a seperate gaugespice location. Note 8 company the same regardless of how many nights are spent at

location. Note it remains the same regardless of how many nights are open at the same location.

DATE: Pre-indicaglis data which impuring began.

LONGITEDE/LATITUDE: Coordinates from a GPb receiver.

LO. BY: USFW's qualified person identifying bats at this site.

MOON APPLICT! Was more present during sorvey? If we what plans? Was necessigh illustrating parts? Note them.

NUMBER OF NITS/TRAPS: Description of new, e.g. A. Nits/im, B. Marter. C. (Diction 18) or "Coordinates."

SUMBLE OF SUBSTITUTE CONTROL OF THE STATE OF THE SUBSTITUTE OF THE

A small clearing and traidence in nearby."

ANDERSON BI COBE: Use Level III codes and puremages within 18M. ps devold noul 100%.

of site. Percentages denote tone 100%.

DISTURBANCE CODE: List up to these of the most significant disturbances within 500 maters. Include disturbance to disturbance.

	Disturbance Codes and R	iay .
PROXIMETY	Tres	20
1 Database or on	A Dioping	B Useperel tests
	St. Plarty upon	1. Epicemion anni
I Donebour witte	C Stalebaps	J. Hirms
100 autom of size	18 Agreement	K fine
	E Utility rights of way	L Cowor
Ellistathoner 1917/01 -	F Valient right of war	M losts bhillion
mann of sign	G haproved made	N No directorie

		Beufort	Wind Strate Codes and	Key
Code	Speciminal Speciments	Description	Land Corollism	Contact
	6-65.	Citie	Series éter	To principle shall -
1	45-17	light in 1	Soois acts would	
ŧ	19-33	Light beam	Lover mile	Nothing for
k .	34-54	Gents beans	Wadnesh	the benefit strong from
4	33-79	Notice bear	Seed transfer to review	Not drawinged, time-bet & loss
ř.	ER-107	had been	Seed and a leaf tegritories	Fine of visit time to be
٠	100		Window is altered with:	Installar and with Afficially
ž.	排列	Norph .	Was no a non-	Incomment & walking
4	272-367	Faib.	This bidd how two	Property briefshill Short in part.

Common name:

Little between Hig berwei Pspearette Northern language. Smallfooted Indiana Hinry Silver bained Townend's Big-cared Rafinesque's Big-cared

Reproductive condition: Age: NRs New Reproductive: A: Adult

PGo Pregnant Le Lactioning PL= Print Locating SCRn Scenar

Evening

Species:

Missis lacifems Epitoticus fercus Pipistrellus aufgliever Myoria septentrionalis Musica leubic Mustin soulation Losiarso beresto Latineral convenie Landowski territ men til-appara Corporhinus toiensendi Cormorhinus rafforoquii Nyctoceius Immerulia

I Brennik

DO NOT WRITE IN MARGINS OF DATA SHEETS

Ainterson Classification Codes first and second level nategories

- 1 Erban or Built-Up Land
- (2 Commental Services
- 14: Transportation, Communical 13: Industrial and Communical
- 10 Mont Other or Built Up Land 17 Other Other or Built Up Land
- 21 Criptoid and Plenser 22 Octools, Groves, Vineyanis, Nomenes
- 23 Confused Feeding Operations 24 Ottor Agricultural Land

- 31 Hotsonon Ringstand 32 Heat-and Brook Kongstand
- 33 Minul Respired
- Frent Land.
- Decidence Firmst Land
- 43 Everprent Frent Land 43 Mitted Frent Land

- 51 Stream and Carolin
- SI Like Biomirrodo
- 54 Novant Emures
- Februard Weldunds
- 72 Beaches
- Sandy Arms Other than Breaker
- Horn Expressed Now-h-
- 75 Strip Moon, Quarter, and Desert Fire 74 Transferred Ages
- 77 Mined Barry Land

Note: The pipistrelle is now designated as the tri-colored bat (*Perimyotis subflavus*).

PORM P-70005-N/T

COMMONWEALTH DE PENNSYLVANIA

12/99	Pinm	glyania Game Conte	chanicies.	
Sertion 2 B.A	T SKTHNGT	HAPPING HITE SE	RVEY RECORD	Page Lief Z
1. Servey Date: 9-30-13	2. Company	Name: But Con	essentias.	Monggament
		wasen C. Etcs		4195
A. Nile Name and/or Number:	25219	Scalin old	Site 1	
A. Navia (circle-sec): (Scri	- String	summer habitat		
la. If hithermation other stocks over	liniariose mim.		cave, sandmore o	pop, KR (seeml,
26. If summer habites, describe a			men siy firinsi silami'in	g with street
A. Commy: Summises		s. trousif	Nyminale	
18. Was sin GPS'd (required) ?	(FB - N)		
1). Geographic Coordinates (II-5	ton Lundi I	1 152 .21.	"K Longitude"	9 102 562-
Datem strick over	Section 1			-
12. Ownership and Actors: (File		mode access? Give a	une and address);	Contract Ren 2007
Ordert 2-0 En	connecto	(Monager	Turn Yourm !	my 696-7225
D. Time military: A Temperate	ey: Stan Time	920 h Nog 1	2335	Total Minutes 375
				Commence (11 C) or summer and
14. General Woother (1970) con-	Gog. Party C	Newly: Newly Circ	els: Clouds: Dei	rely, Intermityen Hain,
particle of table	Smally Bain; T	handerstorm. Such	e; Ottor	
15. General Wind Conditions in	mir men (all	Breezy Classes R	setings. Windy (Free Swaying)
16. Capture Simp at Site:				
See F Fran Cross	Demoises	(box	origina .	PERMI AREA

500.0	Year	Conta	Ormanian	Description	PITTAL AREA
-	THE REAL PROPERTY.	-6-	idea de	Date on ref.	110.00
1	Hallan	16	1-21,20	Right Stor	1.2.
	-				
-				1	_

Clin Servey Record - Combined - Nike Name/No.; S.R. 6219 - Service - O20 - Service - 9-30-13

17. Describe habital 199 in around size department and regulation including dentings are species.

16. Describe | Allerman is near College SQ | Salar Basic Leville (Prince groups) | 1000 Describe Leville (ALTERNA AND TITLES SERVICE CONTRACT IS 11 William & 4 hours College Groups (Salar Basic College AND AND AND AND ASSESSED ASSESSED AND ASSESSED AND ASSESSED AND ASSESSED AND ASSESSED ASSESSED AND ASSESSED ASSESSE

18. Was reproductive status checked? (YES: / NO: (#"/NO" too); over morehers in Intel columns!

Saltrics			her of remake		No.	Intal No.		Makes	No.	Total No.	Apreles
Species	NR	PG	1.	P1.	Fpts.	From.	SCR	NR	Male	Males	Tistale
Spanish Service	11/2	-	11.00			100	7.3	17.	- 1	- 6	
Jejum Jacofegor Adjustes material Specific								57			
Monte Soltic Monte		1									
Epitera ian	-		-			-	_	-			
Perjanen Salylana	47					7		:*3		3	10
heroda heroda						22		-21			
Contempo citatrias Cantenpo pero			-				_				
multisigning that i specify	-										-
Mari - specify											_
Erzenbath	y Name	NR- to	ereprod	assive, P	42 - Inefi	nant, L-1	acted lang.				Great

(1) Mentis solulis. (2) Mentis helbij. (3) bate you are handing or hand evenptures. (4) radio tagged bate and (5) but species not somelly found in P.A. 19. BAT DETECTORS & OTHER MONTORING HEVICES: Julies of he power from the set hour respect for induse her

1" hour	I'd bear	J" heer	4" horeit	No boar		
1850	1931	mention 2031	104 then 2/31	feet Flore 223/		
tal time 1950	fed time 2030	841mm 2130	(a) time 2230	Keel Name 2 330		
Tallien .	Talles	Taller	Tuber 1.0	Yallen . F		

20. REMARKS:

13°C AT 10 10

FORM P-70008-N/Y 1219

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

bestine.2		8.4	T NETTINGTH	APPING SITE SERVEY RECO	ALD. Page Fol 2
Surre	Date: 12/	113	2. Company 5	Nume Bet Conscruction	
		7		man A. Sporthering 2 La	10
				intim one sta	
	(circle one):			summer habitum	
e irian		irele one:	lengture none. (8)	of from timener save, water	ne save, MR barnel,
			other serviceses, then	cribe -	35 3000000
h, Kra	nomer habitet,	describe e	eus being sompled	tis g. Keepard stroom or Ferral cite	wing with stream):
. c_	n Same	eset		25 and Myarson	le.
4. Was	in GPS'd (in	quired) ?	13 NO		
). Geog	raphic Court	mater (D-3)	180: Lamete -37	1.52 -01/7 Lington	77 102 1563°W
			_	L NADEL, WOSSE, Other	
4. General St. Gen	mal Weather of an army design of the party o	l emperatur	hiart Time // hiart Temps// Class Partly Class Showly Rain: The	Strange, C., Texas S. Constant. 2.30 h. Stop Time 22:15. E. J. C. End Temp. 10.44 ody, Monthy Chindy, Chindy, I endominate. Soon, Other. Brotop (Leaves Restling), Wind	h Total Minutes 305 Total Minutes 100 Journal Drickle: Intermittent Rain;
Set 8	Tree	Comm		Bearing	TOTAL SEEA
1	Sets	1	De i 35m	- A Springwood	576 f. mg re
1.	Here	1	Imx1,2-	Popit che	1.2+2
		-			
		-			

Total Capture Area: 1.2 sq.m

COMMUNICACIONE PERSONS VANA.

her list 2

Title Survey Record - Commontel Side Name No.: 5R.G. 219 Sec. Sci. 020 5-fe/ Date 40/1/13

17. Describe batter 190 ye arrand size companying and regression including amount over species;
Horszontal assembly and containing to ballow round with stroom among ing.
Horszontal assembly antitions and strong brokes. Coloranse 12 11 wide x 4 high,
but delice mound reclarity entraine. Rad cook, block bircle Aspar hong, evidele IK. Was reproductive status photosoft. TES 1 NO 15" NO only outer numbers in Jatal columns.

	Ü.	Adult F			Su. Jan. Fem.	No. Fren.		her of Males	Sec.	Fidal No. Males	Species Estats
Species	NR.	PG	1.	Pt.		Fren.	SCR	NR	Mari		
Special forms	7	The state of	11			3	1	12	-1	- 6	
htj.com	4 =							1. "			
heighger.	-		-		-			1			7.65
Alberta :	101										
Myste	7.0	-									25
pielei	-	-	-	-	-	-	-	_	_		
Afronia modelia						_	_		-		
(Greenway)							1				
June	-	-	-		-	-	-	112		18	-10
Arrienada adollarias	10					1		36		6	1
Linera		1		1.0			1				
Jerseli	-			-	-	-	-	+		-	
Addisord	1	1					1				
(04/19)	-	+	-	-	+	_		1			
Continue commit	1							1	1		-
Obst 1 section	1										
Ether - Marrist-	1	1								-	
	1	100		1			-			-	Grand
Haproducti	ct. Stame	MRG =	-intpe	darlint.	M2- pm	grant, L-	Section in	di.			Tapel
		PL	est lact	ereg, MC	H-100	ul/spide)	said time	-	-10		1
	Comp	beta Ma	DED (USE	ment.	aut Car	ture.D	ata Fin	III. Inc	are:	-	8
(3)	Mintin.n	edelin (D Mont	in.htibi-	(2) hets	you are I	nametring.	ar make	P.A.		

15. BAT DETECTORS & OTHER MONITORING DEVICES: Julies of the potton. Store of the oral Asset original for Submit the Information nature. Advances was loss after the original potton to the original potton and the day of the day of the original potton.

The second second second			
n= 034	hart filming (125)	ten fire 212,1	mar Teer 225
7000	ted li= 2130	tedline 2230	THE 223
	Taller 120	Tallet (U.S.	Yalling Str.
	2030	2030 tellie 2130	2030 toli= 2130 toli= 2130

20. REMARKS:

FORM P-70008-N/T

COMMONWEALTH OF PENNSYLVANIA Proportions Gazes Commission

12/84	Pennsylvánia Gazne Cummindos:	
2milion.2	BAT NETTING/TRAPPING SITE SURVEY RECORD	Pegit i of 2
1. Survey Bate: 57/2/13	2 Company Name: Cart Constitute Land Hong	sement
	reader & minune - Escalante	
	5R6219 So tong 020 5/01	
6. Nits in (strele one): 🥥	nummer habitat	
Ta. If bitternatum site circle or	of treates min. (a) min. (memors care, sandana care, RR has	nel.
Th. If remover hebitat, descri	No area having sampled in g. foreignd stream or literat charing with stream	d).
R. Country Somerset	a 15 time Myersalle	
is. Was site GPS'd (required)		
13. Geographic Coordinates (BM6: Limite 39 N.S.R. 12/7 N. Logiste 39 N.O.R.	54.2'W
Determ streets on	NAMEZ-Preferreds, NADES, WORLD, Other	
I. Ownership and Access: 1	Who come aim in controls surpos? (Time name and address (Carro Tarro.)	Bun Dor
	Environmental Manager, Tom Your Com	
	ratere: Star Time / #25 h Sup Time (2350 h Total Mone	
	Stan Temp /P. 3 " Stad Temp /2 O " S manual	O'C) by manufacting
14. General Weather (circle a	Party Cloudy; Money Cloudy; Cloudy; Dricate, Internet	
Section 4 and	Stoody Kain; Chanderstoms; Seew; Other:	
15. General Wind Conditions	stringle own Cale Streety (Lemen Restling). Windy (Trees Swapin	6)
14. Capture Sotup at Site:		
Set Set Co	- Description Marketon Marketon	107777

tet t	free	Cinca	Designation of the last of the	Restigion	THEAL GREA
1	Note.	- 6	Geslie	, Stroket mer med	Distance:
1	Horp	1	1mx 12m	Irido despina on	1.2-2
	- ST	100		Park America	6 P. O. L.
-	-	-			

Total Capture Area: 1, 2 sq. re

	the second secon
(Nat Servey Record - Commonli.	Res Name No.: 586 219 Son Associates Staff Date 10/2/13
17. Describy habitat 150 m arous	d site: (topography and registration including alternated tree spectra.)
Horse with observations on	no efference SO below that with stream employed
the staff mater street	ford strong bronzy . Extrance of it with my high,
the state of the s	And The NO of NO only only one conden in Late Columns

101 222	Number of / Adult Francise			No.	Letal No.	Adult Males		No.	Jani No.	Species	
Sperion	NIL	PG	1.	71.	Fem.	Firm.	SCE	58.	14411	18400	Tinh
Specific Scott	1.2	1	1			- 1	7	1.1.		6.	= 7
Myero Surphyse	1										
Myserii aspectoriistalis											
Adjustity Jacillari							7	1			
Athenia modella		14		-1							
Species Server											
Parameters and forms								2		2	- 3
Leveren		25_7			1			-			-
Epolerei Libertali							_			-	-
Substitution of the Strangers									3.0		
Ohir - epicific											
Ober - senith											
Egrobide		PLAN	est lacti	sing, M.	PGF proj Re same	aliepidit)	WHEN SHO	Gen.			Lind
(0.7	d'emin a	leto Me pdelin G	to Milwist	du beribeli.	mil Cap (2) hote	prompted to	3milmed	or bank	PACAGETIS	pex.	2

19. BAT DETECTORS & OTHER SIGNIFICATION DEVICES: Julian of his journey form of the cold from the financial network property before a few after 12-00 km when sugaring telescope following and a few arts are property and the devices region.

I" hour	2 rd hear	J" hour	4" hear	5" heer
wife 1920	1931	2021	2/31	mar Harr 2231
HT= 1030	20%	testi 2/30	fartise 2230	11 OF 35
alien	Talles	Tallec	faller: 111	Tallet C

IS REMARKS:

12.09	Personal variate Control Contr
Section.1	BAY NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Norvey Dame 09/30//	3 2 Company Names But Consorration + Marsgament
3. But Mountlines Dones	Paylord K. & Aminostic
5. Site Name and/or Number	SR6219 Section 000 Site 4
6. Site is juincle one;	oberfulien site > summer habitat
7s. If biliversation site sirely	mer. Haustone mine, foul mine limming circ. analytims circ. All turnel.
	who where Andrew Absorband all Shaft
26. If summer habital, date	ethe seen being enempted (s.g. Scientist comme or forest charing with atometr.
	67 (18) NO (BMS) Latinate 39 , 53 , 310 , Laughter 79 , 02, 2014
	1980 come size or commits account Give name and address Constitute Floren DIF
	200 minded Marger Ton Vocum (214)69/4-2224
13. Time military & Temp	erature: Start Time / \$30 h Stop Time 2 230 h Stool Minutes 200
	Start Surg. 19.2 °C End Temp. 13.7 °C increase at City common and
14. General Waather (circle transport transport from the circle)	const Close Partly Cloudy. Money Cloudy: Cloudy: Dricele; Intermeteer Rain;
percent of facts	Steady Hair, Thumbremone, Secret, Ottor
15. General Wind Condition	me icrosis over Calm. Brown (Lawren Hantling), Windy (Trans Swaping).

Sec. 6	Year	Coun	0	Souription	TOTAL ARES
A	Sec	100	Jone Jon	Second pres part	HEAT IN THE
1	Hoop	11	1.4m x1.9m	placed at all staff adding	3,2 51.74
	-				
	-				
				-	-

17. Describe habital 150 or around vite: Impropriety and imprisons including discount two species.

17. Describe habital 150 or around vite: Impropriety and imprisons including discount two species.)

5.10 12 a. a. described 170 pt. 2000 122 are story all and including discount two species.)

6.10 and a described 170 pt. 2000 122 are story and and are all and area.

18. Was reproductive status checked 183 NO 187-107 only one numbers in 1888 columns

CAPTURE RESULTS

WYCHOC	Number of Adult Females			No.	Intal No.	Number of Adult Males		hrs.	Total No.	Speries	
Species	NI	PG	1.	P1.	Fem.	Fem.	SCH	NIL	Make	Makes	Tietalla
Special Services	1.2		27/11			-5.	-2	100	8.1	4	- 1
Myseer Sections		1					1	5			
hipson nepromodic	, 1							1.			
Mysetic					1 1			770			
More	-							-			
Ephronium Secret				II							
Parameta		1			17	17	Ti.	1,5		3	4
Larieras Investir							-	1 8			
Lamiener											
Exclusive territor Annual regions											
No gode											T.
(Mar-paid)											
fignistin	.300e	NR-se PL-se	erigend of lacto	lustive, i ing, NC	PG - jeep	nast, Le English	lactoring tols evoid	lon.			Great State
(0.3	Compt fasticas	ote Me	Maritan Marit	ment a	nd Capt (3) hate y	ture Du	ta Form	g for a	III; recupled	10.	9

18. BAY DETECTORS & OTHER MONITORING DEVICES: Turber of her jovens have the let I have required for instance his abbreviate are the self-monitoring with the devices of the letter and monitoring with the devices of the letter and monitoring with the devices of the letter and monitoring with the devices of the letter and the letter and

| Phoe |

SE REMARKS:

Said have ful controlled gallings.

FORM P.76008-N/T 1209 Stoles 2

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Gener Commission

		Pennsyl	vania G	antel Co	u iyeledd o	000	
BAT.	SECTION	with the said	a program have	1999	40.004	100	mi s

BAT NETTING/TRAPPING SITE SURVEY RECORD 25	ign FeE2
1. Horses Hate 10/01/13 2. Company Manor But Conservation + Manage	mul.
3. But therether Doug Paybuck & Animani	
5. Nite Name and be Number: SR6219 Section 020 Site 4	
b. Site to (circle see): (billematice site) common tubinal	
To Halbertoiles she circle one: lineaune rine, and nim lineaure rose, audinor rive, RR home other structure, describe - Adam Second Alv. 54m64	d _e
76. If remove babilet, describe area being sampled in g. formed stream or firest strating with smarry	
& County Somerset & 15 Qual Murdock	
16. Was see GPS'd (required) 2 (TS) - NO	
11. Geographic Coordinates (D.M.No. Latitude: 31 + 53 + 31%, Longitude: 71 + 02 -	34.4
Between courts award. WARET (Professoral) NADICA, WIGSBA, Other:	
II. Ownership and Access: (Who towns into or commits access.) Give name and address I Condinct.)	Renalt
Ostrat 3-0 Environmental Manager, Tom Yours, Cory 686-2	
13. Time continues & Temperatures than time (VIO). May Time 23.50 % Total Moon.	300
Start Temp /6.6 to End Temp /3.3 to make an or	Christian annu
14. General Weather (credit own) Clear Party Clearly, Monty Clearly, Clearly, Delayle, Immedia	ent Hairs
person of come Street Street, Thursdaymanners, Stever, Other	
15. General Wind Conditions (1771) 1981. Calm. Brough (Leaves Restling). Windy (True Swaying	n-
56. Capture Setup at Site:	

het t	Tree	Creek	Disease	Secretaria	POPEAL AREA
-1-	300	6.	life s 2 tm.	State of the section	- States w
1	Plant .	10	1.8-119-	Vaced of all sha now	3.7 11.4
			J.		

Total Capture Alter 3 : 00 sq. to

Citis Survey Record - Continued: Nite Name/Na.:

Nile Name No. 516219-SiteL

Date: 10 /01/13

17. Describe babilist 190 in around other impropriets and regulation including dissemble two species)

5th 15 or a Governor Stopp when to name, otherwise From a grand drivery. Described traces red place, red maple, black through white only red and and the stopp white only red and the stopp white only

18. Was reproductive status checked? YES: 1. NO. of "NO" only unior increbers in Tatal columns!

	*CAPTURE RESULTS										
	5	Adult Females		No.	Total No.	Nember of Adult Malm		Jun.	Zeisi	Species	
Spesies	NR	PG:	1.	Pt.	Fen.	Fem.	SCIL	NR	Make	Malon.	Totals
Sphoroscheros	10.3		1.0			1	17.7	1.	- 3	- 4	- 1
Adverie			1	_				100			
In Shark									_	_	
Mount											
Japanet insulis	-							_			
Albana											
fields.											
Advante	11. 1			_							
milete	100										
Eprosae											
								14			
- Peringentin		-					-	The same of		1	T :
radylamai .								-70		1.	4
(umens)											
- Junealty											
Lonibras											
vincent											
Landvinctorie											
institutions.											
(Mys mostly		-						-			
Oher gardy				_	-		-				
Republica	Tiess.	NR - Ac PL - por	ereprodi et lantati	ective, P	Gripnige Litariotek	nen, L i repididye	tetaleg.	en.			Grand Jintel
	Comple botis, sed	te Mo lala (1)	BUILDER	eratue John C	of Court	ner Dat	a Forn	for all	traptor	nie i	1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Salter of bispersor. Inst. One to I have required to indicate her school service. Moreover have play 22 80 for vites engaged integrable and I have relate only income my monitoring with he distance sight.

1" loor 2" looe		E bour	4" beer	2" hear		
1830	-1- 1931	7031	2131	****** 223		
1930	2030	*** 2130	7770	fail line 283		
Teller.	Talline	Felire y	Telbro.	Tober /		
	/	0		6		

20. REMARKS:

10-15 House end now mine endance (-15 - +m)

FEMENI F-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Not below 10/02/13 1. Company Name: But Conservation of Man Stat behaviore: Down Radiant 4. Assistance Site Name and/or Number: SR62/19 Section 020 Set 14. Nile is (circle one): Otherwise site: summer tables	ign I of
1. Norvey Date: 10/03/13 2. Company Name: But Conserved to a Management of the Conserved to a Manag	
6. Nite is (strete one): Othersaline site: secure tables	1-120
6. Nite in (circle one): (Schematics alto) natures labina	
'a. If bilinewation site electe one: limenture mine, (cal min) limenture care, needstate care. ER turn	
	ul.
when mention describe. Almostored allo shoult	
No. If summer habitet, describe area being sampled (e.g. limited stream in firest clearing with stream)	ķ
a country Somerset a 25 Qual Mandock	
IB. Was site GPS'd (required) ? GEV - NO	
H. Geographic Coordinates (B-M-6): Latitude: 39 4.53 4.317 N. Longitude: 77 4.02 4.	Zą y
Determ (circle-me): NAD21 (Preferred) NAD43, WGSM, Ottor	
12. Ownership and Access: (Who came six or commit access? Cite manual address?) Constant	Penn
Oslock 9.0 Environmental House Tom Yours, ONY) 694-	
13. Time (incline): A Temperature: Star Time 1930 h Step Time 23% h Total Minute	
track time / T. S. oc End tone //-7 oc man and it	i to for ou
14. General Weather scircle ones Clear Parity Clearly: Mently Cloudy: Cloudy: Distale; Interestin	net Rais
period of one Smally Hairi; Thunderstroom, Smoot; Other	
15. General Wind Conditions (1970): wat: Calm Berry (Loyers Ranking). Windy (Trees Swaping	i.
16. Capture Scrap at Site:	

511	Type	Cross	Demonstra	Discription	TOTAL AREA
	No.	-	- Decide	State of the State	101510 =
9.	Hort Tap	1	11-10-	Placed of all shift com	7.3 4"

Total Capture Area: S. J. - FL - og. tr.

Hite Jursey Record - Continued - Nite Name/No.:

5th If an a firested the about the propagate and reputation including discourse one species?

She Is an a firested stape when the motory identity! from a grand idelinary, business trees test plus, red maple, black charge white out, red ank Ar shall drops about 30 ft to hardened towns!

18. Was repredicative status charked? (TD) NO (\$6.00" only come manders in [200] columns)

*CAPITRE RESULTS										
	Adult Function		No. Total	Number of Adult Malo		Na. Jox.	Intel No.	Species		
NR	PG.	I.	PL.	Fon.	Fem.	SCE	NIL	Make	Males	Tanah
100		HOUSE.			10.4	102			-	-
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	r. bes	I faction	6,503	screed	Abengajian	tt reulli	m.		- 1	Xmd
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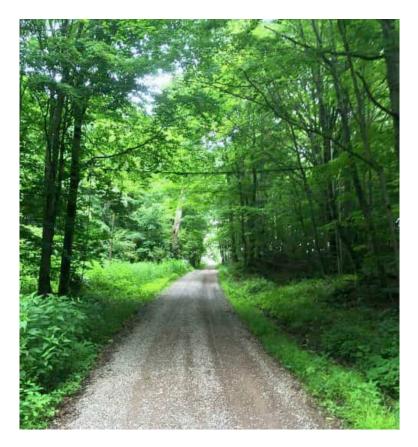
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28. REMARKS:

2014 ROUTE 219 MEYERSDALE TO I-68 SUMMER BAT SURVEY

Garrett County, MD and Somerset County, PA 17 July - 5 August 2014



CAPTURE SITE MD01

Bat Conservation and Management, Inc. Carlisle, Pennsylvania

2014 Route 219 Meyersdale to I-68 Summer Bat Survey

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Executive Summary

Introduction

The Federal Highway Administration (FHA), Pennsylvania Department of Transportation (PennDOT) and the Maryland State Highway Administration (MDSHA) initiated preliminary engineering and environmental studies for U.S. 219 Meyersdale to I-68 (PennDOT Project: SR 6219, Section 019). Bat Conservation and Management, Inc. (BCM) of Carlisle, Pennsylvania was commissioned to conduct a survey of summer bat species within the U.S. 219 Meyersdale to I-68 project area for the purpose of determining potential impact of this development to any threatened and endangered (T&E) bat species. The survey was conducted between 16 July and 5 August 2014.

Objective

The objective of this study was to provide an inventory of summer bat species present and any T&E species occurring within the vicinity of the project area. The 2014 Route 219 Summer Project sites were surveyed using physical capture methods, followed by radio telemetry to determine day-roost locations and characteristics for the T&E species of interest (e.g., eastern small-footed myotis, *Myotis leibii*; northern long-eared myotis, *M. septentrionalis*; and/or Indiana myotis, *M. sodalis*). The survey was performed using capture and telemetry protocols set by the U.S. Fish and Wildlife Service (USFWS) and Pennsylvania Game Commission (PGC). In accordance with the original project plan and scope of work, no acoustic survey methods were applied on this project.

Outcome

During this survey, thirty (30) sites were inventoried within Pennsylvania and Maryland; with twenty-one (21) sites located in the former and nine (9) sites located in the latter. From these sites a total of 127 bats representing five (5) species were captured. This included 82 big brown bats (*Eptesicus fuscus*), 40 Eastern red bats (*Lasiurus borealis*), one (1) little brown myotis (*Myotis lucifugus*), two (2) Northern long-eared myotis (*M. septentrionalis*), and two (2) Eastern small-footed myotis (*M. leibii*). Of these species, the two (2) Northern long-eared and two (2) eastern small-footed myotis were targeted for additional surveying using radio-tracking, as they are proposed for federal endangered species listing and considered to be a state-sensitive species, respectively. Both eastern small-footed myotis were captured in PA and tracked to man-made structures.

Methods

Project Area

The U.S. 219 Meyersdale to I-68 Project is a linear project approximately 13 kilometers (8) mi.) in length stretching from the southern end of the Meyersdale Bypass in Somerset County, Pennsylvania to Interstate 68 (I-68) in Garrett County, Maryland. This project is located in the Allegheny Mountain Section of Pennsylvania's physiographic Ridge and Valley Provinces and located in the Ridge and Valley section of the Great Appalachian Valley (Figure 1). The study area is U.S. 219 Meyersdale to I-68 and includes parts of Elk Lick and Summit Townships in Somerset County, Pennsylvania and the northeastern corner of Garrett County, Maryland (Figures 2 and 3). The project involves the consideration of a four-lane limited access facility from the Meyersdale Bypass, a four-lane limited access facility in Somerset County, PA to I-68, another four-lane limited access facility located in Garrett County, MD. The proposed route extension has been assessed as a key improvement project in both states as well regionally and nationally. Currently, two sections of U.S. 219, one north and one south of Meyersdale, remain as two-lane facilities. This proposed project, along with PennDOT's U.S. 219 project north of Meyersdale, would complete a four-lane, limited access highway from I-68 to the Pennsylvania Turnpike (I-76) and areas to the north, providing improved levels of service, safety, system linkage and efficient access to the region in order to improve economic development potential.

Survey Locations

Survey sites were selected by BCM using aerial photographs including the proposed project alternatives and buffer zone. A total of thirty (30) mist net survey sites were identified, placed at intervals of one (1) site for every one (1) km of habitat along the proposed U.S. 219 road extension project area (Figures 2 and 3). These sites were sampled during the nights of 16 July through 5 August 2014. Sites were divided between Pennsylvania and Maryland, with twenty-one (21) sites located on the Pennsylvania portion of U.S. 219 Section 019, and nine (9) sites located in Garrett County, Maryland. In general, more sites were selected in Pennsylvania given the greater project area in that state.

Survey Protocol: Capture

Mist net surveys followed the protocols described in the USFWS Range-wide Indiana Bat Summer Survey Guidelines¹ and the Standard Minimum Effort Requirements for Qualified Indiana Bat Surveyor Netting within the Commonwealth of Pennsylvania for Environmental Review Projects², issued by the Pennsylvania Game Commission (PGC). Based on these guidelines the required minimum level of effort for a linear project is six (6) net-nights per kilometer of suitable summer

habitat. A net-night is defined as any configuration of mist net lengths and heights between two poles set up for one (1) nights. To meet the capture objectives for this survey, at least three net-sets were deployed at each of the thirty (30) survey sites for two calendar nights. This provided an acceptable minimum effort of at least 180 net-nights during the 2014 survey.

At each survey site, each net-set was checked every 10-minutes, never exceeding 15-minutes between net checks. Survey sites did not contain more nets than could be managed by a single "qualified Indiana bat surveyor" (QIBS). Mist netting did not exceed three (3) consecutive nights at a single survey location. Each night, nets were opened at sundown and continued for at least five (5) hours for a minimum sampling period of 300-minutes each night. All sites were sampled using traditional mist netting techniques.³ The mist nets used for this survey are manufactured by Avinet, Inc. (Dryden, NY; 38mm mesh-nylon, reduced bag, 50/2, 38mm mesh, 2.6m high, 4 shelves).

Nets are placed over existing roads, trails, and streams in an effort to catch bats that utilized these features as flight corridors to move through the habitat between roosts and foraging areas. At each survey-site, nets are set according to the local microhabitat structure, and are deployed to completely span the entire height of the available flyway. "Single-high" nets consist of one 2.6 meter high net strung between two poles. "Double-high" nets consist of two 2.6 meter high nets strung between two poles. "Triple-high" nets consist of three 2.6-meter high nets stacked between two poles. The net lengths utilized are also determined by the physical characteristics of the site and deployed to span the width of the flyway. Nets range in length between 6 and 18 meters.

Meta-data was collected to fully describe individual capture sites and included photographs (Appendix A), global positioning satellite (GPS) coordinates, nightly weather conditions during sampling, and general information regarding habitat and surrounding area. Because adverse weather conditions can affect capture success, survey effort were suspended or even repeated when any of the following weather conditions were present throughout all or most of a sampling period: (1) temperatures below $50^{\circ}F$ ($10^{\circ}C$), (2) precipitation, including rain and/or heavy for, persisting for more than 30 minutes or that continues intermittently during the survey period, and (3) sustained winds greater than 9mph (4mps), i.e., "3" on the Beaufort wind scale.

Data were collected on all captured bats including species, sex, age, and reproductive condition. Species age was determined by using the Epiphyseal-diaphyseal Fusion method which "by transilluminating the wing of an individual using a headlight, a researcher can visualize the cartilaginous zone of the long phalanges . . . As the bat continues to grow, the epiphyseal plates eventually close until they are no longer visible to the unaided eye."⁴ The presence of reproductive

female and/or juvenile bats of any sex indicates maternity use of the area in which they were captured. The reproductive condition of females was noted by abdominal palpation and inspection of mammary glands⁵.

Survey Protocol: Radio-tracking

Radio tracking conducted during this survey followed USFWS and PGC protocols. The northern long-eared myotis (*Myotis septentrionalis*) is currently being considered for federal endangered species listing, and the eastern small-footed bat (*M. leibii*) is considered a "species of special concern" in Pennsylvania, therefore both were "species of interest" and targeted for additional survey methods, using radio-tracking to locate and quantify the day roosts and estimation of roost-population size by conducting nightly emergence counts. All species of interest were outfitted with radio transmitters and tracked to their respective day roosts following the night of capture, and for each subsequent night until the transmitter was no longer active or the bat was undetectable in the area. Data collected for each day roost identified included location, type of roost, description (e.g., height, tree species, percentage of exfoliating bark present, and canopy cover surrounding roost), surrounding habitat, and photographs. Nightly emergence counts at all identified roosts provided estimates of roost-population sizes (Table 5, Appendix C).

Radio tracking techniques and analysis follow accepted methods designed for bats⁶. Captured bats identified for radio-telemetry were examined for sex, age, reproductive status, white-nose syndrome (WNS) wing score, and were photographed prior to release (photos appear in Appendix C). A transmitter (Model LB-2, Holohil, Canada) was attached to the back of each bat using a medical grade temporary adhesive (PERMA-TYPE). The transmitters have a rated battery life of approximately 10 days and weighed between 0.36 and 0.52 grams. Transmitter weight did not exceed 10% of the bat's body weight, in accordance with USFWS 2014 protocols.

For tracking purposes, captured bats were released near the site of capture within 2-hours and tracked by obtaining bearings using radio telemetry receivers, 3-element Yagi-type antennas, and GPS receivers in conjunction with laptop computers. Initial tracking and triangulation was conducted with the use of a vehicle. Once triangulation was performed, tracking continued on foot using Field Marshall 1000 172kHz portable receivers with an attached 3-element antenna until the roost was identified. Once located, emergence counts were performed on all roosts, providing permission was granted to access the corresponding property.

Survey Protocol: Roost Emergence Counts

Once located, emergence counts are conducted on all roost locations, providing permission is granted to access the property containing the located roost. Emergence counts are conducted according to standard procedures for cavity dwelling, temperate bat species⁷. One or more observers will be stationed at each roost at least one hour prior to sundown to count emerging bats. The specific size and configuration of the roost exit(s) and or field(s) of view at each site will determine the number of observers required to survey each roost. Counts are conducted by direct observation as bats leave the roost and are backlit by the twilight sky. If necessary, special night-vision, infrared imaging, or thermal scopes will be used to count bats emerging after dark when they can no longer be observed directly. Data from roost counts is collected each night a radiotagged bat is present at the roost to assess total population size and any daily fluctuations in numbers of bats present.

Results

Sampling Effort: Capture

The net-night level of effort totaled one hundred eighty-nine (189) net-nights. The capture data for each mist net location is summarized in Tables 1 and 2, including site names, date, and level of effort. Site-specific net configurations are described on the Form P-70008-N/T data sheets reprinted in Appendix B. In the case of an adverse weather event (i.e., temperatures falling below 10°C, precipitation, and/or strong winds, persisting throughout all or most of the nightly sampling period), netting was either delayed or suspended until conditions improved, allowing a valid survey night.

Species Occupancy: Capture

A total of one hundred twenty-seven (127) individual bats of five (5) species were captured during the survey period for this project (Table 3). This included eighty-two (82) big brown bats (*Eptesicus fuscus*), forty (40) eastern red bats (*Lasiurus borealis*), two (2) eastern small-footed myotis (*Myotis leibii*), one (1) little brown myotis (*M. lucifugus*), and two (2) northern long-eared myotis (*M. septentrionalis*). A site-by-site occupancy summary is presented in Table 2 of this report.

Females represented approximately 48% (n = 61) of the captured bats. Of the sixty-one (61) female bats that were assessed for reproductive condition, forty-two (42) or 68.8% were reproductive; zero (0) were pregnant, five (5) were lactating, and thirty-seven (37) were post-lactating (Table 4). The remaining fifteen (15) female bats were non-reproductive, exhibiting no obvious characteristics indicating that they had been either pregnant or lactating this season. A summary of the site-level population dynamics is presented in Table 3 of this report. The site-specific, species-specific reproductive results are also summarized in Table 4.

Sampling Effort: Radio-tracking

With the exception of the two eastern small-footed myotis, all radio-tagged bats were tracked to their day roosts. Emergence counts were unable to be conducted on the two (2) eastern small-footed myotis due to lack of landowner permission and day roosts were estimated via triangulation. For the remaining two northern long-eared myotis, emergence counts were performed at each day roost identified. One of the northern long eared myotis was captured in MD, and tracked to two different tree roosts, The other was captured in PA and tracked to three unique tree roosts. Tracking continued as long as each transmitter functioned and was not shed by the bat. The location of all identified and estimated day roosts can be seen in Figure 2, along with the proposed project alternatives. Emergence counts were performed for a minimum of four (4)

nights at each roost. All bats observed emerging from roost were counted to obtain a roost population estimate. These data are recorded in Table 5.

Species Occupancy: Radio-tracking

A total of four bats (4) were fitted with transmitters and tracked to a total of seven (7) different day roost locations. No federally endangered or threatened species were captured, however two (2) state-threatened eastern small-footed myotis were captured including one post-lactating female at Site PA10 and one male at Site PA07 (Table 5). Both bats were outfitted with transmitters and radio tracked in order to locate their respective day roosts. However, land access was denied by both landowners and prevented accurate roost identification and follow-up emergence counts. In the event of land access restrictions where emergence counts were unable to be performed, roost locations were estimated via triangulation. The female from Site PA10 was assumed to be roosting in a large barn with a dark roof, however permission was not granted to further assess the barn to confirm presence and perform emergence counts. The male small footed myotis was tracked to a large separate barn with a metal roof, though emergence counts were unable to be performed due to restricted access by landowner.

Two (2) northern long-eared myotis, proposed for endangered species listing by the USFWS, were among the radio-tagged bats. These were identified as 2014Rt219.3 and 2014Rt219.4. Both were post-lactating females and led trackers to multiple roost locations. 2014Rt219.3 was tracked to a single roost on two consecutive days before shedding the transmitter on the third day (Table 5). 2014Rt219.4 was tracked to three (3) different roosts and emergence counts were done for a total of eight (8) days at these roosts, after which the transmitter was no longer detected.

Weather Data

Weather data was recorded each night of netting. The average high and low temperatures for the survey period was 16.8°C and 14.7°C respectively. Additional detailed information including any weather events and cloud cover is included in Appendix B on Forms P-70008-N/T and are organized by site number. Unless otherwise noted, overall weather was nominal for the entire survey period.

Discussion and Conclusions

The results of the 2014 Route 219 Meyersdale to I-68 Summer Bat Survey performed between July 16th and August 5th of 2014 indicated moderate diversity of bat species within the project area. No day roosts were found to be directly on the project impact area. However, distances from identified roosts to the project impact area ranged from 0.12 kilometers to 0.76 kilometers (Table 5). No endangered Indiana bats were found to be present, however results did confirm occupancy of the state threatened Small-footed bat (*Myotis leibii*), as well as the Northern Long-eared myotis (Myotis septentrionalis), a current species of interest and a candidate for potential listing under the Federal Endangered Species Act. Though not currently subject to formal federal listing, the USF&WS has published recommendations for the conservation and management of the Northern Long-eared myotis⁸ by restricting tree-clearing to times when bats are not utilizing forest resources for roosting or rearing young. Hibernation may begin as early as September and last until April. Therefore, tree clearing can take place any time from late fall to early spring without affecting resident long-eared bats. The Eastern small-footed bats captured and radio-tracked during this project were found to be roosting inside man-made buildings, which is not a widely reported roost preference for this species but is known to occur in two other unrelated locations in Pennsylvania.

Literature Cited

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- ⁴ Brunet-Rossinni, A.K. and G.S. Wilkinson. 2009. *Methods of age estimation and the study of senescence in bats*. <u>In</u>: Kunz, T.H. and S. Parsons (Eds.). 2009. *Ecological and Behavioral Methods for the Study of Bats*. (Second Edition) The Johns Hopkins University Press, Baltimore, 901 pages.
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- ⁶ Amelon, S.K., D.C.Dalton, J.J. Millspaugh and S. Wolf. 2009. "Radiotelemetry techniques and analysis." <u>In</u>: Kunz, T.H. (Ed.) 2009. *Ecological and Behavioral Methods for the Study of Bats.* (2nd Edition) Smithsonian Institution Press, Washington, 920 pages.
- ⁷ Kunz, T.H. (Ed.) 2009. *Ecological and Behavioral Methods for the Study of Bats*. (2nd Edition) Smithsonian Institution Press, Washington, 920 pages.
- ⁸ U.S. Fish and Wildlife Service. 2013. *Northern long-eared bat,* Myotis septentrionalis. Fact Sheet. 2 pages.

Figures

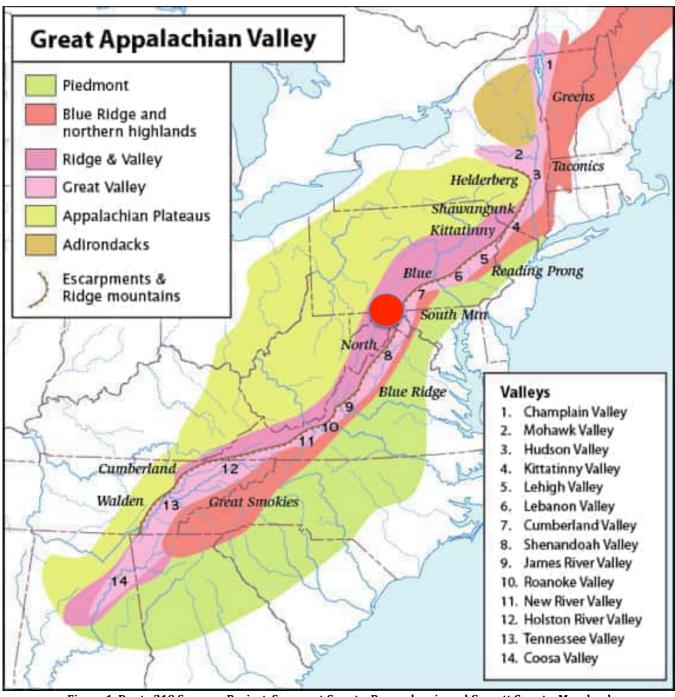


Figure 1. Route 219 Summer Project, Somerset County, Pennsylvania and Garrett County, Maryland

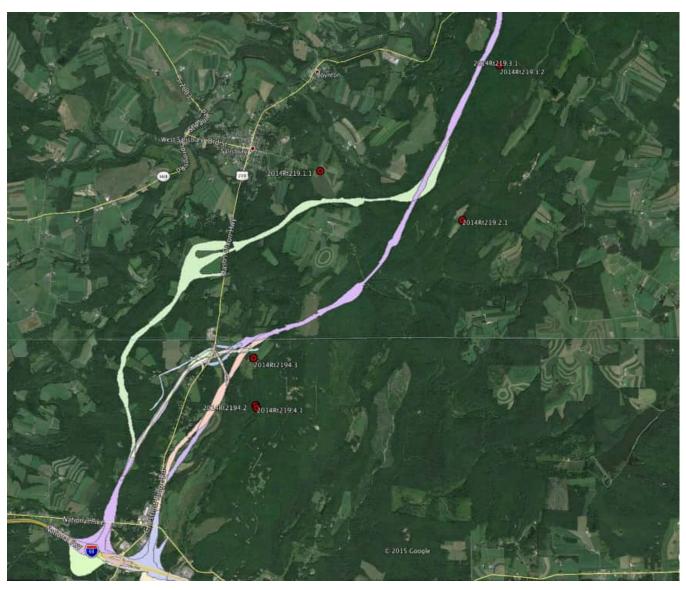


Figure 2. Roost locations with proposed project alternatives

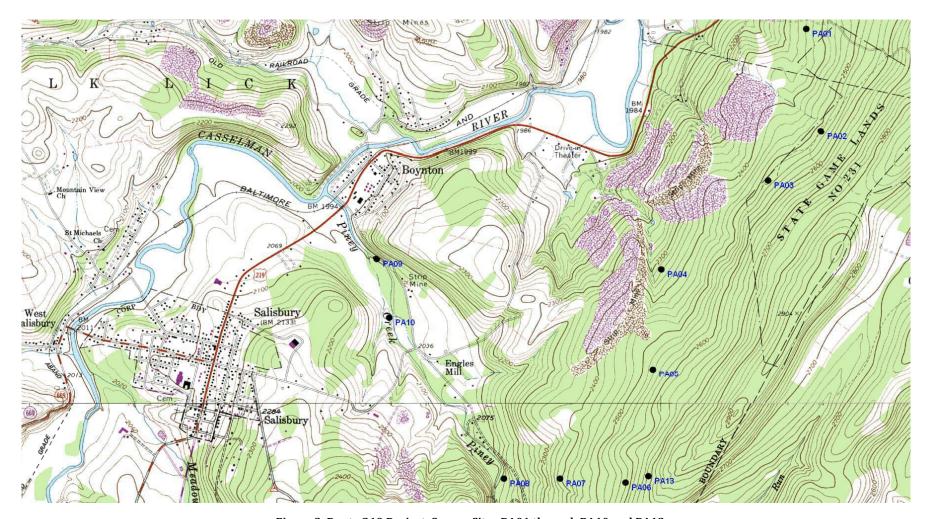


Figure 3. Route 219 Project, Survey Sites PA01 through PA10 and PA13

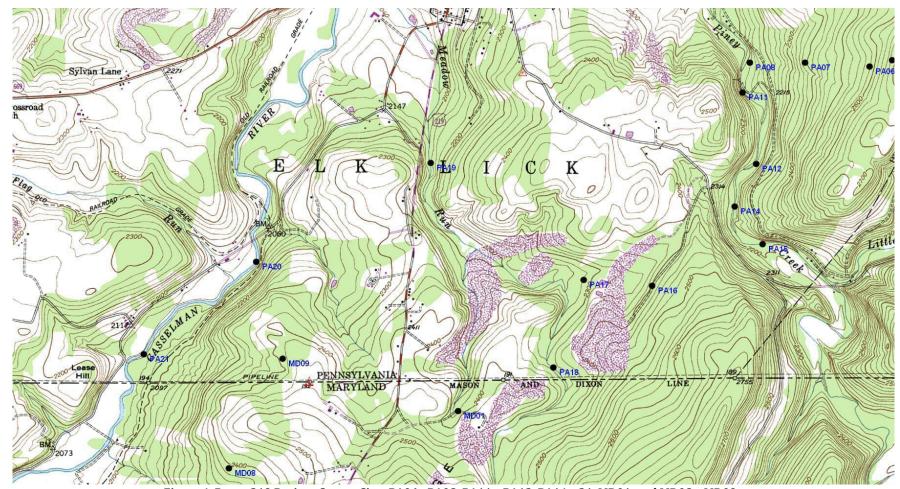


Figure 4. Route 219 Project, Survey Sites PA06 - PA08, PA11 - PA12, PA14 - 21, MD01, and MD08 - MD09

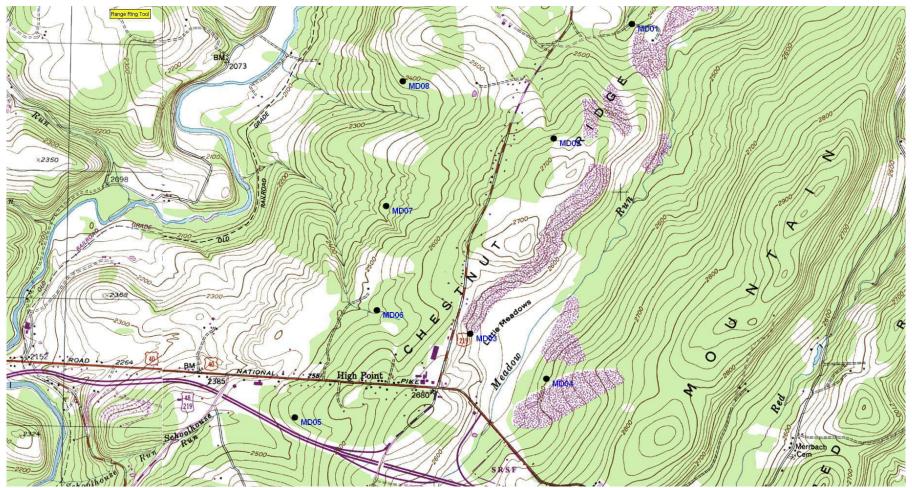


Figure 5. Route 219 Project, Survey Sites MD01 - MD08

Tables

Table 1. Project Summary Table

Site ID	Survey Methods	(#)Physical Captures	Site ID	Survey Methods	(#)Physical Captures
MD01	1- 6m Triple-High Mist Net 1- 12m Triple-High Mist Net 1- 6m Single-High Mist Net	(4) EPFU (1) LABO	PA07	1- 6m Triple-High Mist Net 1- 9m Triple-High Mist Net 1- 6m Single-High Mist Net	(3) EPFU (3) LABO (1) MYLE
MD02	2- 12m Triple-High Mist Net 1- 9m Single-High Mist Net	(1) EPFU (1) MYSE	PA08	1- 9m Triple-High Mist Net 1- 12m Triple-High Mist Net 1- 6m Single-High Mist Net	(0)
MD03	1- 6m Triple-High Mist Net 1- 18m Triple-High Mist Net 1- 2.6m Single-High Mist Net	(1) EPFU (3) LABO	PA09	2- 12m Triple-High Mist Net 1- 9m Single-High Mist Net	(1) EPFU
MD04	1- 6m Triple-High Mist Net 1- 9m Triple-High Mist Net 1- 9m Single-High Mist Net	(0)	PA10	2- 12m Triple-High Mist Net 1- 6m Single-High Mist Net	(1) MYLE
MD05	1- 6m Triple-High Mist Net 1- 9m Triple-High Mist Net 1- 9m Single-High Mist Net	(5) EPFU (7) LABO	PA11	1- 9m Triple-High Mist Net 1- 12m Triple-High Mist Net 1- 12m Single-High Mist Net	(2) LABO
MD06	2- 6m Triple-High Mist Net 1- 6m Single-High Mist Net	(1) LABO	PA12	1- 9m Triple-High Mist Net 1- 18m Triple-High Mist Net 1- 6m Single-High Mist Net	(4) EPFU (1) LABO
MD07	2- 9m Triple-High Mist Net 1- 9m Single-High Mist Net	(1) EPFU (6) LABO	PA13	2- 6m Triple-High Mist Net 1- 6m Single-High Mist Net	(12) EPFU (1) LABO
MD08	1- 9m Triple-High Mist Net 1- 12m Triple-High Mist Net 1- 6m Single-High Mist Net	(2) EPFU (1) LABO	PA14	2- 12m Triple-High Mist Net 1- 6m Single-High Mist Net	(1) LABO (1) MYLU
MD09	2- 18m Triple-High Mist Net 1- 6m Single-High Mist Net	(14) EPFU (2) LABO	PA15	2- 12m Triple-High Mist Net 1- 6m Single-High Mist Net	(0)
PA01	2- 6m Triple-High Mist Net 1- 6m Single-High Mist Net	(0)	PA16	1- 6m Triple-High Mist Net 1- 9m Triple-High Mist Net 1- 6m Single-High Mist Net	(0)
PA02	2- 6m Triple-High Mist Net 1- 6m Single-High Mist Net	(12) EPFU (2) LABO	PA17	2- 9m Triple-High Mist Net 1- 6m Single-High Mist Net	(3) LABO
PA03	2- 6m Triple-High Mist Net 1- 6m Single-High Mist Net	(1) MYSE	PA18	1- 6m Triple-High Mist Net 1- 9m Triple-High Mist Net 1- 6m Single-High Mist Net	(0)
PA04	2- 6m Triple-High Mist Net 1- 12m Single-High Mist Net	(0)	PA19	2- 6m Triple-High Mist Net 1- 9m Single-High Mist Net	(1) LABO
PA05	2- 6m Triple-High Mist Net 1- 6m Single-High Mist Net	(5) EPFU	PA20	1- 12m Triple-High Mist Net 1- 18m Triple-High Mist Net 1- 12m Single-High Mist Net	(8) EPFU (5) LABO
PA06	2- 6m Triple-High Mist Net 1- 2.6m Single-High Mist Net	(6) EPFU	PA21	1- 6m Triple-High Mist Net 1- 12m Triple-High Mist Net 1- 12m Single-High Mist Net	(3) EPFU

Abbreviations used in this table: EPFU = Eptesicus fuscus (big brown bat), LABO = Lasiurus borealis (eastern red bat), MYLE = Myotis leibii (eastern small-footed myotis), MYLU = M. lucifugus (little brown myotis), MYSE = M. septentrionalis (northern long-eared myotis).

Table 2. Site-by-site Level of Effort

Survey Site ID	Survey Site Lat / Long (dms)	Survey Dates	Survey Method	Capture Effort*	TOTALS
MD01	39° 43′ 12.63″ / 79° 04′ 56.00″	31 July- 1 Aug	CAPTURE	3	6
MD02	39° 42' 43.50" / 79° 05' 21.70"	4-5 Aug	CAPTURE	3	6
MD03	39° 41' 53.70" / 79° 05' 49.30"	4-5 Aug	CAPTURE	3	6
MD04	39° 41' 42.30" / 79° 05' 24.10"	4-5 Aug	CAPTURE	3	6
MD05	39° 41' 32.50" / 79° 06' 46.80"	2-3 Aug	CAPTURE	3	6
MD06	39° 41' 59.90" / 79° 06' 20.00"	2-3 Aug	CAPTURE	3	6
MD07	39° 42' 26.33" / 79° 06' 16.90"	2-3 Aug	CAPTURE	3	6
MD08	39° 42' 58.08" / 79° 06' 11.47"	31 July- 1 Aug	CAPTURE	3	6
MD09	39° 43' 25.95" / 79° 05' 53.55"	31 July- 1 Aug	CAPTURE	3	6
PA01	39° 46' 33.64" / 79° 01' 42.84"	25-26 & 28 Jul	CAPTURE	3	9
PA02	39° 46' 08.08" / 79° 01' 38.17"	25-26 & 28 Jul	CAPTURE	3	9
PA03	39° 45′ 55.76″ / 79° 01′ 55.27″	25-26 & 28 Jul	CAPTURE	.3	9
PA04	39° 45′ 33.50″ / 79° 02′ 29.70″	23-24 July	CAPTURE	3	6
PA05	39° 45' 08.49" / 79° 02' 32.38"	23-24 July	CAPTURE	3	6
PA06	39° 44' 40.05" / 79° 02' 41.19"	23-24 July	CAPTURE	3	6
PA07	39° 44′ 41.00″ / 79° 03′ 02.30″	21-22 July	CAPTURE	3	6
PA08	39° 44' 41.00" / 79° 03' 20.50"	19-20 July	CAPTURE	3	6
PA09	39° 45′ 36.15″ / 79° 04′ 01.70″	21-22 July	CAPTURE	3	6
PA10	39° 45′ 21.50″ / 79° 03′ 57.50″	21-22 July	CAPTURE	3	6
PA11	39° 44' 33.50" / 79° 03' 22.80"	19-20 July	CAPTURE	3	6
PA12	39° 44′ 15.30" / 79° 03′ 18.40"	21-22 July	CAPTURE	3	6
PA13	39° 44' 41.70" / 79° 02' 33.90"	23-24 July	CAPTURE	3	6
PA14	39° 44' 04.57" / 79° 03' 25.44"	19-20 July	CAPTURE	3	6
PA15	39° 43′ 54.90″ / 79° 03′ 16.30″	19-20 July	CAPTURE	3	6
PA16	39° 43' 44.44" / 79° 03' 52.51"	29-30 July	CAPTURE	3	6
PA17	39° 43' 45.90" / 79° 04' 14.92"	29-30 July	CAPTURE	3	6
PA18	39° 43' 23.70" / 79° 04' 24.90"	29-30 July	CAPTURE	3	6
PA19	39° 44' 15.55" / 79° 05' 05.01"	16 & 18 July	CAPTURE	.3 ,	6
PA20	39° 43' 50.48" / 79° 06' 02.42"	17-18 July	CAPTURE	3	6
PA21	39° 43' 26.98" / 79° 06' 39.23"	17-18 July	CAPTURE	3	6
30	TOTALS	63	1	90	189

^{**} Capture Effort is presented by Net-night where one net night is one net deployed for one night; minimum acceptable capture effort is three nets deployed each night for two nights or 6 Net-nights per survey site. Totals represent number of net-nights deployed for number of survey dates deployed, i.e., 4 net-nights for two survey-dates = total survey effort of 8 nights.

 Table 3. Site-level Population Dynamics of Captured Bats

Species/		MD	PA		Tot	tals																													
Sex		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	М	F	U	тот
	М	3	1	-	-	1	-	-	1	6	-	7	-	-	3	-	1	-	1	-	-	1	1	-		-	•	-	-	3	1	30			
EPFU	F	1	-	1	-	4	-	1	1	7	-	5	-	-	2	5	2	-	-	-	-	3	10	-		-	•	-	-	5	2	1	49		82
	U	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-			3	
	М	-	-	2	-	2	-	1	1	1	-	2	-	-	-	-	1	-	-	-	1	1	-	-		-	2	-	1	3	-	18			
LABO	F	-	-	1	-	3	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1	9		40
	U	1	-	-	-	2	1	4	-	1	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-	-	-	-	-	1	-			13	
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MYLE	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	1	-	-	-	-	-	-	-	-	-	-	-		1		2
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MYSE	F	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-		2		2
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TOTALS		5	2	4	0	12	1	7	3	16	0	14	1	0	5	6	7	0	1	1	2	5	13	2	0	0	3	0	1	13	3	50	61	16	127

Abbreviations used in this table: EPFU = Eptesicus fuscus (big brown bat), LABO = Lasiurus borealis (eastern red bat), MYLE = Myotis leibii (eastern small-footed myotis), MYLU = M. lucifugus (little brown myotis), MYSE = M. septentrionalis (northern long-eared myotis), M = male, F = female, U = unknowns, and TOT = totals.

Table 4. Reproductive condition of captured female bats

Species	1	MD	PA	To	otals																												
Reprod. Con	dition	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	R	% R
	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	,	-	-	-	-	-	-		
EPFU	L	-	-	-	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	35	71%
EFFO	PL	1	-	-	-	4	-	1	1	4	-	4	-	-	1	2	2	-	-	-	-	2	3	-		-	-	-	-	5	-	33	/1/6
	NR	-	-	1	-	-	-	-	-	1	-	1	-	-	1	-	-	-	-	-	-	1	7	-	•	-	-	-	-	-	2		
	P	-	•	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	i	•	-	•	-	-	-		
LABO	L	-	-	-	-	-	-	-	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ı	•	-	-	-	-	-	4	44%
LABO	PL	-	•	-	-	1	•	-	•	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	i	•	-	•	-	1	-	7	4470
	NR	-	-	1	-	2	-	1	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ı	•	1	-	-	-	-		
	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ı	-	-	-	-	-	-		
MYLE	L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	100%
	PL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	•	-	-	-	-	-	-	' '	100%
	NR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MYSE	L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	100%
	PL	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	10070
	NR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ı	-	-	-	-	-	-		
TOTALS	3	1	1	2	0	7	0	2	1	7	0	5	1	0	2	5	4	0	0	1	0	3	10	0	0	0	1	0	0	6	2	42	86%

Abbreviations used in this table: P = pregnant, L = lactating, PL = post-lactating, NR = non-reproductive, and R = Reproductive

Table 5. Radio-tracking summary

BAT ID (species)	Capture Site	Sex (M/F)	Day Roost ID ¹	Location (Lat /Long, dms)	Roost Description	Days Used (Date roost used)	Distance from Impact Area (ROW)	Emergence Count (Date)	Remarks
2014Rt219.1 (MYLE)	PA10	М	2014Rt219.1EST	39Y 44' 58.50" 79Y 04' 04.40"	Large wood barn with metal roof.	2 (22 and 23 July)	0.5 km	No Count ²	Bat captured at site PA10 on 21 July 2014. Land owner denied access to land and barn. Roost location estimated using telemetry. No emergence counts conducted.
2014Rt219.2 (MYLE)	PA10	F	2014Rt219.2.1	39Y 44' 28.00" 79Y 02' 16.00"	Large barn with dark roof.	1 (24 July)	0.76 km	No Count ³	Bat captured at site PA10 on 22 July 2014. ³ Land owner historically hostile. Deferred to the PGC for any further interactions on the roost property. No emergence counts conducted.
2014Rt219.3	PA03	F	2014Rt219.3.1	39Y 45' 57.73" 79Y 01' 47.35"	Dying red maple	1 (27 July) ⁴	0.28 km	1 (27 July) 0 (29 July)	Bat captured at site PA03 on 26 July 2014. ⁴ Bat shed transmitter on 28 July.
(MYSE)	PAUS	Б	2014Rt219.3.2	39Y 45' 57.50" 79Y 01' 47.50"	Dead red maple	1 (28 July) ⁵	0.28 km	1 (29 July) 1 (30 July)	⁵ Bat shed transmitter on 28 July.
2014Rt219.4		222	2014Rt219.4.1	39Y 42' 43.10" 79Y 04' 44.50"	Live honey locust	4 (5 – 8 Aug)	0.6 km	1 (5 Aug) 4 (6 Aug) 4 (7 Aug) 3 (8 Aug)	Bat captured at site MD02 on 4 August 2014.
(MYSE)	MD02	М	2014Rt219.4.2	39Y 42' 44.50" 79Y 04' 45.30"	Dying honey locust	1 (9 Aug)	0.57 km	4 (9 Aug) 0 (16 Aug)	Transmitter may have failed or was shed. Bat last detected on 10 August 2014.
		,	2014Rt219.4.3	39Y 43' 10.60" 79Y 04' 47.50"	Large wood barn with metal roof.	1 (10 Aug)	0.12 km	0 (16 Aug)	Transmitter not detected after 10 August 2014.

Roost ID is composed of the project name (Rt219 = Route 219), bat species, unique letter indicating individual bat being tracked, and distinct day roost number.

Appendix A

Representative Survey Site Photographs



Figure 1. Site MD01. Forested un-improved road. Dominant species include sugar maple and beech.



Figure 2. Site MD02. Forested jeep trail. Dominant species include sugar maple and red oak.



Figure 3. Site MD03. Hedged trail. Dominant species include ash, sugar maple, and yellow birch.



Figure 4. Site MD04. Forested ATV trail. Dominant species include red maple, yellow birch, honey locust, and hickory.



Figure 5. Site MD05. Forested jeep trail. Dominant species include red maple and white oak.



Figure 6. Site MD06. Forested jeep trail. Dominant species include sugar maple, oak, and yellow birch.



Figure 7. Site MD07. Forested dirt road. Dominant species include red maple, striped maple, and chestnut oak.



Figure 8. Site MD08. Forested driveway. Dominant species include red maple and red oak.



Figure 9. Site MD09. Forested grass road. Dominant species American beech and red maple.



Figure 10. Site PA01. Forested stream. Dominant species include white pine, red maple, and green ash.



Figure 11. Site PA02. Forested road. Dominant species include chestnut oak, red oak, yellow birch, and cherry.



Figure 12. Site PA03. Forested jeep trail. Dominant species include mixed red maple, yellow birch, and sassafras.



Figure 13. Site PA04. Forested jeep trail. Dominant species include red maple and chestnut oak.



Figure 14. Site PA05. Forested trail. Dominant species include cherry, red maple and chestnut oak.



Figure 15. Site PA06. Forested ATV trail. Dominant species include cherry and birch.



Figure 16. Site PA07. Forested trail. Dominant species include hemlock, red maple, and cherry.



Figure 17. Site PA08. Forested trail. Dominant species include red maple, hemlock, and yellow birch.



Figure 18. Site PA09. Forested stream. Dominant species include hemlock and sugar maple.



Figure 19. Site PA10. Forested jeep trail. Dominant species include hemlock, red maple, sugar maple, and red oak.



Figure 20. Site PA11. Forested stream. Dominant species include hemlock and red maple.



Figure 21. Site PA12. Forested stream. Dominant species include hemlock and birch.



Figure 22. Site PA13. Forested jeep trail. Dominant species include yellow birch and sassafras.

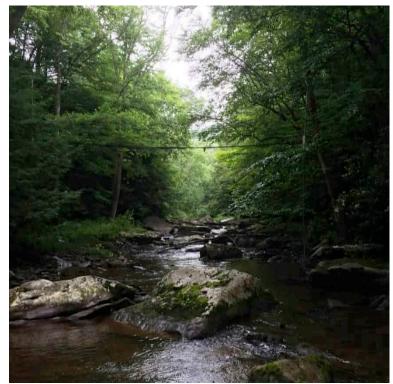


Figure 23. Site PA14. Forested stream. Dominant species include yellow birch and ash.



Figure 24. Site PA15. Forested stream. Dominant species include hemlock, yellow birch, American beech, red maple, and sugar maple.



Figure 25. Site PA16. Forested dirt road. Dominant species include red maple, red oak, hemlock, and yellow birch.



Figure 26. Site PA17. Forested jeep trail. Dominant species include sugar maple, red maple, oak, hemlock, and yellow birch.

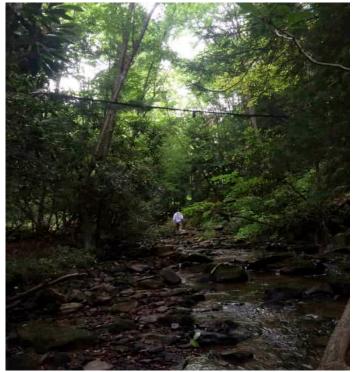


Figure 27. Site PA18. Forested stream. Dominant species include eastern hemlock and yellow birch.

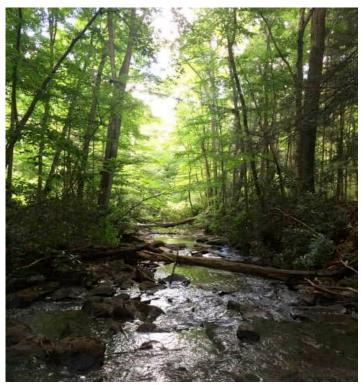


Figure 28. Site PA19. Forested stream. Dominant species include hemlock, red maple, yellow birch and American beech.



Figure 29. Site PA20. Forested stream. Dominant species include sugar maple, red maple, American beech, and hemlock.



Figure 30. Site PA21. Forested stream. Dominant species include sugar maple, hemlock, beech, and birch.

Appendix B Survey Site Data Sheets

FORM P-70008-N/T 12/09 Section 2

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 1 Aug 2014 2. Company Name: Bat Consessation and Hanagement
3. Bat Identifier: Todd Sinander 4. Assistants: Dorcan Ehan Z
5. Site Name and/or Number: 2014 R+219 Some - 4D01
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested unimproved road and stream
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 29 °- 43 '-1263 "N, Longitude: 79 °- 04 '-5620" W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Doborah Hoover, McCoraide Taylor, SCapital Drive, Site 400 Harriston, PA 17110 (717) 540-6040
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0/50 h Total Minutes: 200
Start Temp. / C End Temp. / S.O °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm., Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	6mx2.6m	Stacked overtail	46.8 Sp.m
2	Nets	3	12mx 2.6m	Stackedover tail	93.65g.m
3	Net	1	6m x 2.6m	over stream	15.65g.m
				i e	

Total Capture Area: 156 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 R+219 Somer _ MDOI Date: 1 Aug 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Tripple highs are set over an unimproved road within a sugar maple, and beach dominated forest. The single high is set over a stream.

18. Was reproductive status checked?

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	٦	,	E	Q	
	- 7	١.,	ĸ.	4	
				1	

/ NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	L T	Numl Adult F	oer of Temale	s	No. Juv.	Total No.	Numb Adult		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	Sales S	lie with	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus				* l			. ,			1	2
Perimyotis subflavus											
Lasiurus borealis										î e	
Lasiurus cinereus						2		10 10 10		i.	
Lasionycteris noctivagans											
Other - specify:											
Other - specify:											_==
Reproductive	Status:			ductive, P							Grand <u>Total</u>
	votis so	ete <u>Mea</u> dalis, (2)	Myot	ment an is leibii, (s and (5)	d Capt 3) bats y	ure Da	ta Forn	n for a	recaptur	es,	2

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RE	CORD
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Page 1 of 2

1. Survey Date: 31 Jul 2014 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Durcan Schanz
5. Site Name and/or Number: 2014 R+219 Some - MDO1
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested unimproved road and stream
8. County: Garrett 9. 7.5' Quad .: Aviton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-43 '-43 "N, Longitude: 79 °-4 '-56.00 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Think: Control
Deborah Hoover, McCornick Taylor, 5 Capital Drive, Suite 400 Harrisby, PA 17/10
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0/50 h Total Minutes: 300
Start Temp. 16.1 °C End Temp. 25 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Nets	3	6mx2.6m	Stacked over trail	46.859.m
Nets	3	12mx26m	Stacked over trail	93.69.m
Net	1	6m×2.6m	over stream	15.69.m
1				
			2	
	Nets Nets	Nets 4 Nets 3 Nets 3	Nets 4 12mx2.6m Nets 3 6mx2.6m Wets 3 12mx2.6m	Nets 4 12mx2.6m Stacked over trail Nets 3 6mx2.6m Stacked over trail Nets 3 12mx2.6m Stacked over trail

Total Capture Area:__

Site Name/No.: 2014 R+219 Smer-MDO1 Date: 31 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Tripple highs are set over an unimproved road within a sugar maple and beach dominated forest. The single high is set over a stream.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species Eptesicus fuscus	Number of Adult Females			No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
	2	ALCO, LES	1	1000	10.284	3	2	1	1	4	7
Myotis lucifugus						L					
Myotis septentrionalis											
Myotis leibii				-			г				
Myotis sodalis						i i					
Eptesicus fuscus							** 2			2	2
Perimyotis subflavus											
Lasiurus borealis	14.										1 *
Lasiurus cinereus										*	
Lasionycteris noctivagans	-						d . I	-			ii
Other - specify:											
Other - specify:								-			
Reproductive		PL= po	st lactat	ing, SCF	R= scrotal	/epididyr	nis swoll	en.			Grand Total
	lyotis soc	dalis, (2)	Myotis	s leibii, (d Capt 3) bats y	ou are ba	anding or	r band i	recaptur	es,	5

(4) radio-tagged bats and (5) bat species not usually found in PA.

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies;	Tallies:	Tallies:

* Lasiurus borealis escaped from not

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

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the same of the sa
1. Survey Date: 8-04-2014 2. Company Name: Bat Conservation & Management, Inc.
3. Bat Identifier: Risa Wright 4. Assistants:
5. Site Name and/or Number: 2014 R+219 Summer MD02
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested jeep trail
8. County: Garrett 9. 75' Quad .: Abilton
10. Was site GPS'd (required) ? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 42 '-43.5"N, Longitude: 79 °- 5 '-21.7"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Confoct
Deborah Honver, McCormick Taylor, 5 Capital Drive, Suite 400,
13. Time (military) & Temperature: Start Time 2040 h Stop Time 0140 h Total Minutes: 300
Start Temp. 18.3 °C End Temp. 16.3 °C (must stay ≥10°C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Canture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	1	9m * 2.6m	stacked over trail	23.4
2	Nets	3	12m × 2.6m	Stacked over trail	93.6
3	Nets	3	12 m× 7.6 m	stacked over trail	93.6
			4177		
					- 4

Total Capture Area: 210,6 sq. m

Site Name/No .: 2014 R+219 Summer MDOZ

Date: 8-04-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Deciduous forest close to residential homes. Dominant tree species are sugar maple and redoak. Shellburk hickory and black cherry also present. Understory is open and covered with feens.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females			Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	OHENCE	1			3	2	1	1	4	7
Myotis lucifugus		 								acquara Chuniu	
Myotis septentrionalis				•)			ē-		1
Myotis leibii										,	
Myotis sodalis							,				
Eptesicus fuscus											
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans	in .										
Other - specify:											
Other – specify:				11							
Reproductive		PL= pos	st lactat	ing, SCR	= scrotal	/epididyn	nis swoll	en.			Grand Total
	Comple yotis soc	te <u>Mea</u> lalis, (2)	Suren Myotis	nent an s leibii, (3	d Capt B) bats ye	ure Dat ou are ba es not us	a Forn	of for a band r	ecapture	es,	ĺ

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 8-05-2014 2. Company Name: Bat Conservation& Management, Inc.
3. Bat Identifier: R:5 a Wright 4. Assistants:
5. Site Name and/or Number: 2014 R+219 Summer MD02
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep trail
8. County: Garrett 9. 75' Quad .: Abilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 42 '-43.5"N, Longitude: 29 °- 5 '-21.7"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Taylor, 5 capital Drive, Suite 400, Harrisburg, PA
13. Time (military) & Temperature: Start Time 2040 h Stop Time O140 h Total Minutes: 300
Start Temp. 18,5 °C End Temp. 15.5 °C (must stay ≥10 °C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Net5	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nels		9m×2.6m	stacked over trail	23.4
2	Nets	3	12mx2.6m	stacked over trail	93.6
3	Nets	3	12 m×2.6m	stacked over trail	93.6
					1 = =
		= -	;		

Total Capture Area: 210.6 sq. m

Site Name/No.: 2014 Rt 219 Summer MOO2

Date: 8-05-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Deciduous forest close to residential homes. Dominunt tree species ore sngar maple and red oak. Shellback hickory and black cherry are also present. Understory is open and covered with ferns.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females			No. Juv.	Total No.	Numl Adult		No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	water to		3	2	1	I	4	7
Myotis lucifugus											
Myotis septentrionalis								-		1,0	
Myotis Ieihii						11					
Myotis sodalis							1.		177		
Eptesicus fuscus							. 1			J	
Perimyotis subflavus		4					-				
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans											
Other - specify:											
Other - specify:								2 4			
Reproductive		PL= po	st lacta	ting, SCI	R= scrota	l/epididy	mis swol	en.			Grand Total
(1) N	Ivotis so	dalis, (2) Myoti	s leibii,	nd Capt (3) bats y bat spec	ou are b	anding o	r band	recaptur	es,	1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time;	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT	NETTING/TR APPIN	C SITE SURVEY DECORD

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 4 Aug 2014 2. Company Name: Bot Conservation and Management
3. Bat Identifier: Todd Smandes 4. Assistants: Duncan Schanz, Brandon McCluna (Responsible Recorder)
5. Site Name and/or Number: 2014 Rt 219 Summer - M.D. 03
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream): hedged trail
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 o-4/ '-53.7"N, Longitude: 79 o-65 '-49.3"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Prime: Cortac
Debotah Hooser, McGrmkk Taylor, Scapital Drive, Suite 400 Harristonson, PA 17110, (717)540 6040
13. Time (military) & Temperature: Start Time 2105 h Stop Time 0205 h Total Minutes: 300
Start Temp. 14.7 °C End Temp. 11.7 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Rartly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set#	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	18mx2.6m	Stacked overtrail	140,4/g.m
2	Net	1	2.5m/2.6m	over trail	6.5g,m
3	Nets	3	6mx26m	Stacked our trail	46.85g.m
			ř.		

Total Capture Area: 193.7

Site Name/No.: 2014/219 Summy - MD03 Date: 4 400 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a jeep trail with forested outerops dominated by as h. Jugar maple, and yellow birch. Trails open up into haufields.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species		Numl Adult I	ber of Temales		No. Juv.	Total No.		Number of Adult Males		Total No.	Species
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1		10.000	3	2	-I	1	4	7
Myotis lucifugus											
Myotis septentrionalis				381							
Myotis leibii											
Myotis sodalis		, ,		37							
Eptesicus fuscus						154					1
Perimyotis subflavus									-	12.2	
Lasiurus borealis			3						1	1	1
Lasiurus cinereus								_		1	
Lasionycteris noctivagans											
Other - specify:											
Other - specify:											
Reproductiv	e Status:	NR= ne	onrepro	ductive,	PG= preg R= scrota	gnant, L = al/epididy	lactating mis swo	g, llen.			Grand <u>Total</u>
(1) N	Avatic co	ete Me	asure	ment a	nd Cap	ture Da you are b cies not u	ata For	m for a or band	recaptu	res,	1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 5 Aug 2014 2. Company Name: lot Consessention and Horogenent
3. Bat Identifier: Todd Sinonder 4. Assistants: Duncan Schanz, Brandon McClung (Responsible Recorder)
5. Site Name and/or Number: 2014 Rt 219 Summel_ MD03
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
hedged trail
8. County: Garret 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 o 41 - 53.7"N, Longitude: 79 o 65 · 49.3 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private Cortect Debook
HODER, McCormick Taylor, 5 Capital Drive, Site 400 Harrisburg, PA 17110 (717) 540-6040
13. Time (military) & Temperature: Start Time 2055 h Stop Time 0155 h Total Minutes: 300
Start Temp. 16.2 °C End Temp. 12.8 °C (must stay ≥10 °C for summer netti
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:
Set # Type Count Dimensions Description TOTAL AREA

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1051	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3 .	18m x 2.6m	Stacked over trail	140,45g.m
2	Net	1	2.5mx2.6m	over trail	6.5 sq.m
3	Nets	3	6mx2.6m	Stacked over trail	46.85q.m
				1 1 5	
		1			

Total Capture Area: 193.7 sq. m

Site Name/No .: 2014 Rt 219 Summer - 4 DO3 Date: 5 Aug 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed oner a jeep trail with forested outcrops dominated by ash sugar maple, and yellow birch. Trails open up into hayfields.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females			No. Juv.	Total No.	Numl Adult		No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	 		3	2	1	1	4	7
Myotis lucifugus								,			
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis									71,000		
Eptesicus fuscus					•	1		2			. 10
Perimyotis subflavus											
Lasiurus borealis					•			No. 1			2
Lasiurus cinereus											1
Lasionycteris noctivagans											
Other - specify:				1							
Other - specify:											ir I
Reproductive		PL= po	st lactat	ing, SCI	R= scrotal	/epididyr	nis swoll	en.			Grand <u>Total</u>
*(1) M	Ivotis so	dalis, (2)	Myoti	s leibii, (nd Capt (3) bats y	ou are ba	anding o	r band	recaptur	es,	3
	(4) ra	dio-tagg	ed bats	and (5)	bat speci	es not us	sually for	und in P	Α		

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes I hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page	1	-4	

BAT HETTING/TRAITING SITE BOX VET RECORD
1. Survey Date: 8/4/14 2. Company Name: Bat Consecuation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / MDO4
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested ATV trail
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-4\ '-42.3 "N, Longitude: 79 °-05 '-24.1 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCormick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110 O: 717-540-6040 13. Time (military) & Temperature: Start Time 2045 h Stop Time 0145 h Total Minutes: 300
Start Temp. 16.8 °C End Temp. 13.8 °C (must stay ≥10 °C for summer netting
14. General Weather (circle one): Clear Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one):
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
us lappe	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
	Nets	3	9 x 2.6	Stacked over ATV trail	70.2
2	Nets	3	6×2.6	Stacked over ATV trail	46.8
3	Nets	1	9 x 2.6	Over ATV trail	23.4
		-			-16
	==		. =		
			1 = 2 = 2 =		

Total Capture Area: 140,4 sq. m

Site Name/No.: MDO4

Date: 8/4/14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over ATV trails running through a nature mix deciduous forest. The forest is surrounded by reclaimed hay fields, Dominant tree species include Red Maple, Yellow Birch, Honey locust and Hickory.

18. Was reproductive status checked? (TES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females				No. Juv.	300 To 100 To 10		Number of Adult Males		Total No.	Species
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	6+30-0 10-0 10-0 10-0 10-0 10-0 10-0 10-0	1	30000000000000000000000000000000000000		3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis									/		
Myotis leibii								/			
Myotis sodalis						1	/				
Eptesicus fuscus					1	7					
Perimyotis subflavus				2	N.		di	1			7. "
Lasiurus borealis			1	,						10	1 =
Lasiurus cinereus			1,	/							
Lasionycteris noctivagans			/	1							
Other - specify:		/									
Other - specify:			-								
Reproductive	e Status:	NR= no	onreproc	ductive, I ting, SCI	PG= preg R= scrota	nant, L = l/epididy	l lactating mis swol	len.			Grand <u>Total</u>
* (1) N	Ivotis so	ete <u>Me</u> dalis, (2	asure	ment ai	nd Cap (3) bats y	ture Da	anding o	m for a or band	recaptui	res,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

FORM P-70008-N/T

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

12/09 Section 2

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 8/5/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / MD04
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested ATV trail
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 -41 -423"N, Longitude: 79 - 05 -24.1"W
Datum (circle one): (NAD27) (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Confact
Deborah Hoover, McCormick Taylor, 5 Copital Drive, Suite 400, Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2045 h Stop Time O\ 45 h Total Minutes: 300
Start Temp. 17.6 °C End Temp. 13.1 °C (must stay ≥10°C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): (Calph, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA (m)
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
)	Nefs	3	9x2.6	Stacked over ATV+rail	70.2
2	Nets	3	le x 2.6	Stucked over ATV trail	46.8
3	Nets	1	9x2.6	Over ATV trail	23.4
				,= ·	

Total Capture Area: 140.4 sq. m

(Site Survey Record - Continued)	Site Name/No.: MDO4	Date: 8/5/14
17. Describe habitat 150 m around	site: (topography and vegetation including	dominant tree species.)
Nets are placed over	ATV trails running through anded by reclaimed hay fields	mature mix deciduous torest.
The forest is surrou	nded by reclaimed hay tields	. Dominant tree species
18. Was reproductive status check	fellow Birch, Honey Locus, an ked? YES / NO (if "NO" only enter	d Hickory. numbers in <mark>Total</mark> columns)
	*CAPTURE RESULTS	

Species	Number of Adult Females				No. <u>Total</u> Juv. No.	Numl Adult		No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		I		超速 直面	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis	C.										
Myotis leibii								1			E E
Myotis sodalis						1	<u></u>		/		- 1
Eptesicus fuscus					/		/				
Perimyotis subflavus					Š						·
Lasiurus borealis				3)X_	/				ļ .	
Lasiurus cinereus							·				
Lasionycteris noctivagans			4	/		h					
Other - specify:			/								
Other - specify:											
Reproductive	Status:	NR= no	onreprod ost lactat	luctive, I	PG= preg	nant, L = d/epididy	I lactating mis swol	, len.			Grand <u>Total</u>
* (1) N	Lvotis so	ete Me	asurei	nent a	nd Cap (3) bats y	ture Da you are b ies not u	ta For	m for a or band	recaptui	es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 8-02-7014 2. Company Name: Bat Conservation & Management Inc.
3. Bat Identifier: Risa Wright 4. Assistants: Brandon McCling
5. Site Name and/or Number: 2014 R + 219 Summer MO05
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested jeep trail
8. County: Garett 9. 7.5' Quad .: Abilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39°-41 '-32.5"N, Longitude: 79°-6 '-468"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Taylor, 5 Capital Orive, Suite 400, Harrisburg, PA 1710 13. Time (military) & Temperature: Start Time 2025 h Stop Time 0135 h Total Minutes: 310
Start Temp. 19.5 °C End Temp. 16.9 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Nets 3 9 m x 2.6 Nets 3 6 m x 2.6	Dimensions	Description	TOTAL AREA		
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m		
Nets	3	9 m × 2.6 m	stacked over trail	70.2		
Nets	3	6m×2.6m	Stacked over trail	46.8		
Neti	١	9mr2.6m	stacked over trail	23.4		
	_ ###_					
	Nets Nets Nets	Nets 4 Nets 3 Nets 3	Nets 4 12mx2.6m Nets 3 9mx2.6m Nets 3 6mx2.6m	Nets 4 12mx2.6m Stacked over trail Nets 3 9mx2.6m stacked over trail Nets 3 6mx2.6m Stacked over trail		

Total Capture Area: | 4 0. 4 sq. m

Site Name/No .: 2014 R+219 Summer MD05

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Decidnous forest adjacent to busy highway. Dominant tree species are red mople and white oak. Secondary species are American Beech and Mockernet Hickory.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species		Numl Adult F		s	No. Total Number of Juv. No. Adult Males				No. Juv.	No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>	
Eptesicus fuscus	2	1 50 lbs	1	September 1	E 10 (5)450	3	2	1	1	4	7	1
Myotis lucifugus												
 Myotis septentrionalis 												
Myotis leibii										j.		
Myotis sodalis			,									
Eptesicus fuscus			11	° 2		2			1	1	3	
Perimyotis subflavus					= -733							(2 *
Lasiurus borealis				, /	1	Ţ	2			2	. 5	(2 *
Lasiurus cinereus												
Lasionycteris noctivagans												
Other - specify:												
Other - specify:												1
Reproductive	Status:	NR= no	nrepro	ductive, I	PG= preg R= scrota	nant, L =	lactating mis swol	len.			Grand <u>Total</u>	1
*(1) M	Ivotis so	ete Me	asure Myot	ment ai	nd Capt (3) bats y bat spec	ou are b	ta Forn	n for a	recaptur	es,	8	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

* Nets opened at 2025 because buts observed flying and it was dark under the dense tree canopy. * 2 red buts escaped while net was being lowered.

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 8-03-2014 2. Company Name: Bat Conservation & Management, Inc.
3. Bat Identifier: Risa Wright 4. Assistants: Brandon McClung
5. Site Name and/or Number: 2014 R+219 Sunner MOOS
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested jeep trail
8. County: Garcett 9. 7.5' Quad .: Abilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-41 '-27.5"N, Longitude: 79 °-6 '-46.8 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private Control
Harrisburg, PA 17110 13. Time (military) & Temperature: Start Time 2035 h Stop Time 0135 h Total Minutes: 300
Start Temp. 17. 4 °C End Temp. 15. 7 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear, Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Count Dimensions Description		TOTAL AREA (m)
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Nets	3	9mr2.6m	stacked over trail	70.2
Nels	3	6 m x 2.6 m	Stacked over trail	46.8
Nets	١	9m×2.6m	stacked over trail	23.4
	Nets Nets Nets	Nets 3 Nets 3	Nets 4 12mx2.6m Nets 3 9mx2.6m Nets 3 6mx2.6m	Nets 4 12mx2.6m Stacked over trail Nets 3 9mx2.6m stacked over trail Nets 3 6mx2.6m Stacked over trail

Total Capture Area: 140.4 sq. m

Site Name/No.: 2014 R+219 Summer 1005 Date: 8-03-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Decidnous forest adjacent to busy highway. Dominant tree species are red maple and white oak. Secondary species are American Beech and Mockernut hickory.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

i	Number of Adult Females		No. <u>Total</u> Juv. No.	Numb Adult		No. Juv.	Total No.	Species			
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	The state of	1	an in the		3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											, ,
Myotis leibii											
Myotis sodalis		11									
Eptesicus fuscus				2		2					2
Perimyotis subflavus											
Lasiurus borealis					". 2	2					2
Lasiurus cinereus											
Lasionycteris noctivagans								10			
Other – specify:									135		
Other – specify:			,					,			
Reproductive	Status:	NR= no	nreproo	ductive, I	PG= pregi	l nant, L = l /epididyr	actating, nis swoll	en.			Grand <u>Total</u>
		ete Mea	sure	ment ar	d Capt 3) bats y	ure Da	ta Forn	<u>n</u> for a		es,	4
	(4) rac	dio-tagge	ed bats	and (5)	bat speci	es not us	ually fou	ind in P	A.	-	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

* First bat observed flying at 2035; first but captured at 2037

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

Tage 1 of 2
1. Survey Date: 2 Aug 2014 2. Company Name: Bot Conservation and Hanagement
3. Bat Identifier: Toda Sinander 4. Assistants: Dancan Schanz
5. Site Name and/or Number: 2014 Rt 219 Somes - MD 06
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep trail
8. County: Gerrett 9. 7.5' Quad.: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-41 '-59.9 "N, Longitude: 79 °-06 '-20.0" W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Proble; Contact
Deborah Hours, McCornict Taylor, 5 Copital Dr. R. Svike 400 Horrisburg, PA 17110, (717) 540-6040
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0/50 h Total Minutes: 300
Start Temp. 18.2 °C End Temp. 16.9 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Net	1	6m x 2.6m	Slated along stream	15.65g.m
Nets	- 3	6m x2.6m	Stacked over trail	46.859.m
Nets	3	6mx26m	Stacked over tail	46.8 sg.m
		-	T	/
				1
	Nets Ne+	Nets 4	Nets 4 12mx2.6m Net 1 6mx2.6m Nets 3 6mx2.6m	Nets 4 12mx2.6m Stacked over trail Net 1 6mx2.6m Stacked over trail Nets 3 6mx2.6m Stacked over trail

Total Capture Area: 109, 2 sq. m

Site Name/No.: 2014R1 219 Somes _ MD 06

Date: 2 Aug 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Single high net is placed along a stream. All nets are placed over a jeop trail with a
Single maple, oak, and yellow birch dominated forest.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			Juv. N	Total No.		Number of Adult Males		Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males To	Totals
Eptesicus fuscus	2		1	- DELEGA	Marie Par	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis							77				
Eptesicus fuscus				17							
Perimyotis subflavus							-				
Lasiurus borealis					I v v s		- 1-1				/ *
Lasiurus cinereus											
Lasionycteris noctivagans				-							
Other - specify:											
Other - specify:											
Reproductive	Status:				G= pregr C= scrotal						Grand <u>Total</u>
	votis so	dalis, (2)	Myotis	s leibii, (d Capt 3) bats ye bat speci	ou are ba	inding o	band i	ecaptur	es,	1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:
		A		

20. REMARKS:

2055-2110 possing sprinkle 0055-0105 passing intermittent min

* Losiurus borea la escaped from net

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

of 2

1. Survey Date: 3 Aug 2014 2. Company Name: But Consecution and Hangement
3. Bat Identifier: Todd Sinandes 4. Assistants: Dynan Schanz
5. Site Name and/or Number: 2014 Rt 219 Somer - MD 06
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep fail
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-41 ·59.9 "N, Longitude: 79 °-06 ·200 "W
Datum (circle one): (NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private Contact Debook
Houses, McCosmick Toylor, 5 Capital Drive, Suite 400 Harrishing, DA 17110 (717) 540-6040
13. Time (military) & Temperature: Start Time OSO h Stop Time O150 h Total Minutes: 300
Start Temp. 15.5 °C End Temp. 15.5 °C (must stay ≥10 °C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:
Set # Type Count Dimensions Description TOTAL AREA

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Net	1 1	6mx2.6m	along stream	15.65g.m
2	Nets	3	6mx2.6m	Stacked over tail	46.85g.m
3	Nets	3	6m x 2.6m	Stacked overtrail	46.89.m
	,			19	
		- 12			

Total Capture Area: 109.2 sq. m

Site Name/No.: 2014 Rt 219 Somer - HD06

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Single high net is placed along a stream. All nets are placed over a jeop trail within a sugar maple, oak and jellow birth dominated forest.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

e			ber of Females		Juv. No	Total No.	Adult Males		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	I ALLES	1	SIMPLE	A SECTION	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii							7				
Myotis sodalis					2	XI	/				
Eptesicus fuscus					1						
Perimyotis subflavus	ľ		11		1						11 (1)
Lasiurus borealis			11) /							
Lasiurus cinereus			1					12			
Lasionycteris noctivagans						ii					
Other - specify:				34 .					_		
Other - specify:		-									
Reproductive	Status:	NR= no PL= po	nreprodi st lactati	uctive, P	G= pregn = scrotal	ant, L = l /epididyn	actating, nis swolle	en.	1 1 1	3 3 1	Grand Total
	Comple votis soc	te Mea	Asuren Myotis	ient an leibii, (3	d Capt	ure Dat ou are ba es not us	a Forn	of for all	ecapture	es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 8/2/14 2. Company Name: Bot Conservation and Management
3. Bat Identifier: Todd Sunonder 4. Assistants: Doon Eshdman (Responsible Recorder)
5. Site Name and/or Number: 2014RT. 219SUMMER/MDD7
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested dirt mad
8. County: Corrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 42 '- 263"N, Longitude: 79 °- 06 '- 169"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Awate: contact
Debarah Hower, McCormick Taylor, 5 Capital Drive, Harristong, PA 171
13. Time (military) & Temperature: Start Time 4045 h Stop Time 0145 h Total Minutes: 300
Start Temp. 17.7 °C End Temp. 16. 7 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA (m)
1	Nets	0 000 00 4 0 0 00	12m x 2.6m	Stacked over trail	124.8 sq. m
J	NIP 15	3	9x2.6	stacked over dirt road	70.1
2	Nets	-3	922.6	stacked over dist road	70.2
3	Nets	1	9x2.6	over dirt road	23.4

Total Capture Area: 163.8 sq. m

(Site Survey Record - Continued) Site Name/No.: MDO7 Date: 8/2/2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets were placed over a diff road running through a mature deciduous forest.

Dominant tree species were Red Maple, Stripped Maple, and Chestrut Oak, Subdominant tree species were thekory, Red Oak, white Oak, and Vellaw-Birch.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. Juv.	Total No.	Numl Adult	per of Males	No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	e i Tano	1	12885	Con Oliv	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis			:								
Myotis leibii											
Myotis sodalis											F.
Eptesicus fuscus	i.i			9		1					1
Perimyotis subflavus											y "
Lasiurus borealis	i .				0	1	>	0 '0		1 2	XXXX
Lasiurus cinereus											
Lasionycteris noctivagans											
Other - specify:											
Other - specify:		-									
Reproductive	Status:				PG= pregi						Grand <u>Total</u>
	votis so	ete <u>Mea</u>	Myot	ment ar is leibii, (3) bats ye bat speci	ure Dat	ta Forn	<u>n</u> for a r band i	recaptur	es,	17.

9. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

* 2140 bot escaped net * 2235 but escaped net * 2235 but escaped net * 2240 but escaped net

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

DAT	NETTINGTED	A DDING	SITE SURVEY	DECODE
DAL	NETHINGIE	DILLIA	SHEBUKYEL	KLCOKI

Page 1 of 2

1. Survey Date: 8/3/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / MD07
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested dirt road
8. County: Garrett 9. 75' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 42 '- 26.33"N, Longitude: 79 °- 06 '- 16.9 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Rivate: Contact
Deboreh Hower, McCornick Taylor, 5 Capital Drive, Suite 400, Harrisburg, PA 17110
0. 717 - 540 - 60 48 13. Time (military) & Temperature: Start Time 2045 h Stop Time 0 1 45 h Total Minutes: 308
Start Temp. 15.7 °C End Temp. 4.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA (m)
1	Nets	4 34	12m x 2.6m	Stacked over trail	124.8 sq.m
τ	Nets	3	9x2.6	Stacked over distroad	70.2
2	Nets	3	9×2.6	Stacked over dirt road	70.2
3	Nets	1	9x2.6	Over dirt road	23.4
	1				
					: == <u></u>
		12			

Total Capture Area: 163.8 sq. m

(Site Survey Record - Continued)	Site Name/No.:	MDOT	Date: 8/3	/14
17. Describe habitat 150 m around	d site: (topography an	nd vegetation including	dominant tree species.)	
Nets were placed over				
Dominant tree species tree species were Hick 18. Was reproductive status chec	ked? (YES) / NO	ofe, Stripped Maple on the Oak , on & 4	le, Chestrut Oak. Kellow Birch. numbers in Total columns	Subdomment

*CAPTURE RESULTS

	Number of Adult Females			No. Total Juv. No.	No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	PG L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	10000	1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii	i.					1					
Myotis sodalis											
Eptesicus fuscus				1	X						
Perimyotis subflayus				1	7~/						
Lasiurus borealis			1	\ /							
Lasiurus cinereus	ľ	6						1			
Lasionycteris noctivagans			1								
Other - specify:		/									
Other - specify:	/										- : :
Reproductive						nant, L=					Grand <u>Total</u>
	Comple Lyotis soc	te Mea	Myotis	nent an leibii, (d Capt 3) bats y	ure Da ou are ba	ta Forn	n for a	recaptur	es,	0

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT	NET	TING/TI	RAPPING	SITE S	SURVEY	RECORD
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Page 1 of 2

1. Survey Date: 7/31/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman, Brandon McClung
5. Site Name and/or Number: 2014 Rt, 219 Summer / MD08
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
S .
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-42 '-5808'N, Longitude: 79 °-06 '-1147 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Dehorch Hover, McCormick Toylor, 5 Capital Drive, Suite 400, Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2045 h Stop Time 0145 h Total Minutes: 300
Start Temp. 16.0 °C End Temp. 13.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; (Partly Cloudy) Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

et# Type Count Dimens		Dimensions	Description	TOTAL AREA		
Nets 4 12m x 2.6m			Stacked over trail	124.8 sq. m		
Nets	3	9x2.Le	Stacked over driveway	70.2		
Nets	3	12 x 2.6	Stacked over driveway	93.6		
Nets	1	6 x 2.6	Over driveway	15.6		
			J			
1						
1						
	Nets Nets Nets	Nets 3 Nets 3	Nets 4 12mx26m Nets 3 9x2.Le Nets 3 12x2.Le	Nets 3 9x2.Le Stacked over driveway Nets 3 12 x 2.Le Stacked over driveway		

Total Capture Area: 179.4 sq. m

Site Name/No.: MD 09

Date: 7/31/14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a stone driveway within a mature mix deciduous forest. Dominant tree species are Red Mapte and Red Oak. The subdominant species in the area are white Oak, Hickory, Cherry, and Chestaut Oak

18. Was reproductive status checked? YES NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. Juv.	Juv. No.	Number of Adult Males		Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	Ref. Ed.	1	2516		3	2	1	1	4	7
Myotis lucifugus						ir.			·		
Myotis septentrionalis		Ji.									
Myotis leibii											
Myotis sodalis								ľ			SIB FE
Eptesicus fuscus		l'					. 1		T		
Perimyotis subflavus		ž =									
Lasiurus borealis								. 1		1.	1
Lasiurus cinereus									i		
Lasionycteris noctivagans		- : =!									
Other – specify:											
Other - specify:										g 3 - 1	
Reproductive	Status:				 G= pregr C= scrotal						Grand <u>Total</u>
		ete Mea	suren	nent ar	d Capt 3) bats ye	ure Dat	ta Forn	n for a		es.	2

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

16. Capture Setup at Site:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 8/1/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelmon, Brandon McClung
5. Site Name and/or Number: 2014 Rt. 219 Summer / MDO8
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested driveway
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-42 '-58.08"N, Longitude: 79 °-06'-11.47"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private; Con tect
Deborah Hoover, McCornick Taylor, 5 Capital Drive, Suite 400, Harrisburg, PA 17110
0: 7/7-540-6045 13. Time (military) & Temperature: Start Time 2/45 h Stop Time 0/45 h Total Minutes: 300
Start Temp. 17.6 °C End Temp. 15.3 °C (must stay ≥10 °C for summer nett
14. General Weather (circle one): Cleary Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Colm Process (Leaves Puetling) Winds (Tone Service)

# Type Count Dimensions Nets 4 12mx 2.6m		Dimensions	Description	TOTAL AREA (m) 124.8 sq. m		
		12m x 2.6m	Stacked over trail			
Nets	3	9×2.6	Stacked over driveway	70.2		
Nets	3	12 x 2.6	J	93.6		
Nets	1	6x2.6	1	15.6		
			F.			
	Nets Nets Nets	Nets 3 Nets 3	Nets 4 12mx2.6m Nets 3 9 x 2.6e Nets 3 12 x 2.6e	Nets 4 12mx2.6m Stacked over trail Nets 3 9x2.6 Stacked over driveway Nets 3 12x2.6 Stacked over driveway		

Total Capture Area: 179.4 sq. m

Site Name/No.: ___ MD 0 8 (Site Survey Record - Continued) 17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a stone driveway within a mature mix decidnous forest. Dominant tree species are Red maple on & Red Oak. The subdominant species in the area are White Oak, Hickory, Cherry, and Chestnut Oak.

18. Was reproductive status checked? YES NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

					CAPTU	KE KES	ULIS				
	Number of Adult Females			No. Juv.	Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	SCR NR Male Males	Males	Totals	
Eptesicus fuscus	2		1	ne en en	100	3	2	1	1	4	7
Myotis lucifugus	ïr										
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus				. 1		1					Ì
Perimyotis subflavus			3		- 11			1 1 1 1			
Lasiurus borealis									,		
Lasiurus cinereus											
Lasionycteris noctivagans											
Other - specify:		1.									
Other - specify:			I.								
Reproductive	Status:	NR= nor	nreproc	luctive, P	G= pregr = scrotal	ant, L= l	actating,	en.			Grand Total
*((1) M	Comple	te Mea	surei	nent an s leibii, (d Capt	ure Dat	a Forn	for a	ll: ecanture		
-	(4) rad	lio-tagge	d bats	and (5) l	oat specie	es not us	ually fou	nd in P	A.	.,	1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies;	Tallies:
	Start Time: End Time:	Start Time: Start Time: End Time: End Time:	Start Time: Start Time: Start Time: End Time: End Time: End Time:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7-31-2014 2. Company Name: Bat Concernation & Management, Inc.
3. Bat Identifier: Risa Weight 4. Assistants:
5. Site Name and/or Number: 2014 R+219 Summer_MD09
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describeN/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested grass road and troil
8. County: Somerset 9. 75' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43 '-25.95"N, Longitude: 79 °- 5 '-53.55"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.)
Deborah Hoover, McCornick Taylor, 5 Capital Orive Suite 400 Harrisburg, PA 17110 13. Time (military) & Temperature: Start Time 2050 h Stop Time 0150 h Total Minutes: 300
Start Temp. 15.8 °C End Temp. 13.2 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear, Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain: Thunderstorms: Snow: Other:
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Set # Type Count Dimensions 1 Nets 4 12mx2.6m		Dimensions	Description	TOTAL AREA
1			12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	18m × 2,6 m	stacked over road	140.4
2	Nets	3	18m x 2,6 n	Stacked over road	140.4
3	Nets	1	6 m = 2,6 m	stacked over trail	15.6
		-	-		

Total Capture Area: 296, 4 sq. m

Site Name/No.: 2014R+2195 amer MD09 Date: 7-31-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

The habitut consists of croplands and forests. The dominant tree species are American beech and red maple. Understory is

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females				No. Juv.	No. <u>Total</u> Juv. No.	Numb Adult		s Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	11858	P-10-40	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis										7.	
Eptesicus fuscus			1	. /	1	3	3		2	5	8
Perimyotis subflavus											
Lasiurus borealis										1 -	ຶ 2
Lasiurus cinereus	1 4			r, -			1			-	
Lasionycteris noctivagans								-	ļ		
Other - specify:		1								= = = = = = =	
Other - specify:	iil										
Reproductive	Status:				G= pregr S= scrotal						Grand <u>Total</u>
	votis so	ete <u>Me</u> dalis, (2	asurer) <u>Myoti</u>	nent an s leibii, (d Capt 3) bats ye bat speci	ure Da	ta Forn	n for a	recapture	es,	10

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

tart Time:	Start Time:	Start Time:	C
		Start rune:	Start Time:
ind Time:	End Time:	End Time:	End Time:
'allies:	Tallies:	Tallies:	Tallies:

- Bats observed flying high in the sky at 2050 - 1 Lasiurus borealis escaped while net being lowered

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page	1 057	ļ
rage	LOLZ	

1. Survey Date: 8-01-2014 2. Company Name: But Conservation & Management, Inc.
3. Bat Identifier: Risa Wright 4. Assistants:
5. Site Name and/or Number: 2014 R+219 Summer MD09
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - MA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested grass road and trail
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)? (ES) - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43 '-2695"N, Longitude: 79 °- 5 '-53.55"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hooser McCornick Taylor, 5 Capital Drive, Suite 400
13. Time (military) & Temperature: Start Time 2045 h Stop Time 0145 h Total Minutes: 300
Start Temp. 16, 9 °C End Temp. 14.3 °C (must stay ≥ 10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm., Breezy (Leaves Rustling), Windy (Trees Swaying).
16 Canture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	18mx2.6m	stacked over road	140,4
2	Nets	3	18m×2,6m	Stacked over road	140.4
3	Nets	1	6m + 2.6m	Stucked over trail	15.6
					T.
				*	

Total Capture Area: 2 9 6, 4 sq. m

Site Name/No.: 2014 R+219 Summer _ MD 09 Date: 8-01-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

The habitat consists of croplands and forests. The dominant tree species are American Beech and Red Maple. Understory is sparse.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Sandar		Number of Adult Females		No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	ASSESSED.	1	NE WHAT	Post in	3	2	1	1	4	7
Myotis lucifugus							177				
Myotis septentrionalis								3 3			
Myotis leibii											
Myotis sodalis				4							31 1
Eptesicus fuscus			' 1	: 3		4			. 1	1	6
Perimyotis subflavus											
Lasiurus borealis										15 15	k:
Lasiurus cinereus		2									
Lasionycteris noctivagans	1.5										
Other - specify:							r.				
Other - specify:					12						
Reproductive		PL= po	st lacta	ting, SCR	t= scrotal	/epididyı	nis swoll	en.			Grand Total
	votis so	dalis, (2) Myoti	ment an is leibii, (s and (5)	3) bats y	ou are ba	anding o	r band	recaptur	es,	le

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

escapetana bio biona

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Section 2

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/25/2014 2. Company Name: Bat Conservation & Management, Inc.
3. Bat Identifier: Risa Wright 4. Assistants: Brandon McClung
5. Site Name and/or Number: 2014 ROUT E 219 Summer PAI
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - VA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
foresteljeep trail leading to pond
8. County: Somerset 9. 7.5' Quad .: Meyers dale
10. Was site GPS'd (required)? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 46 '-33.64"N, Longitude: 79 °- 01 '-42.84"W
Datum (circle one): NAD27)(Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover McCornick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0150 h Total Minutes: 300
Start Temp. 17. O °C End Temp. 16. O °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set#	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	6m×2.6m	stacked over trail	46.8
2	Nets	3	6mx2.6m	stacked over trail	46.8
3	Nets	1	6 m × 2.6 m	stacked over trail	15.6
			1.0)	

Total Capture Area: 109.2 sq. m

(Site Survey Record - Continued) Site Name/No.: 2014 Route 219 Summer PA1 Date: 7-25-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Habitat consists of a mixed decidnous forest. Dominant tree species road to a forest clearing with pond.

18. Was reproductive status checked? (VES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

-	Number of Adult Females		No. Total No. No.	Number of Adult Males		No. Juv.	Total No.	Species			
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	J. FAG		3	2	1	1	A	7
Myotis lucifugus			ľ.					8			
Myotis septentrionalis	1							/			
Myotis leibii							/	10			
Myotis sodalis			lií -			/					
Eptesicus fuscus				0	2+5			20 _			
Perimyotis subflavus				B							
Lasiurus borealis		1	0	/							
Lasiurus cinereus	1.1	10	/		ii 					п	
Lasionycteris noctivagans		/									
Other - specify:											
Other – specify:											
Reproductive	Status:					nant, L=1 l/epididyr				ı	Grand <u>Total</u>
	lyotis so	dalis, (2)	Myoti	s leibii, (3) bats y	ure Da ou are ba	anding o	r band	recaptur	es,	

16. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/26/2014 2. Company Name: But Conservation and Management Inc
3. Bat Identifier: Risa Waight 4. Assistants:
5. Site Name and/or Number: 2014 Route 2195 ammer PAI
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep trail leading to pend
8. County: Somerset 9. 7.5' Quad .: Meyers dale
10. Was site GPS'd (required)? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 46 '-3364"N, Longitude: 79 °- 01 '-47.87W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Taylor, 5 Capital Drive, Suite 400 Hurri (burg, PA 17110 13. Time (military) & Temperature: Start Time 2130 h Stop Time 0000 h Total Minutes: 150
Start Temp. 17.3 °C End Temp. 16.4 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set#	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
١	Nets	3	6m × 2.6m	Stacked over trail	46.8
2	Nets	3	6 m × 2.6 m	Stucked over trail	46.8
3	Nets	1	6m × 2,6m	stacked over trail	15.6
					E _{ref}
-					

Total Capture Area: 109.2 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 R+219 Summer_ PA1 Date: 7-26-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Habital consider of a mixed deciduous forest. Dominant tree species include white pine, red maple, and green ash. The jeep trail connects a posed road to a forest eleving with pond.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

NA

*CAPTURE RESULTS

#	Number of Adult Females		No. Juv.	Juv. No.		Number of Adult Males		Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	1	1	PER		3	2	1	1	4	7
Myotis lucifugus									_		
Myotis septentrionalis											
Myotis leibii									/		
Myotis sodalis						1		- /			
Eptesicus fuscus	ı i		=		1	red	,			il.	
Perimyotis subflavus					208			ļ			
Lasiurus borealis	7		0	45							
Lasiurus cinereus		100	120		/						
Lasionycteris noctivagans	1	10		/				il il			
Other - specify:	ar i				i -			1			
Other – specify:											1 1 8
Reproductive		PL= po	st lactat	ing, SCF	G= pregr R= scrotal d Capt	/epididyr	nis swoll	en.	11:		Grand <u>Total</u>
	votis so	dalis, (2)	Myotis	s leibii, (3) bats ye bat speci	ou are ba	inding o	band i	recaptur	es,	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

2 nd hour	3 rd hour	4th hour	5 th hour
Start Time:	Start Time;	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:
	Start Time: End Time:	Start Time: Start Time: End Time: End Time:	Start Time: Start Time: Start Time: End Time: End Time: End Time:

20. REMARKS:

* Nets opened late because of storm
- Storm hit and nets closed at 0000 hrs (rain out)

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7-28-2014 2. Company Name: Bat Conservation & Management, Inc.
3. Bat Identifier: Risa Wright 4. Assistants:
5. Site Name and/or Number: 2 014 RT2 19 Summer PA 1
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep trad leading to pond
8. County: Somerset 9. 7.5' Quad .: Meyersdale
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 46 '-33.64"N, Longitude: 79 °- 01 '-42.84"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover McCormick Taylor, S Capital Orive, Suite 400
13. Time (military) & Temperature: Start Time 2125 h Stop Time 0225 h Total Minutes: 300
Start Temp. 13.1 °C End Temp. 10.8 °C (must stay ≥10 °C for summer neuting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124,8 sq. m
Nets.	3	6n×2,6m	stacked over trail	46.8
Nets	3	6 m x 2, 6 m	Stacked over trail	46.8
Nels	1	6 m × 2,6 m	stacked over trail	15.6
	_			1,
	Nets	Nets 3 Nets 3	Nets 3 6n×2.6n Nets 3 6n×2.6m	Nets 3 6n×2.6m stacked over trail Nets 3 6n×2.6m Stacked over trail

Total Capture Area: 109.2 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 R+219 Summer_ PAOI Date: 7-28-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.) Habitat consists of a mixed deciduous forest. Dominant tree species include white pine, red maple, green ash. The jeep trail connects a paved road to a forest clearing with pond.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

Species	2	Number of Adult Females		No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L PL	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	County of	1	MAN SAN	Polent will	3	2		1/20/07/14 Page 1		
Myotis lucifugus						,	4	I	=I	4	7
Myotis septentrionalis											7
Myotis leibii		-						-			
Myotis sodalis										/	
Eptesicus fuscus									_/		
Perimyotis subflavus				-			1/20				-
Lasiurus borealis						OPT			-		
Lasiurus cinereus					15						
Lasionycteris noctivagans	-		,	49							
Other - specify:			4						-		
Other - specify:							- 1	-		-	
Reproductive :	Status: N	R= non	reprodu	ctive. PC	= preens	nt L≔ la	ctatina				
	ŀ	'L= post	lactatin	g. SCR=	scrotal/e	nididymi	e ewalle	n.			Grand Total
(I) My	otis soda (4) radi	$\frac{\text{HIS}}{2}$, (2)	Myotis I	leibii, (3)	bats you	re Data are ban	ding or	hand as		.	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3rd hour	4 th hour	5th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Γallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

Opening delayed due to rain

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

The second secon
1. Survey Date: 7/25/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / PAO2
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Road
8. County: Somerset 9. 7.5' Quad .: Meyersdate
10. Was site GPS'd (required) ? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 - 46 - 8.00"N, Longitude: 79 - 01 - 38.17"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Public:
PA State Game Lands, 231 Southwest Regional Office, 4820 Route 711, Bolivar, PA (724) 238-9523 13. Time (military) & Temperature: Start Time 2100 h Stop Time 0200 h Total Minutes: 300
Start Temp. 15.5 °C End Temp. 15.5 °C (must stay ≥10 °C for summer net
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	6x2.6	Stacked over road	46.8
2	Nets	3	6×2.6	Stacked over road	46.8
3	Nets	1)	6 x 2.6	Over trail	15.6
				*	
					-
	3				

Total Capture Area: 109.2

(Site Survey Record - Continued) Site Name/No.: PA 02 Date: 7/25/14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets were placed over a stone road and over an atv trail. Roads van through a mixed young forest. Dominant species include Chestaut Oak, Red Oak, Yellow Birch,

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

		Numl Adult F	per of Temale	nales Juv. No. Adult Males Juv.		Juv.	Total No.	Species			
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1		4	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis		1									
Myotis leibii		1	-								
Myotis sodalis									_		
Eptesicus fuscus	•			* 3		4	* 3	° 3		6	10
Perimyotis subflavus											
Lasiurus borealis							•			1	
Lasīurus cinereus			i į								
Lasionycteris noctivagans											
Other - specify:											
Other - specify:											
Reproductiv	e Status:			ductive, P							Grand <u>Total</u>
	Ayotis so	dalis, (2)	Myot	ment an is leibii, (s and (5)	3) bats y	ou are b	anding o	r band ı	recaptur	es,	11

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared daylor (when site can not be transpellmetted). Describe procedure & equipment used in remarks

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour		
Start Time:						
End Time:						
Tallies:	Tallies:	Tallies;	Tallies:	Tallies:		

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 7/26/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman, Brandon McClung
5. Site Name and/or Number: 2014 Rt. 219 Summer/PA02
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Road
8. County: Somerset 9. 7.5' Quad .: Meyersdale
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 46 '-808'N, Longitude: 79 °- 01 '-38.17'W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Rublic:
PA State Game Lands, 231 Southwest Regional Office, 4820 Route 711, Bolivar, PA (724) 238 - 9523 13. Time (military) & Temperature: Start Time 2130 h Stop Time 0000 h Total Minutes: 150
Start Temp. 16.4 °C End Temp. 15.9 °C (must stay ≥10 °C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Canture Setup at Site:

Set #	Туре	Count	Dimensions Description		TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	lex 2.6	Stacked over road	46.8
2	Nets	3	Lex 2.6	Stacked over road	46.8
3	Nets	1	le x2.6	over trail	15.6
	-				

Total Capture Area: 109.2 sq. m

(Site Survey Record - Continued)

Site Name/No.: PA 02

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets were placed over a Stone road and over an atv trail. Roads van through a mixed young firest. Dominant species include Chestnut Oak, Red Oak, Yellow Birch, and Cherry. VES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

ne c		Number of Adult Females			No. Total Juv. No.		Number of Adult Males		Total No.	Species	
Species	NR	PG	L	L PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											_
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus				0		1	- 1			1	2
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus							,		1		
Lasionycteris noctivagans											
Other - specify:											
Other - specify:											
Reproductive	Status:			ductive, P							Grand <u>Total</u>
		ete Me	asure	ment ar is leibii, (id Capt	ure Da	ta Forn	n for a		es.	2
117 17				s and (5)							

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

* Nets opened at 2130 after rainstorm. Nets closed at 0000 due to rain

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT	NETTING/TR	APPING	SITE	SURVEY	RECORD
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Page 1 of 2

7/20/1 R. C. C. C Manuscus +
1. Survey Date: 7/28/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman, Brandon McClung (Responsible Recorder)
5. Site Name and/or Number: 2014 Rt. 219 Summer/PA 02
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Road
8. County: Somerset 9. 7.5' Quad .: Meyersdate
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-46 '-808"N, Longitude: 79 °-01 '-38.1 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Public:
PA State Game Lands, 231 Southwest Regional Office, 4820 Route 711, Bolivar, PA
13. Time (military) & Temperature: Start Time 2130 h Stop Time 0230 h Total Minutes: 300
Start Temp. 12. Le °C End Temp. 10.3 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Nets	3	le x 2.6	Stacked over trail	46.8
Nets	3	le x 2.6	Stacked over trail	46.8
Nets	1	le x 2. Le	Over trail	15.6
				115
	Nets Nets Nets	Nets 3 Nets 3 Nets 3	Nets 4 12m x 2.6m Nets 3 Lo x 2.1e Nets 3 Le x 2.1e	Nets 4 12mx2.6m Stacked over trail Nets 3 Lex2.6 Stacked over trail Nets 3 Lex2.6 Stacked over trail

Total Capture Area: 109. 2 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record	l – Continued)	Site Name/N	o.: _ PA	102			Date:	1/28/14
17. Describe habit								
through a Red Oak, 18. Was reproduce	mixed yo	oung fores.	t. Do	minent	species in	clude	Chest	nut Oak
18. Was reproduc	tive status check					bers in <u>T</u>	'otal colun	nns)
	Numbe			RE RES	Number of	No.	Total	

		Numl Adult F	ber of Females		No. Juv.	Total No.	Adult Males Juv. No.		No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus											-
Myotis septentrionalis	l				1						
Myotis leibii					120						
Myotis sodalis											
Eptesicus fuscus											
Perimyotis subflavus											
Lasiurus borealis								" l			
Lasiurus cinereus			4	2011							
Lasionycteris noctivagans											
Other - specify:											
Other - specify:					11						
Reproductive	e Status:				G= preg					d - 3 4	Grand <u>Total</u>
* (1) N	Iyotis so	ete Medalis, (2	asurei) Myoti	nent ar s leibii, (ad Capt 3) bats y bat spec	ou are b	ta Forn	n for a	recaptur	es,	1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

* Nets opened at 2130 after rain.

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

		- 12
Page	1 0	F /
ance	ı o	1 4

1. Survey Date: 25 Jul 2014 2. Company Name: Bat Consecretion and Management
3. Bat Identifier: Todd Sinandes 4. Assistants: Duncan Shanz
5. Site Name and/or Number: 2014 Rt 219 Somes — PAO3
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep trail
8. County: Somesset 9. 7.5' Quad: Mexisdale
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 o 45 · 55.76 "N, Longitude: 79 o 0/ · 55.27 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Poblic . PA State Gove
Lands 231. Southwest Regional Office, 4820 Route 711, Bolinar PA. (724) 238-9523.
13. Time (military) & Temperature: Start Time 2055 h Stop Time 0/55 h Total Minutes: 300
Start Temp. 17.6 °C End Temp. 16.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Stacked over trail 124.8 sq.m Stacked over trail 46,8 sq.m Stacked over trail 46.8 sq.m
Stacked out tail 46.85g.m
111 111 1110
Stacked over trail 46.85g.m
overtrail 15.659.
C.

Total Capture Area: 109, 2 sq. m

(Site Survey Record - Continued) Site Name/No.: 2014 Rt 219 Somes PA 03 Date: 25 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a jeep tail -ithin a mixed red maple, yello-birch, and sassafras cominated decidous forest.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

a_ 000	Number of Adult Females			No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species ·	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	T W TO A	YES AS	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii						/	16				
Myotis sodalis				Ti.			/	/			
Eptesicus fuscus					(4)						
Perimyotis subflavus			(_/					
Lasiurus borealis		,			/						
Lasiurus cinereus			1	/							
Lasionycteris noctivagans								li .			
Other – specify:		/									
Other – specify:	1								_		
Reproductive		PL= po	st lactat	ing, SCR	= scrotal	/epididyr	nis swoll	en.	11.		Grand Total
					d Capt 3) bats ye					es.	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour		
Start Time:						
End Time:						
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:		

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 26 Jul 2014 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinonder 4. Assistants: Dyncan Schanz
5. Site Name and/or Number: 2014 Rt 219 Somes - PA 03
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jego trail
8. County: Somesset 9. 75' Quad: Meyessede
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 -45 '-55.76 "N, Longitude: 79 -01 '-55.27"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Poble: PA Shake
Game Londs 231. South-ost regional office, 4820 Roxe 711, Edinos, PA. (724) 238-9523
13. Time (military) & Temperature: Start Time 130 h Stop Time 5000 h Total Minutes: 150
Start Temp. 17.2 °C End Temp. 16.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling) Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA
Nets	mine 4	12m x 2.6m	Stacked over trail	124.8 sq. m
Nets	3	6m x 2.6m	Facked over trail	46.88.m
Nets	3	6mx2.6m	Stacked over tail	46.859.m
Ket	(6m 2.6m	over tail	15.69.m
		a 1.6 a 1.6 a 1.6		
		and the same of	**************************************	
	Nets Nets Nets	Nets 3 Nets 3	Nets 3 6m x 2.6m Nets 3 6m x 2.6m	Nets 3 Gmx2.6m Facked over trail Nets 3 Gmx2.6m Stacked over trail Nets 3 Gmx2.6m Stacked over tail Net 1 Gm 2.6m over tail

Total Capture Area: 109, 2 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 R+219 Somes - PAO3 Date: 26 Tul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a jeep trail -ithina mixed red maple, yello-birch, and sessifies dominated decidious forest.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Same Source Carlos		Numl Adult F	per of Temale	s	Juv. No. Adult Males Juv.		Adult Males Juv.		Total No.	o. Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	R NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	100	1	DAMES I	120 8 8	3	2	1	1	4	7
Myotis lucifugus											3 3 5 7
Myotis septentrionalis				. 1		1				3,	1
Myotis leibii										400	
Myotis sodalis	Ĭ.					287	X	H			
Eptesicus fuscus											
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans	ii ii										
Other - specify:											
Other – specify:				4-111=					1		1 _ 11=
Reproductive		PL= pos	st lacta	ting, SCR	= scrotal	/epididyr	nis swoll	en.			Grand <u>Total</u>
	yotis so	dalis, (2)	Myoti	ment an is leibii, (3 and (5)	3) bats y	ou are ba	anding o	band 1	recaptur	es,	1

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

2 nd hour	3 rd hour	4 th hour	5 th hour		
Start Time:	Start Time:	Start Time:	Start Time:		
End Time:	End Time:	End Time:	End Time:		
Tallies:	Tallies:	Tallies:	Tallies:		
	Start Time: End Time:	Start Time: Start Time: End Time: End Time:	Start Time: Start Time: Start Time: End Time: End Time: End Time:		

20. REMARKS:

Nets opened at 2000 after a rainstorm. Nets closed at 0000 due to train,

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

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Page	1 01	ú

1. Survey Date: 28 Jul 2014 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinandes 4. Assistants: Durcan Schan Z
5. Site Name and/or Number: 2014 Rt 219 Somes PA 03
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - WA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep trail
8. County: Smerset 9. 7.5' Quad .: Me yesoda le
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-45 '-55.76"N, Longitude: 79 °-0/ '-5527"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Public: PA State
Game Lands 231. South est regional office, 4820 Rove 711, Bolivar, PA. (724) 238-9523
13. Time (military) & Temperature: Start Time 2/25 h Stop Time 0225 h Total Minutes: 300
Start Temp. 12.7 °C End Temp. 10, 8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	6mx2.6m	Stacked over-to:	46.85g.m
2	Nets	3	6mx2.6m	Stacked our troil	46.85g.m
3	Nets	1	6mx2.6m	over tail	15.65g.m
			II		

Total Capture Area: 109.2 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Site Name/No.: 2014 Rt 219 Somes _ PA03 (Site Survey Record - Continued)

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Note are placed over a jeep fail within a mixed red reple, yellow birch, and
sassafras dominated decideous forest.

18. Was reproductive status checked? YES // NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females			No. Juv.	Juv. No.		Number of Adult Males		Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	CR NR Male	Male	Males	Totals
Eptesicus fuscus	2	PRINT.	1		RAUSS	3	2	1	1	4,	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii								/			
Myotis sodalis				1 _ = =		15	/				
Eptesicus fuscus					nX):
Perimyotis subflavus				4	21						
Lasiurus borealis			1								
Lasiurus cinereus		1	11	7/							
Lasionycteris noctivagans			7						2		
Other - specify:		/									
Other - specify:											
Reproductive	Status:					nant, L= l/epididyi					Grand <u>Total</u>
(1) N	Comple Lyotis so	ete <u>Me</u> dalis, (2	asurer Myoti	nent ar s leibii, (d Capt 3) bats y	ure Da	ta Forn	n for a	ll: recaptur	es,	0

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

tart Time:	Start Time:	Start Time:	Start Time:
	I		Simil Time.
End Time:	End Time:	End Time:	End Time:
fallies:	Tallies:	Tallies:	Tallies:

20	REM	AD	ZC.
4U.	The Part of the	111	ю.

Nets opened at 2/25 after rain subdued light drizzle for roughly 1st hour of netting

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/23/14 2. Company Name: Bat Conscruction & Management
3. Bat Identifier: Toll Smander 4. Assistants: Brandon McClung
5. Site Name and/or Number: 2014 Dt 219 Summer - PA04
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested jeep trail.
8. County: Somerset 9. 75' Quad: Meyersdale
10. Was site GPS'd (required)? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 45, 33, 5"N, Longitude: 79 °- 02 '-29,7"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Contact
Deborah Hoover, McCormick Taylor, Scapital Drive, Suite 400, Harrisburg PA (717) 540-6040.
13. Time (military) & Temperature: Start Time 2100 h Stop Time 0200 h Total Minutes: 300
Start Temp. 20, 8 °C End Temp. 16.7 °C (must stay ≥10 °C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
15. General Wind Conditions (circle one): Caini, Bicezy (Leaves Rusting), Windy (Trees Swaying).
16. Capture Setup at Site:
Set # Type Count Dimensions Description TOTAL AREA
1 Nets 4 12m x 2.6m Stacked over trail 124.8 sq. m
1 Note 3 6m x 2 (con stacked over trail 46,855m
2 Nets 3 6mx26m stacked over trail 46,859m

\$20 1 000	Nets	4	12m x 2.6m	Stacked over trail	(m) 124.8 sq. m
1-	Nets	3	6m x 2, Com	stacked over trail	46,855m
2	Nets	3	Com x2.6m	stacked over trail	46.85941
3	Net	-7	9mx2.6m	over trail	23.45pm
28.8					7
1 7				= -	7

Total Capture Area: 117.0 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

	remayruma came commission	
(Site Survey Record - Continued)	Site Name/No.: PAO 4	Date: 7/23/14
17. Describe habitat 150 m around Opland mature decided Dominant tree species	d site: (topography and vegetation including the forest on a month west for ane red maple & class that	dominant tree species.) ing slope.
18. Was reproductive status chec	ked? YES / NO (if "NO" only enter	numbers in Total columns)

*CAPTURE RESULTS

				*	CAPTU	RE RES	ULTS				
	Number of Adult Females			No. <u>Total</u> Juv. No.	Number of Adult Males		Juv.	Adult Males Juv. No.	No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1		SHEET O	3	2	1	1	4	7
Myotis lucifugus					_						
Myotis septentrionalis								\cap			
Myotis leibii								V -			
Myotis sodalis						1 ,	rec				
Eptesicus fuscus					_ [itu			i.		
Perimyotis subflavus					(2)				j.		
Lasiurus borealis					//						
Lasiurus cinereus		1	ad			1					
Lasionycteris noctivagans		1)2	0								
Other – specify:		No				7 = 1:					
Other - specify:	1	1									
Reproductive	Status:					l nant, L = l /epididyr					Grand <u>Total</u>
	votis so	ete Mea	asuren Myotis	nent an	d Capt 3) bats y	ure Da ou are ba es not us	ta Forn	n for a	recaptur	es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana hat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

FORM P-70008-N/T

COMMONWEALTH OF PENNSYLVANIA

Pennsylvania Game Commission

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Cantina	2				

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 7/24/14 2. Company Name: But Consciuction & Management
3. Bat Identifier: John Chrys 4. Assistants: Denty McClung (Responsible Recorder)
5. Site Name and/or Number: 204 Rt 219 Summer - PAO4
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
8. County: Somerset 9. 7.5' Quad.: Meyershale 10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 45 '- 33.5"N, Longitude: 79 °- 02 '- 29.7"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Confect
Deboinh Harver, McCornick Toylor, 5 capital Drive, Swite 400, Harrisbay PA (717) 540-6
13. Time (military) & Temperature: Start Time 100 h Stop Time 100 h Total Minutes:
Start Temp. 14.9 °C End Temp. 18 °C (must stay ≥10 °C for summer neuting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	7. E. V. 4. E. V.	12m x 2.6m	Stacked over trail	124.8 sq. m
	Nets	3	6n X Zilon	Stucked over trail	46.8 cgm
2	Nels	3	Comx2cm	Styled and tial	46.8 Sq 1
3	Nets	1	9 m x 2-6 m	Que trail	23.4 Sym
			- 1.1		C
		į.		=	
				,	

Total Capture Area: 17.0 sq. n

	remisyivam	a Game Comm	11551011		400	1 1
(Site Survey Record – Continued)	Site Name/No.:	PA04			Date:	124/14
17. Describe habitat 150 m aroun					species.)	
18. Was reproductive status chec	cked? YES / NO	(if "NO"	(vap)		otal colum	ns)
	*CAPTI	JRE RESU	LTS			
Numb	per of No.	Total	Number of	No.	Total	

Species	Number of Adult Females			No. Juv.	Juv. No.	071075757	Number of Adult Males		Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	1008900	1	out of the	Miller Hiller Ch	3	2	1	100	4	7
Myotis lucifugus				3331							
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis						10		/			
Eptesicus fuscus					f L	1	/	- 11			
Perimyotis subflavus					\\ \ \ \	1				=	
Lasiurus borealis			1		NJ						
Lasiurus cinereus			1	1							
Lasionycteris noctivagans	ж		Me	/							
Other - specify:		2									
Other - specify:		1									
Reproductive	Status:				G= pregi						Grand <u>Total</u>
	yotis so	ete <u>Me</u> dalis, (2)	Asuren Myotis	nent ar leibii, (d Capt 3) bats ye bat speci	ure Dat	ta Forn	n for a	recaptur	es,	0

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/23/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Stranders 4. Assistants: Jacob Eshelman
(Responsible Recorder)
5. Site Name and/or Number: 2014 Rt. 219 Summer / PA 05
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Trail
8. County: Somerset 9. 7.5' Quad: Avilton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 45 '-08.49"N, Longitude: 79 °- 02 '-32.38"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCormick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2100 h Stop Time 0200 h Total Minutes: 300
Start Temp. 21.9 °C End Temp. 17.6 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq.m
1.	Nets	1	6 x 2.6	Over trail	15.6
2	Nets	3	6 x 2.6	Stacked over trail	46.8
3	Nets	3	6×2.6	Stacked over trail	46.8
-					

Total Capture Area: 109.2 sq. n

(Site Survey Record - Continued)

Site Name/No.: PA05

Date: 7/23/14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a Forested atvitrail/dirt road. Surrounding vegetation is mixed young Forest with heavy under growth. Dominant tree species includes Cherry, Red Maple, and Chestant OAK.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

		Number of Adult Females			No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	191015	1	E. AVE	(65V) JA	3	2	1	1	4	7
Myotis lucifugus				12 1		10					
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											I
Eptesicus fuscus	•					1			0.0	3	4
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans											1
Other - specify:											ı
Other - specify:	1							-		- 3 3	
Reproductive	e Status:				G= pregr						Grand <u>Total</u>
		ete Mea	asurer	nent ar	d Capt	ure Da	ta Forn	o for a		es,	4

M. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA

Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/24/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: John Chenger 4. Assistants: Jacob Eshelman (Responsible Recorder)
5. Site Name and/or Number: 2014 Rt. 219 Summer / PAOS
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested trail
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 45 '-08.49"N, Longitude: 79 °- 02 '-32.38 "W
Datum (circle one): (NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2\00 h Stop Time 0200 h Total Minutes:
Start Temp. 13.4 °C End Temp. 10 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear, Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm.) Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Nets	l l	6 x 2.6	Over trail	15.6
Nets	3	6 x2.6	Stacked over trail	46.8
Nets	3	10 x 2.6	Stacked over trail	46.8
		11		
	Nets Nets Nets	Nets 1 Nets 3	Nets 4 12mx26m Nets 1 6x2.6 Nets 3 6x2.6	Nets 4 12mx2.6m Stacked over trail Nets 1 lox 2.6 Over trail Nets 3 lox 2.6 Stacked over trail

Total Capture Area: 109.2 sq. m

	Tempy value Commission	Carried Control of Carried Contr
(Site Survey Record - Continued)	Site Name/No.: PAOS	Date: 7/24/14
17. Describe habitat 150 m around	1 site: (topography and vegetation including do	minant tree species.)
Nets are placed over a	Forested atv trail/dist road. Surrow under growth. Dominant tree spec	dry vegetation is mixed
and chostnut day		
18. Was reproductive status check	ked? YES / NO (if "NO" only enter nu	mbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females			Juv. N	Total No.	No. Adult		No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	Date State	1		100	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis										i"	
Eptesicus fuscus						1					
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus					3						
Lasionycteris noctivagans										ľ	
Other - specify:										ii	
Other – specify:											
Reproductive	Status:			ductive, P							Grand <u>Total</u>
		ete Mea	sure	ment ar is leibii, (d Capt	ure Da	ta Forn	n for a		es,)

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat lifternacula surveys. Monitor one hour after 22:00 lurs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT	NETTING/TR	APPING SITE SURVEY RECORD
	THE LIE TO THE REAL PROPERTY OF THE PARTY OF	ALLING SHE SURVEY RELUKD

Page 1 of 2
1. Survey Date: 7/23/2014 2. Company Name: BATCONSERVATION & MAWAGSMENT
3. Bat Identifier: JOHN CHINGIA 4. Assistants: BOYAN BUTLER
5. Site Name and/or Number: 2014 RT ZIG SUMMERL , PA-6
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
OVERDROWN ATV TRAIL IN DENSE DECIDOUS FOREST / * VERY NARROW
8. County: Someas FT 9. 7.5' Quad .: AVILTON
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 49 '- 40,05N, Longitude: 79 °- 62 '- 41.19 W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2045 h Stop Time 0/45 h Total Minutes: 300
Start Temp. 18 °C End Temp. °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set # Type Count		Dimensions	Description	TOTAL AREA	
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	NET	3	6m=7.5m	STACKED OVER TRAIL	46.8 59 -
2	NETS	1	2,6 = 2,6 m	STACRED OVER TEN	
3	NETS	3	6m + Z.6 m	STACKED OVER THAT	9
					L
ļi					
					ki i

Total Capture Area: 100.36 sq. m

(Site Survey Record – Continued)	Site Name/No.: Ph - 6	Date: 7/23/2014
	d site: (topography and vegetation including dom	
SIDES DOMINANT SPECIES 1	OR ON MONITAINSIDE SURROUDED BY NOUDE BIRCH & CHERRY	DENZE FOREZI OM BULLI

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	_				CAPTU					m	
	Number of Adult Females			Juv. No	Total No.	No. Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	FE SE	1	a and a second		3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus			**	**		4					4
Perimyotis subflavus		-									
Lasiurus borealis											
Lasiurus cinereus	•										
Lasionycteris noctivagans										ľ	
Other - specify:											
Other - specify:						-					
Reproductive	Status:			ductive, F					1		Grand Total
	lyotis so	ete <u>Me</u> dalis, (2	asure) Myot	ment ar is leibii, (s and (5)	nd Capt 3) bats y	ure Da	ta Forn	n for a	recaptur	es,	4

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA

Pennsylvania Game Commission

BAT	NETTING/TRA	APPING	SITE	SURVEY	RECORD

Page 1 of 2

1. Survey Date: 7/24/2014 2. Company Name: BAT CONSTRUCTION & MANAGE MENT
3. Bat Identifier: TGDD SINAMOSA 4. Assistants: BRYAN BUTLER
5. Site Name and/or Number: 2014 RT. 219 SUMMER / PA-6
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
OVERCE-IN ATV TRAIL IN DENSE DECIDIOUS FOREST & VERY NARROW
8. County: Somerset 9. 75' Quad.: AVILTEN
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '-40.05"N, Longitude: 79 °- 02 '- 41.19W
Datum (circle one): (NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Control
Debornh Hoover, McCornick Taylor, 5 Capital Drive, Suite 400 Hurisburg, PA 17110
13. Time (military) & Temperature: Start Time 20:45 h Stop Time 0145 h Total Minutes: 300
Start Temp. /6 °C End Temp. /2 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear, Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1,	NETS	3	Gm = 2.6-	STRCKED OVER THAT	46.8
2	NETS	1	26 * 2.6 m	STACKED OVER TANK	6.76
3	NETS	3	6m+2,6n	STACHED OVERITH	46.8
				E	
	7				

Total Capture Area: 100.36

(Site Survey Record – Continued)	Site Name/No.: PA-6		Date: 7/24/2014
Nacrow ATV trail con	ridor on mountainside	Surpounded by	dense farest on

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. <u>Total</u> Juv. No.	Number of Adult Males			Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	(0.785.8-35)1	1	(arreni)	1 0 0	3	2	1	1	4	7
Myotis lucifugus				32-222							
Myotis septentrionalis											.7
Myotis leibii						,					
Myotis sodalis								12			
Eptesicus fuscus				٠ ١		١				1.00	1
Perimyotis subflavus											
Lasiurus borealis											-
Lasiurus cinereus		7									
Lasionycteris noctivagans			ľ								
Other - specify:											
Other – specify:	`										
Reproductive	Status:	NR= no PL= pos	nreproc	ductive, P	 G= pregi C= scrotal	nant, L = 1 /epididyr	actating, nis swoll	en.			Grand <u>Total</u>
*(<u>(1) M</u>	yotis so	ete <u>Mea</u>	Myoti	nent ar s leibii, (d Capt 3) bats ye bat speci	ure Dat	ta Forn	n for a	recapture	es,	1

16. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page	l of	2
rage	l OI	4

1. Survey Date: 7/21/14 2. Company Name: Bat Conservation and Wangement
3. Bat Identifier: John Chenger 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / PAOT
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested trail
8. County: Somerset 9. 75' Quad .: Avilton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-44 '-41.0 "N, Longitude: 79 °-03 '-02.3 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private Contact
Deborch Hoover, McCormick Taylor, 5 Copital Drive, Suite 400, Harrisburg, PA 17110 0: 717-540-6040
13. Time (military) & Temperature: Start Time 2100 h Stop Time 0200 h Total Minutes: 300
Start Temp. 20-3 °C End Temp. \\ \frac{\dagger}{\dagger}\. \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm; Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
	Nets	3	lomx 2.6m	Stacked over trail	46.8
2	Nets	1,	lom x 2 lem	Over trail	15.6
3	Nets	3	9m x 2.6m	Stacked over trail	70.2
					7

Total Capture Area: 132.6 sq. m

(Site Survey Record - Continued)

PAOT Site Name/No.:

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed on a forested trail which is located on a steep incline. The forest consist of mix mature species. The dominant tree species include Hemlock, Red Maple,

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

2 0		Numl Adult F	er of emale	s	No. Juv.	Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem,	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1	170000		3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis	_										-
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus				2		2					2
Perimyotis subflavus			73.								
Lasiurus borealis				• 1		1					
Lasiurus cinereus			-								
Lasionycteris noctivagans											
Other - specify:											
Other - specify:			1								
Reproductive	Status:				G= pregi						Grand Total
		ete Mea	sure	ment an	d Capt	ure Da	ta Forn	n for a		es,	3
					bat speci					2.740	

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1	of 2

1. Survey Date: 7/22/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: John Changer 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer/PA 07
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested trail
8. County: Somerset 9. 7.5' Quad .: Avitton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-44 '-410 "N, Longitude: 79 °-03 '-02-3 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.)
Deborah Hoover, McCormick Taylor, 5 capital Drive, Suite 400 Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0150 h Total Minutes: 300
Start Temp. 20.6 °C End Temp. 18.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear, Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
101	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
J	Nets	3	lomx 2.6m	Stacked over trail	46.8
2	Nets	1	lomx 2.6m	Over trail	15.6
3	Nets	3	9m x 2.lom	Stacked over trail	70.2
		*:			

Total Capture Area: 132.6 sq. m

Site Survey Record - Continued)	Site Name/No.:	PA07	Date:	7/22/19
---------------------------------	----------------	------	-------	---------

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed on a forested trail which is located on a steep incline. The forested consist of mix mature species. The dominant tree species include Hemlocke, Red Maple, and chesses

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

		Numl Adult I	ber of Temale	s	No. Juv.	luv. No.		Number of Adult Males		Total No.	Species
Species	NR	PG	L.	PL	Fem.		SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii	ř.							. 1			1
Myotis sodalis				= = =							7
Eptesicus fuscus		ľ					• 1				
Perimyotis subflavus		1									
Lasiurus borealis				• 1					7		2
Lasiurus cinereus		-									
Lasionycteris noctivagans											
Other - specify:			100		2						
Other - specify:											
Reproductive		PL= pc	st lacta	ting, SCI	PG= preg R= scrota nd Capt	l/epididy	mis swol	len.	ıll:		Grand Total
(1) N	Ivotis so	dalis, (2) Myot	is leibii,	(3) bats y bat spec	ou are b	anding o	or band	recaptur	es,	5

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Section 2

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2	
1. Survey Date: 7/19/14 2. Company Name: Bat Conservation and Management	
3. Bat Identifier: John Chenger 4. Assistants: Acob Eshelman (Responsible Recorder)	
5. Site Name and/or Number: 2014 Rt. 219 Summer / Pa 08	
6. Site is (circle one): hibernation site summer habitat	
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,	
other structure, describe - N/A	
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):	
Forested trail	
8. County: Somerset 9. 7.5' Quad.: Avilton	
10. Was site GPS'd (required)? YES - NO	
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '-410 "N, Longitude: 79 °- 03 '-20.5"W	
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:	40
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact	
Deborah Hoover, McCornick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 0: 717-540-6040 13. Time (military) & Temperature: Start Time 2100 h Stop Time 0200 h Total Minutes: 300	17.11

		Start Temp. 17.2 °C End Temp. \S.O °C (must stay \ge 10 °C for summer netting)
14.	General Weather (circle one): (suspend netting during	Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
	periods of rain)	Steady Rain; Thunderstorms; Snow; Other:

15. General Wind Conditions (circle one): (alm.) Breezy (Leaves Rustling), Windy (Trees Swaying).

16. Capture Setup at Site:

Set#	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	12m x 2.lom	Stacked over trail	93.6
2	Nets	3	9m x 2.lem	Stacked over trail	70.2
3	Nets	1	lom x 2.1cm	Over froil	15.6

Total Capture Area: 179.4 sq. m

(Site Survey Record - Continued)	Site Name/No.: _PAO8	Date: 7/19/14
17. Describe habitat 150 m around	site: (topography and vegetation include	ding dominant tree species.)
Nets are placed over	a trail running through a	and the Fred Day 1
is running perpendicul	Hemlock, and Yellow Birch. Tra	il ends at Piney Run which
18. Was reproductive status check	ted? YES / NO (if "NO" only e	nter numbers in Total columns)

				ŵ	CAPTU	RE RES	ULTS				
6	Number of Adult Females			No. Tota	Total No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1		100	3	2	1	1	4	7
Myotis lucifugus											/
Myotis septentrionalis											
Myotis leibii			7 3 3 7	24 24		, ,	^				
Myotis sodalis						Z '					
Eptesicus fuscus			- '-		D						
Perimyotis subflavus				Y	X						
Lasiurus borealis					1						7
Lasiurus cinereus		1		/							
Lasionycteris noctivagans		1	9								
Other – specify:	ľ										
Other – specify:	/										
Reproductive	Status:	NR= non PL= pos	reprodi t lactati	uctive, Po	G= pregn = scrotal	ant, L= la	actating, nis swolle	en.			Grand Total
*(<u>(1) M</u>	votis soc	ete <u>Mea</u> dalis, (2) dio-tagge	suren Myotis	leibii, (3	d Capte	ure Dat	a Form	for al	ecapture	s,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1" hour	2 nd hour	3 rd hour	4th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies;

FORM P-70008-N/T

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

12/09 Section 2

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 7/20/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: John Chenger 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / PAO8
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel, other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream): Forested trail
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 - 44 - 41.0"N, Longitude: 79 - 03 - 205"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private Contact
Deborah Hoover, McCormick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110 0: 717-540-6040 13. Time (military) & Temperature: Start Time 2050 h Stop Time 0150 h Total Minutes: 300
Start Temp. 18.6 °C End Temp. 17. C (must stay >10 °C for summer ne
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend neuting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling). Windy (Trees Swaying).

16.	Capture	Setup	at	Site:

over trail 93.6
avec to:1 931
DV14 7141 10.00
over trail 70.2
trail 15.6
= -

Total Capture Area: 179. 4 sq. m

(Site Survey Record - Continued)	Site Name/No.:	PA08	Date: 7/20/14
17. Describe habitat 150 m around	site: (topography and	d vegetation including domina	nt tree species.)
Nets are placed over			
Species are Red Maple	Hemlock, and	Yellow Birch. Trail	ends at Piney Rum
18. Was reproductive status check	pendicular to the	e rets (if "NO" only enter number	rs in Total columns)

					CAPTU	RE RES	ULTS				
		Number of Adult Females		No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii					*1	/	7				
Myotis sodalis	r:				1						
Eptesicus fuscus				(16 P		n			7.	
Perimyotis subflavus				. · ·	17						
Lasiurus borealis		1116	11) /							
Lasiurus cinereus			1				1				
Lasionycteris noctivagans		<u></u>									
Other – specify:											
Other - specify:	/							-			
Reproductive	Status:				G= pregr				1		Grand Total
*((1) M	yotis soc	ete Mea	Mvotis	ient an leibii, (.	d Capt 3) bats ye bat speci	ure Dat	ta Forn	of for a	ecapture	es,	\bigcirc

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	- Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1	ot	- 2

1. Survey Date: 21 Jul 2014 2. Company Name: But Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Diman Schant
5. Site Name and/or Number: 2014 R+219 Somes — PAO9 Night 1
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel, other structure, describe - NA.
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested Stream
8. County: Some set 9. 75' Quad .: Meyes side le
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-45 '-36.15 "N, Longitude: 79 °-4 '-1.70 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Final: Contact Depose h
Hower, McLormick Taylor, S capital Drive, Site 400 Hourishing, PA 17110 717 540 6040
13. Time (military) & Temperature: Start Time 2/05 h Stop Time 6205 h Total Minutes: 300
Start Temp. 20,9 °C End Temp. 20, 2 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear, Partly Cloudy: Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend nenting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	12m x2.6m	Stacked over stream	93,65q.m
2	Nets	3	12mx2.6m	Stacked over streen	93.65p.m
3	Net		9mx26m	over stream	23.4g.m
-					L L
	i.				

Total Capture Area: 2/0,6 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 Rt 219 Sones - PAO9 Nast

Date 21 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Nets are placed over a stream within a nived forest dominated by herical and sugar maple. Rhotodendron dominates the understory

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

	Number of Adult Females			No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	E CONTRACTOR OF THE PARTY OF TH	1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											Ø
Myotis leibii											
Myotis sodalis			Ċ.								
Eptesicus fuscus							٠,			1	
Perimyotis subflavus											,
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans										D 3 7	
Other - specify:											
Other - specify:											
Reproductive		PL= po	st lactat	ing, SCF	R= scrotal	/epididyn	nis swoll	en.			Grand <u>Total</u>
	Comple Lyotis so				d Capt						1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

(4) radio-tagged bats and (5) bat species not usually found in PA.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

RAT	NETTING/TR	APPING	SITE	SURVEY	RECORD

Page	I	of	2

02712014
1. Survey Date: 22 Jul 2014 2. Company Name: But Consecustion and Hanagement
3. Bat Identifier: Jodd Sinandes 4. Assistants: Duncan Schon Z
5. Site Name and/or Number: 2014 At 219 Somer - PA 09 Night 2
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested stream
8. County: Somesset 9. 7.5' Quad .: Meyers dale
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 37 °- 45 '36/5 "N, Longitude: 79 °- 64 '-1.70 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Privote: Confact Deborate
HOOMES, McCornick Toylor, 5 Capital Drive, Six 400 Hadriburg, DA 17110 717 540 6040
13. Time (military) & Temperature: Start Time 1/00 h Stop Time 200 h Total Minutes:
Start Temp. 22, 1 °C End Temp. 18, 6 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	Panx2.6m	Stacked over stream	93.6 5p.m
2	Nets	3	12ax2,6m	Stacked overstream	93.65g.m
3	Net	1	9mx2.6m	ORS Steam	23.45q.m

Total Capture Area: 210.6 sq. m

Date: 22 Jul 2014

(Site Survey Record - Continued)

Site Name/No .: 2014 Rt 219 Somer - PAO9 Naht 2

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Nets are placed over a stream within a mixed forest dominated by hemiock and Sugar maple. Rhododendron dominates the understory.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. Juv.	Total No.		Number of Adult Males		Total No.	Species	
Species	NR	PG	· L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	1914 SEL	1	IN SECTION	MARKE	3	2	1	1	4/	7
Myotis lucifugus											
Myotis septentrionalis							. =	-			
Myotis leibii						16					
Myotis sodalis					1						
Eptesicus fuscus					X	/					
Perimyotis subflavus				9	/						
Lasiurus borealis		1	7	/							
Lasiurus cinereus		11									
Lasionycteris noctivagans			/								
Other – specify:											
Other - specify:	/			, =	,		,				
Reproductive	Status:					nant, L = 1 /epididyr			_=		Grand <u>Total</u>
	lyotis so	ete Mea	Myotis	nent an s leibii, (3	d Capt 3) bats ye	ure Da	ta Forn	<u>n</u> for a r band i	ecaptur	es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

2 7/21/11 25 November 1 2 Management
1. Survey Date: 7/21/14 2. Company Name: Rot Conservation & Management
3. Bat Identifier: Todal Smander 4. Assistants: Brandon McClung
5. Site Name and/or Number: 2014 Rt 219 Summer - PA/O
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - 10/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested jeep trail running parallel to stream.
8. County: Somerset 9. 75' Quad .: Meyersdale
10. Was site GPS'd (required)? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-45 '-215 "N, Longitude: 79 °-03 '-57.5 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Confort
Deborah Hoover, Mc Cormick Taylor, 5 Capital Dr. Suite 400, Horrisburg PA 17110.
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0150 h Total Minutes: 300
Start Temp. 2/, 2 °C End Temp. 18.1 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one); Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:
Set # Type Count Dimensions Description TOTAL AREA

	Count	Dimensions	Description	TOTAL AREA (m)
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Net	_7_	6m x2,6m	over trail	15,659 m
Nets	3	12m x 2.6m	stacked over trail	93.6) syly
Nets	3	12mx2.6m	stacked over trail	93.6 sym
	-			
				ľ
	Nets Nets	Net 1 Nets 3	Net 1 6m x2,6m Nets 3 12m x2,6m	Net 1 6m x2,6m over trail. Nets 3 12m x2,6m stacked over trail

Total Capture Area: 202.8 sq. m

(Site Survey Record - Continued)	Site Name/No.: 2014RE21950mmet - PAID	Date: 7/21/19
Low land mature	d site: (topography and vegetation including dominant tree	ans with
Dominant free spe	cies are hem och, red & sugar map ked? (YES) / NO (if "NO" only enter numbers in I	le, redoal.

	Number of Adult Females			No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1	- All Land	BENEEN!	3	2	1	1	4	7
Myotis lucifugus							li I				
Myotis septentrionalis											
Myotis leibii	-			. 1							1
Myotis sodalis											
Eptesicus fuscus					-						=
Perimyotis subflavus				Total							
Lasiurus borealis			_		3						31 =
Lasiurus cinereus			-								
Lasionycteris noctivagans											
Other - specify:											
Other - specify:	10										
Reproductive	Status:			ductive, Po							Grand <u>Total</u>
		ete Mea	sure	ment and	d Capt	ure Dat	ta Forn	ı for a		es.	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 ltrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

FORM P-70008-N/T

COMMONWEALTH OF PENNSYLVANIA

Pennsylvania Game Commission

12/09 Section 2

TO 4 (T)	A TENTEMENT A LOS PESTA	A TATAL STATE	SITE SURVEY	DECODE

Page 1 of 2

1. Survey Date: 7/22/14 2. Company Name: Bat Conservation a Management
3. Bat Identifier: Told Smander 4. Assistants: Brandon McCling (Responsible Recorder)
5. Site Name and/or Number: 2014 Rt 219 Summer - PA10
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - AAA .
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested jeep trail running parallel to stream.
8. County: Somerset 9. 7.5' Quad: Meyersdale
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 45 '- 21.5 "N, Longitude: 79 °- 03 '-57.5 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) For vate: Contact
Octoral Hoover, McCormick Taylor, 5 Capital Dr. Suite 700, Harris Surg PA 17110
13. Time (military) & Temperature: Start Time 2100 h Stop Time 0200 h Total Minutes: 300
Start Temp. 2// C End Temp. 18, 2 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Net	1	6mx 2.6m	overtrail	15.6 ss m
2	Nets	3	12m Xdilom	stackel over trail.	93.6 52 4
3	Nets	3	12mx2,6m	stacked over trail	93.6 5 m
			1,		6
	4 4	-			

Total Capture Area: ZO2.9 sq. m

(Site Survey Record - Continued)

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree speci	es.)
Low land motore mixed forst potal tollowing a stream with	0
agricultural pasture land on either side of the torest foto	
Commant tree species are hem lock, red & suger maple, red Do.	4.
18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total c	olumns)

				3	CAPTU	RE RES	ULTS				
	Number of Adult Females			Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	2550	1			3	2	1	1	4	7
Myotis lucifugus	·										
Myotis septentrionalis				-							
Myotis leibii											
Myotis sodalis						1	5_				
Eptesicus fuscus						1/					
Perimyotis subflavus					1/						
Lasiurus borealis											
Lasiurus cinereus			1								
Lasionycteris noctivagans											
Other - specify:		//									
Other - specify:	/										
Reproductive		PL= po	st lactat	ing, SCI	R= scrota	l/epididy	mis swoll	en.			Grand <u>Total</u>
*(1) M	Comple Evotis so	ete <u>Me</u>	asurer Myoti	nent ar s leibii. (nd Capt (3) bats y	ou are b	ta Fort	<u>n</u> tor a r band	iii: recaptur	es,	
117 111	(4) ra	dio-tage	ed bats	and (5)	bat spec	ies not us	sually for	and in F	A.		

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can be trapped/netted). Describe procedure & equipment used in remarks.

2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:
	Start Time: End Time:	Start Time: Start Time: End Time: End Time:	Start Time: Start Time: Start Time: End Time: End Time: End Time:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

RAT	NETTING/TRAPPIN	G SITE	SURVEY	RECORD

Page 1 of 2

2.4
1. Survey Date: 7/19/14 2. Company Name: BAT Consensation & MANAGEMENT
3. Bat Identifier: JOHN CHENGER 4. Assistants: BRYAN BYLER
5. Site Name and/or Number: 2014 RT. 219 SUMMSO PA-11
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
FORESTED STREAM
8. County: Sommerset 9. 7.5' Quad.: AVILTOW
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '- 33.5N, Longitude: 79 °- 03 '- 22.8"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborals Honor, Mc Camich Taylor, 5 Capital Dr. Suite 400, Harrisburg PA 17110 (517) 540-6040
13. Time (military) & Temperature: Start Time Z/00 h Stop Time 520 h Total Minutes: 300
Start Temp. 17.2 °C End Temp. \(\sigma \) C (must stay ≥10 °C for summer netting)
 General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:
Set # Type Count Dimensions Description TOTAL AREA

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	NETS	3	12m+2.6m	STACKED OUSE STREAM	93.6
2	NETS	3	9m x 2.6m	STACKED OVER TRAIL	70.2
3	NETS	1	12m + 2.6m	511 1 OUER TRAIL	31.2
					<u></u>
-				*	

Total Capture Area: 195 ___sq. m

(Site Survey Record - Continued)	Site Name/No.:	PA-11	Date: 7/19/14
17. Describe habitat 150 m around MODERATELY FORESTED AREA INCLUDE HEMLOCK AND RES	OFF OF UNDEUTLONED		g dominant tree species.) TREAM. DOMINANT TREE SPECIES
18. Was reproductive status chec	ked? YES / NO	(if "NO" only ente	r numbers in Total columns)

*CAPTURE RESULTS

		Number of Adult Females						No. Juv.	v. No. Adult Males		des Juv. No.		Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>		
Eptesicus fuscus	2	W. A.B.	1	UDS 14	186 HIZ	3	2	1	1	4	7		
Myotis lucifugus													
Myotis septentrionalis													
Myotis leibii						l '							
Myotis sodalis													
Eptesicus fuscus													
Perimyotis subflavus						ľ							
Lasiurus borealis										i i	1 *		
Lasiurus cinereus						1.4							
Lasionycteris noctivagans											ľ		
Other - specify:											l a		
Other - specify:		4											
Reproductive	Status:				G= pregr = scrotal						Grand Total		
	lyotis soc	ete Mea	Myotis	nent an s leibii, (d Capt 3) bats ye bat speci	ure Dat	a Forn	of for a	ecapture	es,	1		

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time;	End Time:
Tallies:	- Patties:	Tallies:	Tallies:	Tallies:

20. REMARKS:

* ONE REDBET; ISCAPED NET BEFORE LOWERING

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT	NETTING/TR	APPING ST	TE SURVEY	RECORD

Page 1 of 2

1. Survey Date: 7/20/14 2. Company Name: BAT CONSERMATION & MANAGEMENT					
3. Bat Identifier: JOHN CHENGER 4. Assistants: BRYAN BUTLER					
5. Site Name and/or Number: 2014 NT. 219 Summed / PA-11					
6. Site is (circle one): hibernation site summer habitat					
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,					
other structure, describe					
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):					
FORSTED STREAM					
8. County: Sommenset 9. 7.5' Quad.: AVILTON					
10. Was site GPS'd (required)? YES - NO					
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '- 33.5"N, Longitude: 79 °- 03 '- 22.8"W					
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:					
12. Ownership and Access: (Who owns site or controls access? Give name and address.)					
Deborah Hover, McCanick Taylor, 5 Copital Drive, Suite 400, Horrisburg, PA 17110					
13. Time (military) & Temperature: Start Time 2045 h Stop Time 0145 h Total Minutes: 300					
Start Temp. 18.6 °C End Temp. 17.1 °C (must stay ≥10 °C for summer netting)					
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy: Drizzle; Intermittent Rain; (suspend netting during					
periods of rain) Steady Rain; Thunderstorms; Snow; Other:					
15. General Wind Conditions (circle one). Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).					
16. Capture Setup at Site:					

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
123	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	NSTS	3	12m *26m	STACHED OVER STREAM	93.6
2	NETS	3	9 m x 2,6m	STACKSD OUER TRAIL	70.2
3	NETS	1	12m x 2.6m	GUEN STITEAM	31.2
		-			

Total Capture Area: 195.0 sq. m

(Site Survey Record - Continued)	Site Name/No.: _	PA-11	Date: 7/20/17
----------------------------------	------------------	-------	---------------

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

MODERATILY FORESTER AREA OFF OF UNDEVELOPED ROAD ALONG STREAM. DOMINANT

TREE SP. INCLUDE HEMLOCK AND RED MARLE

18. Was reproductive status checked?

I

NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

		Numl Adult F	er of emales	;	No. Juv.	Total No.	Numb Adult		No. Juv.	Juv. No.	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	1000	1			3	2	1	1	4	7
Myotis lucifugus										JP	
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus				ľ L,I							
Perimyotis subflavus				. •							
Lasiurus borealis							•				
Lasiurus cinereus				1							
Lasionycteris noctivagans											
Other - specify:											
Other - specify:											
Reproductive	Status:				G= pregr = scrotal				1		Grand <u>Total</u>
	lyotis so	ete <u>Mea</u>	Myoti	nent ar s leibii, (d Capt 3) bats y bat speci	ure Da	ta Forn	n for a	recaptur	es,	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	/ 3 rd hour	4 th hour	5 th hour	
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:	
End Time: End Time:		End Time:	End Time:	me: End Time:	
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:	

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page	of 2

1. Survey Date: 7/21/2014 2. Company Name: BAT CONSERVATION & MANAGEMENT
3. Bat Identifier: JOHN CHENGER 4. Assistants: BRYAN BUTLER
5. Site Name and/or Number: 2014 R1 219 SUMMER - PA-12
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
FORESTED STEERM PARNIEL TO ATV TRAIL
8. County: Somenset 9. 7.5' Quad.: AVILTON
10. Was site GPS'd (required)? (ES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '- 15.3"N, Longitude: 79 °- 03 '- 18.4 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Drgor AH
HOOVER, McCornick Taylor, 5 Capital Dairy, Suite 400, HARRISBURG PA 17110: 717,540.604
13. Time (military) & Temperature: Start Time 2100 h Stop Time 2200 h Total Minutes: 300
Start Temp. 22 °C End Temp. 8.7 °C (must stay ≥10°C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1-	NETS	3	9m = 2.6 m	STACKED OVER TRAIL	70.2
2	NETS	3	18m = 2.6m	STACHED OVER STREAM	140.4
3	NETS	1	6m. 2.6	STACKED OVER TRAIL	15.6
				5- 1 F	
		7,		= -	
					i i
		1			

Total Capture Area: 226.7 sq. m

BIRCH

4.00	r chilayevania C	mile Commission	8 .
(Site Survey Record - Continued)	Site Name/No.:	PA-12	Date: 7/21/2014
17. Describe habitat 150 m aroun	d site: (topography and v	egetation including domi	nant tree species.)
DENSELY FORESTED AREA STILD EMENDIONENT LEADING	ALONG STREAM THAT	KUNS PARACEIC TO	SPP. INCLUDE HEMIOCK,

18. Was reproductive status checked?

6	٦.
YES	1

NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

				4	CAPTU	KE KES	ULIS				
****	Number of Adult Females			No. Juv.	Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	i de crins	1		10000	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis										7	
Myotis leibii		li ,				16			1		
Myotis sodalis							<u>. </u>				
Eptesicus fuscus	•			4.		2	`			1	2
Perimyotis subflavus											
Lasiurus borealis				NA.			P				1
Lasiurus cinereus											
Lasionycteris noctivagans											
Other - specify:											
Other - specify:					_					2 1	
Reproductiv	e Status:	NR= no	onrepro	ductive, I	PG= preg	nant, L=	lactating mis swoll	len.			Grand <u>Total</u>
(1) N	Comple Myotis so	ete Medalis, (2	asure Myot	ment aı is leibii,	nd Capt (3) bats y	ou are b	ta Forn	n for a	recaptur	es,	3
	(4) ra	dio-tagg	ed bat	s and (5)	bat spec	ies not us	sually for	und in I	Ά		1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/22 2014 2. Company Name: BAT CONSERVATION & MANAGEMENT
3. Bat Identifier: JOHN CHENGER 4. Assistants: BRYAN BOTLER
5. Site Name and/or Number: 2014 RT 219 - Sommer - PA - 12
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
FERESTED STREAM PARALELL TO ATV TRAIL
8. County: Someset 9. 7.5' Quad.: AVILTON
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '- 15.3"N, Longitude: 79 °- 03 '- 18.4"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Deforate thousand
MCCORNICE TAYLOR, 5 CAPITAL Daive, Suits 400, HAMPISBURG PA 17110; 717.540.6040
13. Time (military) & Temperature: Start Time 2050 h Stop Time of h Total Minutes: 300
Start Temp. 23 °C End Temp. 19 °C (must stay ≥ 10 °C for summer netting)
14. General Weather (circle one): Clear, Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA (m)	
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m	
NETS	3	9 m = 2,6 m	STACHED OVER TAKIL	70.2	
NETS	3	18m×2,6m	STACKS DOWN STERM	140.4	
NETS	1	6mx2.6	STREAD OVER TRAIL	15.6	
			t ries 1		
	Nets NETS NETS	Nets 4 NETS 3 NETS 3	Nets 4 12mx2.6m NETS 3 9mx2.6m NETS 3 18mx2.6m	Nets 4 12m x 2.6m Stacked over trail NETS 3 9 m x 2.6m STRICKED OVER TAKEL NETS 3 18 m x 2.6m STRICKED OVER TAKEN	

Total Capture Area: 226.2 sq. m

Pennsylvania Game Commission

(Site !	Survey	Record -	- Continue	d

Site Name/No.: ___

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

DENSELY FORESTED ANGA ALONG STASAM THAT RUNS PARALELL TO OLD ATV TRAIL. STEEP EMBANKMENT LEADING DOWN TO STREAM. DOMINANT TREE SPP. INCLUDE

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

			Number of Adult Females		No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	TANK!	1			3	2	1	1	4	7
Myotis lucifugus								.54			
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus				•,		1	t			1	2
Perimyotis subflavus						-					
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans											
Other – specify:											[m]
Other – specify:	1417.		-	1					= -		
Reproductive	Status:			ductive, F ting, SCF							Grand <u>Total</u>
		ete Mea	asure	ment ar is leibii, (id Capt	ure Da	ta Forn	n for a		es.	77

14. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

(4) radio-tagged bats and (5) bat species not usually found in PA.

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

Tage 1012
1. Survey Date: 23 Tol 2014 2. Company Name: But Conservation and Management
3. Bat Identifier: John Chenger 4. Assistants: Disneau Shanz
5. Site Name and/or Number: 2014 Rt 219 Somes - PAIB Wight 1
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A .
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested Jeap trail
8. County: Somerset 9. 75' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-44'-41.7"N, Longitude: 79 °-62 '33.9"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact Dabon h
Hoover, McCormick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110 717540 6040
13. Time (military) & Temperature: Start Time 2//O h Stop Time 02/0 h Total Minutes: 300
Start Temp. 19, 2 °C End Temp. 15.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	6mx2.6m	Stockedover trail	15.65g.m
2	Nets	3	6mx2.6m	Stacked over tail	46.85g.m
3	Net	1 :	6mx 26m	over trail	46.85g.m
	i		- 1		
	4				

Total Capture Area: 109.2 sq. n

(Site Survey Record - Continued)

Site Name/No.: 2014 R+219 Some PA 13 WHH Date: 23 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed across a jeeptrail - thin a young mixed forest dominated by sello-birch, and sossafras. Less dominant trees include red mapk, oak and hemlock.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species		Numb Adult F		s	No. Juv.	Total No.	Number of No. Adult Males Juv.		Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	100000	1	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii			1:								
Myotis sodalis	4										
Eptesicus fuscus		÷ 6		2		8				1	10
Perimyotis subflavus											
Lasiurus borealis											1 3
Lasiurus cinereus											
Lasionycteris noctivagans			=			-					
Other - specify:											
Other - specify:							-				
Reproductive	Status:			fuctive, Peting, SCR					1	2	Grand <u>Total</u>
*(<u>(1) M</u>	yotis so	ete Mea	Surei Myoti	ment an s leibii, (3 and (5) l	d Capt	ure Dat	a Forn	n for a	recapture	es,	11

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks,

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

Intermittent rain from 2140-2200 Intermittent rain from 2215-2220 Light drizzle 2950-2300 * Eplesius Poscus escapel from net * Losiurus borenlis escaped from net

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

BAT RETING/TRAFFING SITE SURVET RECORD
1. Survey Date: 24 Jul 2014 2. Company Name: But Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Duncan Schanz
5. Site Name and/or Number: 2014 Rt 219 Somes _ PA13 Night 2
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested ; eap tail
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '-41.7 "N, Longitude: 79 °- 02 '-33.9 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private Contact
Deborah Hoors. McKarmek Texlar 5 Capital Drive, Site 400 Harrisburg. PA 17110 7175406040
13. Time (military) & Temperature: Start Time 200 h Stop Time 0200 h Total Minutes: 300
Start Temp. 3 °C End Temp. 1. 6 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calin, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:
Set # Type Count Dimensions Description TOTAL AREA

Туре	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Nets	3	6mx2.6m	Stacked over trail	15.65g.m
Nets	3	6mx2.6m	Ancked over to:	46.85g.m
Net	t	6mx2.6m	Over trail	46.B.Q.m
		_		
		F		1 1 1 1 1
	Nets Nets Nets	Nets 4 Nets 3 Nets 3	Nets 4 12m x 2.6m Nets 3 6m x 2.6m Nets 3 6m x 2.6m	Nets 4 12mx2.6m Stacked over trail Nets 3 6mx2.6m Stacked over trail Nets 3 6mx2.6m Facked over trail

Total Capture Area: 109, 2 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record - Continued)

Site Name/No.: 2014 At 219 Somer - PAB

1+2 Date: 24 JD

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed across a teep toil within a young mixed forest dominated by yellow birch and sussafrase Less dominant trees include feed mapk, onk and henbel

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

8a- 33 a sa		Numb Adult F		s	No. Juv.	Total No.	Numb Adult		No. Juv.	Total No.	Species
Species	NR	PG L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>	
Eptesicus fuscus	2	Massill .	1	- 1000000	Try he down	3	2	1	1	4	7
Myotis lucifugus									i.		
Myotis septentrionalis											1
Myotis leibii											
Myotis sodalis	7-3-1				-		_				
Eptesicus fuscus				" 1	7	2	**			il.	2
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus										ii	
Lasionycteris noctivagans											
Other - specify:		= 4					-			2	
Other – specify:						7.					
Reproductive	Status:			ductive, P							Grand Total
	Lyotis so	ete Mea	Myoti	ment an	d Capt 3) bats ye	ure Da	ta Forn	n for a	recaptur	es,	2

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page	of 2

The state of the s
1. Survey Date: 19Jul 2014 2. Company Name: But Consessation and Hanagement
3. Bat Identifier: Todd Sinander 4. Assistants: Durcan Schanz
5. Site Name and/or Number: 2014 Rt 219 Sammer - PA14
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested Stream
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 o-44 '-4.57"N, Longitude: 79 o-3 '-25.44"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Drivate: Contact Deborah Houser, McCorman Taylor, 5 Capital Drive, Swite 400 Hosribburg, PA 17110, 717 540 6040
13. Time (military) & Temperature: Start Time 200 h Stop Time 0200 h Total Minutes: 300
Start Temp. 15.9°C End Temp. 15.4 °C (must stay ≥10 °C for summer netting,
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
EAU BOIL	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
- E	Nets	3	12mx2.6m	Stacked overstream	9365g.m
2	Nets	3	12mx2.6m	Stacked overstram	93.65g.m
3	Net	1	6m×2.6m	over trail	15.65g.m
				rå i er i i i i	
l					

Total Capture Area: 202.8 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 RF219 Summer_

Date: 19 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Tripple highs are solover a forested stream. Single high is set over an ATV trail running Parallel to stream. The forest is chamaded by hemlock followed by yellow birth and ash.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

# / T.G.)		Numl Adult F	ber of emales		No. Juv.	Total Numb No. Adult		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus											
Perimyotis subflavus					2						
Lasiurus borealis								L			1 10
Lasiurus cinereus				_							
Lasionycteris noctivagans											
Other - specify:											
Other - specify:				-			=				
Reproductive		PL= pos	st lactat	ing, SCR	t= scrotal	epididyn/	nis swoll	en.	· ·		Grand Total
	yotis soc	lalis, (2)	Myotis	leibii, (d Capt 3) bats yo bat specie	ou are ba	nding or	band r	ecapture	es,	1

(4) radio-tagged bats and (5) bat species not usually found in PA.

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana but hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

* Losiurus borealis escaped from net

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Dame	1 of 2

1.	Survey	Date: 20 Jul	2014	2. Company	Name: Bot Congervation and	Management	
3.	Bat Ider	ntifier: Tald	Sinandes	4. Assi	stants: Duman Schane		
5.	Site Na	me and/or Nu	ımber: 20	014 At 219	Summer_ PA 14		
6.	Site is	(circle one):	hiberna	tion site	summer habitat		
7a	. If hibe	rnation site ci			coal mine, limestone cave, sandsto		
			,	other structure, de	scribe		
7ì	. If sum	mer habitat,	describe a	rea being sample	d (e.g. forested stream or forest cle	aring with stream):	
_	fore	sted str	eam	**	-		
8	County	: Somesse	+		9. 7.5' Quad.: Avilton		
10	. Was si	te GPS'd (req	puired) ?	YES - NO	*		
11	. Geogra	phic Coordin	nates (D-M	-S): Latitude: 3	°-4.57 "N, Longitud	e: <u>79</u> °- <u>3</u> '25.44 "W	
		Datum (cir	rcle one):	NAD27 (Preferre	d), NAD83, WGS84, Other:		
12	. Owner	rship and Acc	ess: (Who	owns site or conti	rols access? Give name and addre	ss.)	
	Privade	Contact Debor	rah Hoover,	McCornick Tayl	or, 5 Capital Drive, Suite 400 Horr	is burg, PA 17110, 717 540 60	40
13	. Time (military) & T	emperatur	e: Start Time 1	100 h Stop Time 0200	h Total Minutes: 3	
				Start Temp	/8,3 °C End Temp. 17.5	_°C (must stay ≥10 °C for summer n	etting)
14	. Gener	al Weather (c	circle one):	Clear; Partly Cle	oudy; Mostly Cloudy; Cloudy	Drizzle; Intermittent Rain;	
14	(suspend	al Weather (c I netting during of rain)	circle one):		oudy; Mostly Cloudy; Cloudy, nunderstorms; Snow; Other:		
	(suspend periods	I netting during of rain)		Steady Rain; Th		•	
15	(suspend periods	I netting during of rain)	ditions (cir	Steady Rain; Th	understorms; Snow; Other:	•	
15	(suspend periods . Gener . Captu	d netting during of rain) al Wind Cond	ditions (circ	Steady Rain; Th	Breezy (Leaves Rustling), Wind	ly (Trees Swaying).	
15	(suspend periods	I netting during of rain) al Wind Cond	ditions (cir	Steady Rain; Th	understorms; Snow; Other:	•	
15	(suspend periods . Gener . Captu	I netting during of rain) al Wind Conc re Setup at S	ditions (circ	Steady Rain; Th	Description Other:	ly (Trees Swaying). TOTAL AREA (m)	
15	(suspend periods . Gener . Captu	I netting during of rain) al Wind Conc re Setup at S	ditions (circ	Steady Rain; The cle one): Calm, Dimensions 12mx2.6m	Description Stacked over trail Stacked over strain	TOTAL AREA (m) 124.8 sq. m	
15	(suspend periods . Gener . Captu	al Wind Concere Setup at S Type Nets Nets	ditions (circ	Steady Rain; The cle one): Calm, Dimensions 12m x 2.6m	Description Stacked over trail	TOTAL AREA (m) 124.8 sq.m 93.6 sq.m	
15	(suspendent periods) General Captu Set #	al Wind Condere Setup at S Type Nets	ditions (circ	Dimensions 12m x 2.6m Qm x 2.6m	Description Stacked over stream Stacked over stream	TOTAL AREA (m) 124.8 sq. m	
15	(suspendent periods) General Captu Set #	al Wind Concere Setup at S Type Nets Nets	ditions (circ	Dimensions 12m x 2.6m Qm x 2.6m	Description Stacked over stream Stacked over stream	TOTAL AREA (m) 124.8 sq.m 93.6 sq.m	

Total Capture Area: 20218 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 Rt 219 Summy - PA 14 Date: 20 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Site is in a mixed forest dominated by Lemback, followed by yellow birth and ash. Tripple highs ore set over a stream of Single high is set on an ATV trail which runs pasallel to the stream.

18. Was reproductive status checked? YES NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

		Numl Adult F	per of Temales		No. Juv.	Total No.	Numb Adult		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1		100	3	2	1	1	4	7
Myotis lucifugus								-	- 1	1	
Myotis septentrionalis											
Myotis leibii		7									
Myotis sodalis											
Eptesicus fuscus											
Perimyotis subflavus			i.								
Lasiurus borealis											
Lasiurus cinereus											E
Lasionycteris noctivagans											
Other - specify:											·
Other - specify:											
Reproductive	Status:	NR= no PL= po	nreprod st lactat	uctive, P	G= pregr C= scrotal	nant, L = 1 /epididyr	l actating, nis swoll	en.			Grand Total
	lyotis so	dalis, (2)	Myotis	s leibii, (ou are ba	anding o	band i	recapture	25,	
	(4) ra	dio-tagg	ed bats	and (5)	bat speci	es not us	ually for	ınd in F	A.		

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

ime: Start Time: Start Time:
me: End Time: End Time:
: Tallies: Tallies:

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

12/09 Section 2

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/19/14 2. Company Name: Bat Conservation & Management
3. Bat Identifier: Toold Singular 4. Assistants: Brounder Mc Clung (Responsible Recorder)
5. Site Name and/or Number: 2014 Rt 219 Summer PA 15
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - 1/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Stream
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43 '-549"N, Longitude: 29 °- 3 '-16.3 "W
Datum (circle one): (NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private:
12. Ownership and Access: (Who owns site or controls access? Give name and address.)
Contact Deborah Hoover, McCormick laylo, 5 Capital Ur. Suite 400, Harristur, 14 1110.
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0/50 h Total Minutes: 300
Start Temp. 17,2 °C End Temp. 15, 4 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Туре	Count	Dimensions	Description	TOTAL AREA (m)
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Nets	3	12m x 2.6m	stacked over stream	93.6 m
Nets	3	12mx2,6m	stacked over stream	93.6m
Nets	1	6m x2,6m	stacing over stream	15.6m
	-			
	Nets Nets Nets	Nets 4 Nets 3 Nets 3	Nets 4 12mx2.6m Nets 3 12m x 2.6m Nets 3 12m x 2.6m	Nets 4 12mx2.6m Stacked over trail Nets 3 12mx2.6m stacked over stream Nets 3 12mx2.6m stacked over stream

Total Capture Area: 202.8 sq. m

Grand Total

*CAPTURE RESULTS

(Site Survey Record - Continued)

Site Name/No .: 2014 RE219 Summer-PAIS Date: 7/19/14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Stream Walley with motore mixed Forest consisting of hemilode,
yellow birch, American beach, red a sugar maple.

18. Was reproductive status checked? YES NO (if "NO" only enter numbers in Total columns)

	Number of Adult Females			No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1		Harry C	3	2	1	1	4	7
Myotis lucifugus										ļ	
Myotis septentrionalis				= =							
Myotis leibii						_					
Myotis sodalis							21	NO:	}_		
Eptesicus fuscus				7.5		100	0				
Perimyotis subflavus		==	0		(W.					
Lasiurus borealis				0		1				11	
Lasiurus cinereus											
Lasionycteris noctivagans		_	/						,		. 11
Other - specify:		/			-						
Other - specify:	 		-		2 1						

Reproductive Status: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen. *Complete Measurement and Capture Data Form for all: (1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures,

(4) radio-tagged bats and (5) bat species not usually found in PA.

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies;	Tallies:	Tallies:	Tallies:

FORM P-70008-N/T

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

12/09 Section 2

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

					ame: Bat Conservation &						
3. Bat Identifier: Todd Sinander 4. Assistants: Brandon McClung (Responsible Recorder)											
5. Site Name and/or Number: 2014 Rt 219 Summer - PAIS											
6. Site is (circle one): hibernation site summer habitat											
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,											
	other structure, describe										
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):											
8.	8. County: Somerset 9. 75' Quad .: Avilton										
				YES - NO							
11	. Geogra	phic Coordin	ates (D-M-	S): Latitude: 39	°- 43 '-54,9 "N, Longitude: 7	9 °- 3 '-16,3 "W					
		Datum (circ	cle one):(I	NAD27 (Preferred),	NAD83, WGS84, Other:						
12	. Owner	ship and Acce	ess: (Who	owns site or control	s access? Give name and address.)	ruate: Confact					
					1 Dr. Suite 400, Harrisburg						
13	. Time (military) & Te	mperature	e: Start Time 20	50 h Stop Time 0/50 h	Total Minutes: 300					
				Start Temp. 18	3,2 °C End Temp. 16,9 °C	(must stay ≥10 °C for summer netting					
14		netting during			dy; Mostly Cloudy Cloudy: Drizz						
15	. Genera	al Wind Cond	itions (circ	le one); Calm B	Breezy (Leaves Rustling), Windy (T	rees Swaying).					
		re Setup at Si			967 FG 1780 F	er en					
177	× 1				¥						
	Set #	Type	Count	Dimensions	Description	TOTAL AREA					
	1000 TOP	Nets	4	12m x 2.6m	Stacked over trail	124 8 sq. m					
)	Nets	3	12mx2.6m	stocked over stream	93.6m					
	2	Nets	3	12mx 216m	stacked over stream	93.6m					
	3	Nets	1 1	Comx 2.6m	over stream	15.6 m					
		-									

Total Capture Area: 202,8 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 Rt219 Summer PAIS Date: 7/20/14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Stream valley with moture mixed forest consisting of hemlock,
yellow birch, American beech, rede sugar maple.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

VI. 6		Number of Adult Females			No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	SE S	1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis									/		,
Myotis leibii											
Myotis sodalis	_			,		.0	3/				
Eptesicus fuscus				1	1				4		
Perimyotis subflavus)	(af						
Lasiurus borealis	1=1-		1	0/						. =====	
Lasiurus cinereus			0/								
Lasionycteris noctivagans		/	/		-						
Other - specify:	-										
Other – specify:											, i
Reproductive	Status:			uctive, P						l	Grand <u>Total</u>
	lyotis soc	dalis, (2)	Myotis	nent an s leibii, (3 and (5) l	3) bats ye	ou are ba	anding o	r band ı	ecaptur	es,	\bigcirc

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/29/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman, Brandon McClung
5. Site Name and/or Number: 2014 Rt. 219 Summer / PA 16
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel, other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested dirt road
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 -43 -4444"N, Longitude: 79 -03 -5251"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Taylor c, 5 Capital Drive, Suite 400, Harrisburg, PA 17110 0:717-540-6040 13. Time (military) & Temperature: Start Time 2045 h Stop Time 0150 h Total Minutes: 300
Start Temp. 11.0 °C End Temp. 10.0 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm? Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	6x 2.6	Stacked over road	46.8
2	Nets	1	6x2.6	Over trail	15.6
3	Nets	3	9x2.6	Stacked over road	70.2
			_		
					1

Total Capture Area: 132-6 sq. m

	Pennsylvan	ia Game Commission	74
(Site Survey Record - Continued)	Site Name/No.:	PA 16	Date: 7/29/14
17. Describe habitat 150 m around			
Nets are place over a	dirt road. Single	high net is place	water an ATV trail running
tree species are Rod 1	Made, Red ORK, He	mlock, and Yellow	Birch.
18. Was reproductive status check	ked? (YES) / NO	(if "NO" only enter	numbers in Total columns)

*CAPTURE RESULTS

n A	Number of Adult Females				No. Juv.	Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1			3	2	1	I	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii									/		
Myotis sodalis		i.			II	16		/			
Eptesicus fuscus					M	\ /	/				
Perimyotis subflavus		-		(1	bK	/				;	
Lasiurus borealis					/ /						
Lasiurus cinereus		1	10	/							
Lasionycteris noctivagans			1								
Other - specify:											
Other - specify:							z ^e		-		
Reproductive	Status:	NR= no	onreprod ost lactat	uctive, P	G= preg	nant, L= 1 l/epididyr	lactating, nis swoll	en.		L	Grand <u>Total</u>
(1) N	Ivotis so	dalis, (2	Myotis	s leibii, (3) bats y	ure Da ou are ba ies not us	anding o	r band ı	recaptur	es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour		
Start Time:						
End Time:						
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:		

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA

Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 7/30/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman Brandon McClung (Responsible Recorder)
5. Site Name and/or Number: 2014 Rt. 219 Summer/ PAILe
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream): Forested duf road
8. County: Some(set 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-43 '-44.44 "N, Longitude: 79 °-03 '-52.51 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contract
Deborah Hower, McComide Taylor, 5 Capital Drive, Suite 400, Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2100 h Stop Time 0200 h Total Minutes: 300
Start Temp. 12.4 °C End Temp. 1/. °C (must stay ≥10 °C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle: Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:

15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).

16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
al 1 as	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	6x2.6	Stacked over road	46.8
2	Nets	1 -	6 x 2.6	Over trail	15.6
3	Nets	3	9-x2-6	Stacked over road	70.2
				= -	

Total Capture Area: 132.6 sq. m

PA 16

(Site Survey Record - Continued)

Sito	Name/No.:	
	THAIRCALTO	

Date:	130	14	
Date	101		_

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a dirt road. Single high net is placed over an ATV tril running parellel to dirt road. Both roads are surrounded by a mature mix forest. Dominant tree species are Red Maple Red Oak, Hemlock, and Yellow Bitch

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females				No. Juv.	No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1	E UTILITY OF	n ama	3	2	1	I	4	7
Myotis lucifugus											
Myotis septentrionalis				JI.						1	
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus						/	_				
Perimyotis subflavus							1				
Lasiurus borealis					35						
Lasiurus cinereus		ľ	1								
Lasionycteris noctivagans		II .	D				-				
Other - specify:		li I									
Other - specify:		/									=
Reproductive	Status:	NR= no PL= po	nreprodu st lactati	ictive, P	G= pregn = scrotal/	ant, L= l	actating, nis swolle	en.			Grand Total
*((1) M	Comple yotis soc	te <u>Mea</u> lalis, (2)	Myotis	ent an leibii, (3	d Capti bats yo	ure Dat ou are ba	a Form	for al	ecapture	s,	0
	(4) rad	no-tagg	ed bats a	and (5) t	at specie	es not use	ually fou	nd in P	۸.		

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trappedInetted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

Tage 1012
1. Survey Date: 29 Jul 2014 2. Company Name: But Conservation and Management
3. Bat Identifier: Toda Sinander 4. Assistants: Dunan Schanz
5. Site Name and/or Number: 2014R1 219 Some - PA 17
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep tail
8. County: Somesset 9. 7.5' Quad.: AVHON
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-43 '-45.90 N, Longitude: 79 °-04 '-14.92 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) History Confect
Deboah Hoover, McCosmick Taylor, S Capital Drive, Suite 400 Harrisburg, PA 17110 (717) 540-6040
13. Time (military) & Temperature: Start Time 2055 h Stop Time 0155 h Total Minutes: 300
Start Temp. 1 0 °C End Temp. 0 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm.) Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
(Nets	3	9nx2.6m	Stacked out trail	70,2gm
2	Nets	3	9 mx26m	Stacked over trail	70,259.m
3	Net	į.	6mx2.6m	Guer trail	15.659.M

Total Capture Area: 156 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 R+219 Somer PA 17 Date: 29 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Nets are pased over a jeep tail withing Sugar maple, red maple, oak, hen lock, and yello-bish dominated forest.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species Eptesicus fuscus	Number of Adult Females			No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
	2		1	24.01	Palette.	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus											
Perimyotis subflavus											
Lasiurus borealis	Ĭ		-		. == =		. 1	9		2	2
Lasiurus cinereus									=		
Lasionycteris noctivagans								П			
Other - specify:											
Other – specify:	-								-		
Reproductive		PL= pos	st lactat	ing, SCR	= scrotal	epididyn/	nis swolle	en.			Grand <u>Total</u>
*(<u>(1) M</u>	yotis soc	lalis, (2)	Myotis	leibii, (d Capt 3) bats yo bat specie	ou are ba	nding or	band r	ecapture	es,	2

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1	- 50	٠
Page	OF	

1. Survey Date: 7/30/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Strander 4. Assistants: Duncan Schanz
5. Site Name and/or Number: 2014 Rt. 219 Sunner / PA17
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Jepp trail
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-43 '-459 "N, Longitude: 79 °-04 '-1492 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Debouh Hoover, McCornick Taylor, 5 Copital Drive, Suite 400, Harrisburg, PA 17110 O. 717-540-6040 13. Time (military) & Temperature: Start Time 2055 h Stop Time 0155 h Total Minutes: 300
Start Temp. \\\ \lambda \tau\) C End Temp. \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): (alm) Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
	Nets	3	9x2.6	Stacked over trail	70.2
2	Nets	3	9 x 2.6	Stacked over trail	70.2
3	Nets	1	6×2.6	Over trail	15.6
-					

Total Capture Area: 156 sq. m

	Tomograms dame commission	
(Site Survey Record - Continued) Site !	Name/No.: PA 17	Date: 7/30/14
17. Describe habitat 150 m around site:		
Nets are placed overages	ep trail within a Sugar Ma	ple, Red Maple, Oak, Hemlock
and Kellow Birch dominate	e Forest	
18. Was reproductive status checked? (YES / NO (if "NO" only enter numl	bers in Total columns)

*CAPTURE RESULTS

Species Eptesicus fuscus		Numl Adult I	ber of Temales		No. Juv. Fem.	Total No. Fem.	Number of Adult Males		No. Juv.	Total No.	Species
	NR	PG	L	PL			SCR	NR	Male	Males	<u>Totals</u>
	2		1	1200		3	2	1	1	4	7
Myotis lucifugus Myotis				-				li .			
septentrionalis							l				
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus				. ST .							
Perimyotis subflavus											
Lasiurus borealis	- 1					1					1
Lasiurus cinereus											
Lasionycteris noctivagans											1
Other - specify:											
Other - specify:								1 - 1			<u> </u>
Reproductive					G= pregr = scrotal						Grand Total
	Comple	te Mea	suren	nent an	d Capt	ure Dat	a Forn	for al			
137					bat specie					"	1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour		
Start Time:						
End Time:						
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:		

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7-29-2014 2. Company Name: Bat Conservation & Management, Inc.
3. Bat Identifier: Risa Weight 4. Assistants:
5. Site Name and/or Number: 2014 Rt 219 Summer PA 18
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested stream
8. County: Somerset 9. 7.5' Quad .: Abilton
10. Was site GPS'd (required) ? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43 '-23.7"N, Longitude: 79 °- 4 '-24.9"W
Datum (circle one): (NAD27) (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCormick Taylor, 5 Capital Orive, Suite 400 Harrisburg, PA 17110 13. Time (military) & Temperature: Start Time 2045 h Stop Time 0145 h Total Minutes:300
Start Temp. 10, 9 °C End Temp. 10, 0 °C (must stay > 10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm) Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Canture Setup at Site:

Set #	# Type Count Dimensions Nets 4 12m x 2.6m		Dimensions	Description	TOTAL AREA (m) 124.8 sq. m		
1			12m x 2.6m	Stacked over trail			
1	Nets	3	6m ×2.6m	Stacked over stream	46.8		
2	Nets	3	9m ×2.6m	stacked over stream	70.2		
3	Nets	1.	6 n × 2.6 n	stacked over stream	15,6		
-							

Total Capture Area: 132.6 sq. m

(Site Survey Record - Continued)

Site Name/No .: 2014 Rt 219 Summer PA

Date: 7-29-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Forested stream running through valley. Forest is a mixed deciduous forest with dominant tree species being Eastern Hemlock yellow birch. The dominant understory species are Rosebay Rhadodendron:

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns) and witch-

			ber of		No. Total Number				2,1	Total	6
Species	NR	Adult I	emales L	PL	Juv. Fem.	No. Fem.	Adult Males SCR NR		Juv. Male	No. Males	Species Totals
		PG		PL				-		Company of the same	7
Eptesicus fuscus	2		1	Men a	REMARK	3	2	1	1	4	/
Myotis lucifugus											/
Myotis septentrionalis											
Myotis leibii									/		
Myotis sodalis								1			
Eptesicus fuscus							fuil				
Perimyotis subflavus						Col					
Lasiurus borealis				0	15						
Lasiurus cinereus				P	/						
Lasionycteris noctivagans			10								
Other – specify:								,			
Other - specify:	/							ľ			
Reproductive	Status:					nant, L=					Grand <u>Total</u>
*(1) M	votis soc	ete Me	asuren Myotis	ient an	d Capt 3) bats y	ure Da	ta Forn	n for a	recaptur	es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:
	Start Time: End Time:	Start Time: Start Time: End Time: End Time:	Start Time: Start Time: Start Time: End Time: End Time: End Time:

20. REMARKS:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7-30-2014 2. Company Name: Bat Conservation & Management
3. Bat Identifier: Risa Weight 4. Assistants:
5. Site Name and/or Number: 2014 Rtz19 Summer PA18
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Stream
8. County: Somerset 9. 75' Quad .: Abilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43'-23.7"N, Longitude: 79 °- 4'-249"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCormick Taylor, 5 Capital Drive Suite 400 Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0150 h Total Minutes: 300
Start Temp. 12.7 °C End Temp. 10. °C (must stay ≥10 °C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm.) Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Set # Type Count Dimensions 1 Nets 4 12mx 2.6m		Dimensions	Description	TOTAL AREA	
			12m x 2.6m	Stacked over trail	124.8 sq. m	
1	Nets	3	6m + 2.6 m	stacked over stream	46.8	
2	Nets	3	9m × 2.6m	stacked over stream	70.2	
3	Nets	1	6 m x 2 . 6 m	Stacked over stream	15.6	
				10	_ = 1	
			li li			

Total Capture Area: 132, 6 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 Rt 219 Summer PA18 Date: 7-30-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Forested stream running through valley, Forest is a mixed deciduous forest with dominant tree species being Eastern Hemlock and Yellow Birch. The dominant understory species are Rosebay Rhododendron and withch-hail 18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

S	Number of Adult Females			Juv. No. A	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	TO SECTION	1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis										2 - 2	
Myotis leibii											
Myotis sodalis									- /	/	
Eptesicus fuscus								- 2		_	
Perimyotis subflavus						0.0	· /				
Lasiurus borealis				-	cont	, Ju					
Lasiurus cinereus				17							
Lasionycteris noctivagans			R	,01							
Other - specify:		No)								
Other - specify:			it.						le j		
Reproductive	Status:	NR= nor	nreprodi st lactati	ng, SCR	G= pregn = scrotal	ant, L= l epididyn	actating, nis swolle	en.			Grand Total
*(<u>(1) M</u>	Comple yotis soc	te Mea	Suren Myotis	leibii, (3	d Capt bats yo	ure Dat ou are ba es not us	a Forn	for al	ecapture	es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trappinginetting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/16/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Singnder 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer - \$\mathcal{P}\text{A19}
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Stream
8. County: Sommerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '- 5.55"N, Longitude: 79 °- 5 '-5.01 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: contact
Deborah Hoover McCormick Taylor 5 Capital Drive, Suite 400 Harrisburg, Pa 17110
13. Time (military) & Temperature: Start Time 20:50 h Stop Time 01:50 h Total Minutes: 300
Start Temp. 14.0 °C End Temp. 1.7 °C (must stay ≥ 10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set # Type Co		Count	Dimensions	Description	TOTAL AREA (m)		
1	Nets	4	12m x 2.6m	Stacked over trail	124 8 sq. m		
1	Nets	3	lonx 2.lem	Stacked over stream	46.8		
2	Nets	3	lem x 2.lem	Stacked over stream	46.8		
3	Nets	1	9m x 2.6m	Over stream	23.4		

Total Capture Area: _____sq. m

Site Su	rvey Rece	ord – Con	tinued)

Site Name/No.: 19

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Stream running through mix mature forest. Dominant tree species include hemlock, yellow birch, american beech, and red maple. Improved road running parallel to stream esitmated 100 meters away.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

		Number of Adult Females		No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii				ii.							
Myotis sodalis											
Eptesicus fuscus											
Perimyotis subflavus						4					ľ
Lasiurus borealis								.)			1
Lasiurus cinereus											
Lasionycteris noctivagans											
Other – specify:					1			1-2			
Other - specify:			. = -	,		7					
Reproductive	Status:	NR= nor	nreprod st lactat	uctive, P	G= pregn = scrotal	ant, L= l epididyn	actating, nis swolle	en.	-		Grand Total
	Comple votis soc	te <u>Mea</u> lalis, (2)	Suren Myotis	nent an leibii, (.	d Capto 3) bats yo bat specie	ure Dat ou are ba	a Forn	of for all	ecapture	es,	1

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT	NETTING/TRAPPING S	ITE SURVEY REC	CORD	Page 1 of 2
1. Survey Date: 7/18/14	2. Company Name: BA	T CONSTAVATION	& MANAGEME	in
3. Bat Identifier: John CHANGER	4. Assistants:	RYAN BUTLER	-	

5. Site Name and/or Number:_	2014 RT. 29	Summer-PA19	

6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
FORSTSD STOSAM
8. County: Somerset 9. 7.5' Quad .: AVILTON
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '- 1555"N, Longitude: 79 °- 5 '- 5.01 "W
Datum (circle one): (NAD27)(Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: contact
Deborah Hoover McCornick Taylor 5 Capital Drive, Suite 400 Hacrisburg, Pa 17110
13. Time (military) & Temperature: Start Time 70:45 h Stop Time 0/45 h Total Minutes: 300
Start Temp. 18 °C End Temp. 6 (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).

16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	NETS	3	6m + 2.6m	STACKED OVER STREAM	46.8
2	N875	3	6m+2.6m	STACHED OVER STREAM	46.8
3	1975	1	9m+2.Cm	OVER STEERM	23.4
l,					

Total Capture Area: 117 __sq. m

(Site Survey Record - Continued)	Site Name/No.:	PA 19	<u></u>	Date:_	7/18/4
					/

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

STREAM RUNNING THROUGH MIXED MATURE FOREST, DOMINANT TEER SP. INCLUDE HEMLOCK, YELLOW BIRCH. AMERICAN BEECH, AND RED MAPLE, IMPROVED RD. RUNNING PARALLEL TO STREAM. EST. MOOM AWAY

18. Was reproductive status checked?

-	,	
YES	7	1
	_	

NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

127	Number of Adult Females		No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species			
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1		emili de	3	2	1	1	4	7
Myotis lucifugus Myotis septentrionalis								-			
Myotis leibii						(
Myotis sodalis					/		j				
Eptesicus fuscus			e P	0	1						2 7 3 == 1
Perimyotis subflavus				1) (
Lasiurus borealis											
Lasiurus cinereus		1	\cup								
Lasionycteris noctivagans	1 1	1	1								
Other - specify:		-		n							
Other - specify:	. 1									il	
Reproductive	Status:	NR= no	nreprodu st lactati	nctive, Pong, SCR	G= pregr = scrotal	iant, L = l /epididyn	actating, nis swoll	en.			Grand <u>Total</u>
	yotis so	dalis, (2)	Myotis	leibii, (3	3) bats ye	ure Dat ou are ba es not us	inding or	band r	ecapture	25,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat Inibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/17/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinanders 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / PA 20
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Stream
8. County: Samerset 9. 7.5' Quad .: Avitton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43 '-50.48"N, Longitude: 79 °- 06 '-2.42"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: contact
Deborah Hoover McCornick Taylor 5 Capital Drive, Suite 400 Harrisburg, Pa 17110
13. Time (military) & Temperature: Start Time 20,50 h Stop Time 0150 h Total Minutes: 300
Start Temp. 3.4 °C End Temp. 0.5 °C (must stay ≥10 °C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	12m x Z.lom	Stacked over stream	93.6
2	Nets	1	12mxZlom	Over stream	31.2
3	Nets	3	18m × 2.6m	Stacked over stream	140.4

Total Capture Area: 265.2 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record – Continued)	Site Name/No.: Pa ZO	Date: 7/17/14
	d site: (topography and vegetation inclu	
Casselman River running to road and parallel to small	-hrough mature forest. River open field. Forest contains	runs perpendicular to improved dominant Sugar Maples, Red

American Beech, and Hemlock.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

345 125		Numl Adult F	ber of Female	s	No. Total Juv. No. Fem. Fem.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL		Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	Table St		3	2	1	1	4	7
Myotis lucifugus	l l								ĭ		
Myotis septentrionalis											
Myotis leibii	ľ	a .									
Myotis sodalis		II II									
Eptesicus fuscus				:: 4		4		•	•	2	6
Perimyotis subflavus									ļ		
Lasiurus borealis					n			* 2		2	4 ^{-×}
Lasiurus cinereus											
Lasionycteris noctivagans		l' II									
Other – specify:								=			
Other - specify:											
Reproductive		PL= po	st lacta	ting, SCR	= scrotal	/epididyr	nis swoll	en.			Grand <u>Total</u>
	Lyotis so	dalis, (2)	Myot	ment an is leibii, (3 s and (5) l	3) bats y	ou are ba	anding o	r band	recaptur	es,	10

9. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

* 1 Escaped From netset 1 (5m) at 2222.

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/18/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinonders 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / PA20
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel, other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Stream
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-43 '-50-48"N, Longitude: 79 °-06 '-2.42"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Octorah Hoover McCormick Taylor 5 Capital Drive, Suite 400 Harrisbury, Pa 17110 0:717-540-6040 13. Time (military) & Temperature: Start Time 2050 h Stop Time 0150 h Total Minutes: 300
Start Temp. 17.3 °C End Temp. 15.3 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle: Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	12m x 2.6m	Stacked over stream	93.6
2	Nets	1	12m × 2.6m	Over Steam	31.2
3	Nets	3	18m x 2.lem	Stacked over stream	140.4

Total Capture Area: 265.2 sq. m

(Site Survey Record - Continued)	Site Name/No.: PA 20	Date: 7/18/14
17. Describe habitat 150 m around	d site: (topography and vegetation including do	minant tree species.)
Casselman River running	through mature forest. River in	us perpendicular to
improved road and po	anallel to small open field. Fore	est contains dominant Suga
Maples, Red Males, A	ked? YES / NO (if "NO" only enter nu	
18. Was reproductive status chec	ked? (YES) / NO (if "NO" only enter nu	mbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females			No. Juv.	Juv. No. A			No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	A MARINE	1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis					7.						
Eptesicus fuscus			i i			1		7			2
Perimyotis subflavus											
Lasiurus borealis							•				
Lasiurus cinereus							111	1			
Lasionycteris noctivagans											
Other - specify:											if
Other - specify:											
Reproductive	Status:			ductive, P						1111	Grand <u>Total</u>
		ete Mea	asure	ment an	d Capt	ure Da	ta Forn	n for a		es,	3
and the	(4) ra	dio-tagg	ed bat	s and (5)	bat speci	es not us	ually for	ınd in I	A.		

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 17 DI 2014 2. Company Name: But Congestation and Management
1. Survey Date: 17 Company Name: 2. Company Name:
3. Bat Identifier: Todd Sinandes 4. Assistants: Duran Schanz, Brandon McClung (Responsible Recorder)
5. Site Name and/or Number: 2014 R+ 219 Sunes - PA2
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested stream
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 ° - 43 , 2698"N, Longitude: 79 ° - 06 , 39.23"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Haover McCornick Taylor 5 Capital Drive, Suite 400 Harrisburg, Pa 17110
13. Time (military) & Temperature: Start Time Stop Time 5255 h Total Minutes:
Start Temp. $\frac{///.0}{}$ °C End Temp. $\frac{//.0}{}$ °C (must stay ≥ 10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling) Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA (m)
7103	Nets	4	12m x 2.6m	Stacked over trail	124,8 sq. m
	Nets	3	18m x2.6m	Stacked over stream	140.459.m
2	Net	· l	6mx 2.6m	over stream	15.65g.m
3	Wets	3	12mx2.6m	Stacked over stream	93.65q.m
				4	
					7
12111					

Total Capture Area: 2496 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record - Continued)	Site Name/No.: 2014	+219 Sones _ PA	121 Date:_	175012014
17. Describe habitat 150 m around Nets are pared over a sho	la- wide trait street	m. One side of the	- Lout stream	is tolested and
the other has a ledge to - a hemlet, beech, and birch.	of trees between the	strem and a complet	d. Donnart	trust are supplying

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus			,								
Myotis septentrionalis			() () () () () () () () () ()		€ .		/ _				
Myotis leibii						~/			/		
Myotis sodalis							` .	/			
Eptesicus fuscus					0		/				
Perimyotis subflavus						7					
Lasiurus borealis			2								
Lasiurus cinereus			1)							
Lasionycteris noctivagans			1								
Other – specify:	X = .			7. 7.							
Other - specify:	/			-							
Reproductive	Status:	PL= po	st lactat	ing, SCR	= scrotal	/epididyr	nis swoll	en.	II:		Grand Total

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

(Site Survey Record - Continued)

Site Name/No.: 2014 rt 219 Somer _

PA21 Date: 18 Jul2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.) Nets are placed over a shallow wide frost stream. One side of the stream is forested and the other has a hedge row of treas between the stream and a cornfield. Dominant trees one sugar maple, hemlock, beach and birch.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species	1	Adult I	ber of Females	i,	No. Juv.	Total No.	Adult	er of Males	No. Juv.	Total No.	Species
- F	NR	PG	L	PL	Fem.	Fem.	SCR NR		Male	Males	Totals
Eptesicus fuscus	2	- 1 × 1	1		S MANUE	3	2	I	1	4	7
Myotis lucifugus							7 1				
Myotis septentrionalis					II I						
Myotis leibii				i e							
Myotis sodalis											+1
Eptesicus fuscus					-	2			7	1	3
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans				i.							
Other - specify:								-			
Other - specify:	_ = = .										
Reproductive	Status: N	NR= nor	nreprod st lactati	uctive, P	G= pregn	ant, L= l epididyn	actating, nis swolle	en.			Grand Total
	Complet yotis sod	te Mea	suren	ient an	d Capt	ure Dat	a Forn	for a		es,	3

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20	P	EM	IΛ	P	KS:

Dizzle storting at 2150 - Lich become a stordy light dizzle

(Site Survey Record - Continued)

Site Name/No.: 2014 rt 219 Smer _

PA21 Date: 18 Jul2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.) Nets are placed over a shallow wide frost stream. One side of the stream is forested and the other has a hedge row of treas between the stream and a cornfield. Dominant trees ore sugar maple, hemlock, beach and birch.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

		Numl Adult F	ber of Females	3.	No. Juv.	Total No.	Numl Adult		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		- 1		SUN N	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii				(Ma)							
Myotis sodalis											
Eptesicus fuscus					-	2			7	1	3
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans			= 1	i,							
Other - specify:											
Other – specify:											
Reproductive	1	PL= pos	st lactat	ing, SCR	t= scrotal	epididyn/	nis swolle	en.			Grand <u>Total</u>
*(<u>(1) M</u>	Comple lyotis sod	alis, (2)	Myotis	leibii, (.	d Capt 3) bats yo bat specie	ou are ba	nding or	band r	ecapture	s,	3

(4) radio-tagged bats and (5) bat species not usually found in PA.

16. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20.	R	EN	IA	R	KS.

20. REMARKS:

Dizzle starting at 2150 - Lich become a stendy light dizzle

Appendix C Radio Tracked Bats

Bat Voucher Photographs
Bat Measurement and Capture Data Forms
Day Roost Data Sheets
Day Roost Voucher Photographs
Bat Emergence Forms



Figure 1. 2014Rt219.1. Adult, post-lactating female eastern small-footed bat (*Myotis leibii*) captured at Site PA10. Voucher photograph of face mask.

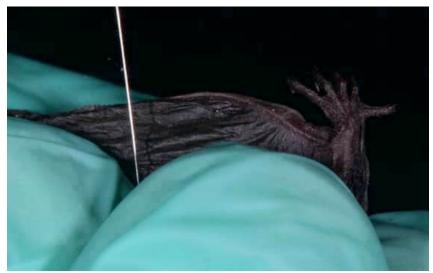


Figure 2. 2014Rt219.1. Adult, post-lactating female eastern small-footed bat (*Myotis leibii*) captured at Site PA10. Voucher photograph of keeled calcar.

FORM P-70008-M 12/09 Sextion 3

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Jo

(Complete for all (1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA)

ure /	Transmitter Attached? If so:	Frequency (mIIz)	172.862	1			ure /	Transmitter Attached? If so:	Frequency (mHz)	172.591				ure	Transmitter	Attached? If so.	(mHz)			
*Capture	LEFT fa.)	Band on Left/Right	(1-13 Sav		THE STREET	*Capture	LEFT fa)	Band on Left/Right	(m	*Capture	Omner	LEFT fa.)	Band on Left/Right			
11: 3 Name of Person Tool Signature Number:	Band Information (if banded) Band Males on bat's LEFT (a.)	Band	1	PR: 0.60-13 Sous		Repro Condition: NR=nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR=scrotal/epidid/smis swollen	John Chenger	Band Males on bat's RIGHT fa. Females on bat's LEFT fa.	Band				Repro Condition: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epidid/mis swollen		Band Information (if banded)	(Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)	Band Inscription			
nn / / / / / / / / / / / / / / / / / /	Information RIGHT fa.,	Band	l			R= scrotal	Bat: To	Information RIGHT fa	Band	1			R= scrotal	100	Information	RIGHT fa.	Band			
Name of Person Identifying the Bat: 100	Band les on bat's	Band	ı	19.1		sciating, SC	Name of Person Identifying the Bat:	Band les on bat's	Band	(179,2		netaling, SC	Name of Person	Band	les on bat's	Band Material			
N N	(Band Ma	Recapture Yes/No	32	- Name : 20148+219.		PL= post l	Na Ide	(Band Ma	Recapture Yes/No	No	Bat Name: 2019RE219,2		. PL= post l	SZ Z	No.	(Band Ma	Recapture Yes/No			
- P		P 4	1	Jame :		- lactating	Set No. Captured In:		Pi	_	george :		= lactating	Set No.	THE COLUMN		P to	_		
Set No.	nts (ers)	Hind	7	XX		nant, I	Set No.	nts	Hind	~	7 to		nant, 1	Set No.	at sta	(sua)	Hind			
	sureme	Fore- arm	31	Bay	1	= preg		sureme	Fore-	8	2		spreg =		sureme	millime	Fore-			
21/14	Body Measurements grams and millimeters)	Tragus	Sign	Wing Photo ID:	rks:	chective, PG	22/14	Body Measurements grams and millimeters)	Tragus	^	Wing Photo ID:	rks:	thetive, PG		Body Measurements	grams and millimeters)	Tragus		Wing Photo ID:	rks:
7/2		Ear	8		Remarks:	irepro	7/2		Ear	=		Remarks:	repros				Ear		Wing	Remarks:
Date:		Wt.	5.5	Score		R=noi	Date:		Wt.	3.4	Score		R= nor	Date:			Wt.		Score	
mme, PA10	/ m	Repro. Condition	PL	WNS Wing Score	0	Condition: N	-PH07	Ε	Repro. Condition	NR	WNS Wing Score	0	Condition; N			m	Repro. Condition		WNS Wing Score	
2/95	- P	Age	Z	Taken	%	Repro	1-61	P	Age	A	Taken	No	Repro		_		Age		aken	o _N
14 Pt	capture face:	Sex	Ш	Photo Taken	Yes / No	S155.55	y Rts	capture face:	Sex	£	Photo Taken	Xes)/ No			capturec	face:	Sex		Photo Taken	Yes / No
Site Name SOLY LL 2/95 Summe, PRIO	Height in meters captured above ground surface:		Mydrs leiber	Time of	2240		Site Name 2014 Rt 219	Height in meters captured above ground surface:	Species	Lesbii	Time of Capture	Shlo		Site Name	Height in meters captured	above ground surface:	Species		Time of	Capture

*Capture Number = number in sequence by site.

PGC Form: WD-DR-02/13 Section 4

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

Day Roost Data Sneet
1- Landowner: Name: Saundra Banker Address: 76/ Engles Mill Rood
Phone:
2-BAT INFO Dates on Roost: 7/22/14 Day Roost Number: Day Roost Number: Day Roost Number: Date Pale but was on roost; Roost No. = But # & numbered roost, in sequence, for that but - 241PGC-01)
Surveyors: Bryon Britise Type: Tree - Building - Rock - Other BARN (Describe rock and other roost structures)
Bat Species: Myotis Leclii Band No.: Transmitter Frequency:172.862
Ht.(m) bat is roosting off ground: Usk Was Bat Emergence Form Completed?YES Comments: (Where is bat roosting? Under bark? If building-describe)
3-LOCATION
County: Somerset Quadrangle: Avitor
Latitude: 39° 44′ 57 (DMS) Elevation (ft.): 1912
Longitude: 79°04"01" (DMS) %Slope: 9% Slope Aspect (0-360): 61°
Datum: Nad27 (prefered) NAD83 / WGS84 (circle one)
4-Roost INFORMATION (If other than tree, indicate rock, rock cliff, house, barn etc. for species)
Species: V/A DBH (cm): V/A Is Tree Alive? YES - NO (CIRCLE)
Height: (%UP + %DOWN) X Dist.(m) to tree = //Am(For Trees)
1st Branch Ht. (%UP + %DOWN) X Dist.(m) to tree = / Am(For Trees)
Estimate % Canopy Cover Around Roost:
Is suitable roost area exposed to direct sunlight? YES - NO (circle one) If so - estimate # of hours of exposure to direct sun:
Extinate % of tree with Exfoliating Bark: N/A %
Cavities? YES - NO If yes - Describe: MA
5-SURROUNDING HABITAT Distance (m) to Water: 486 m Water Type: Stream
Understory Species: N/A
Overstory Species: U/A
6-Comments (Comment on Overstory Species, Habitat Composition and non-tree roosts. Use back if needed)
Talked with Dave (ched not give last name) who said he owned the barn.
the was not willing to let us on his property and was gonerally hastile to any sorver activity. * Property owner hostile did not pass by be on road to check it bout I was still there post second day (7/32/14)

Bat: 2014Rt219.2



Figure 3. 2014Rt219.2. Adult, non-reproductive male eastern small-footed bat (*Myotis leibii*) captured at Site PA07. Voucher photograph of face mask.



Figure 4. 2014Rt219.2. Adult, non-reproductive male eastern small-footed bat (*Myotis leibii*) captured at Site PA07. Voucher photograph of keeled calcar.

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Page# of

(Complete for all (1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA)

Site Name Or Number: 2014 Lt 219 Sunma, PA10 Date:	0146	2/95	mmer PA10	Date:	7/21/	1/14		Set No. Captured In:	M	Name of Person Identifying the B	n Bat: 100	Name of Person Toll Synanoles	*Capture	ure /
Height in meters captured above ground surface:	rs captur urface:	pa	m /			Body Measurements grams and millimeters)	suremen	ts ers)	(Band Ma)	Band les on bat's	Information RIGHT fa.,	Band Information (if banded) Band Males on bat's LEFT (a.)	(EFT fa.)	Transmitter Attached? If so:
Species Mydtis leibii	Sex	Age	Repro. Condition PL	N. (E) X.	Ear Strin	Tragus	Fore- arm 31	Hind Foot	Recapture Yes/No	Band	Band	Band	Band on Left/Right	Frequency (mHz) (72,862)
Time of	Photo	Photo Taken	WNS Wing Score	Score		Wing Photo ID:	Bay	+ Name	- Name : 2014Rt219,	13,1		PR: 0.60-12 days	2-12 day	5
2240	(S)	Yes / No	0		Remarks:	ks:								
	557830	Repro	Condition: N	R= nor	reprod	factive, PC	= pregn	ant, L. lacton	ing. PL= post le	setating, SC	R= scrotal	Repro Condition: NR= nonreproductive, PG= pregnant, L= laciating, PL= post lactating, SCR= scrotallepididymis swollen	на	
Site Name 2014 Rtd19 - PHO7	114 Rt.	719-1	0407	Date:	7/2	122/14		Set No. Captured In:	Na Ide	Name of Person Identifying the Bat:	Bat: Te	John Chenger	*Capture	ure /
Height in meters captured above ground surface:	s captur urface:	pa	8		3	Body Measurements grams and millimeters)	suremen	ts ers)	(Band Mar	Band les on bat's	Information RIGHT fa.	Band Males on bat's RIGHT fa. Females on bat's LEFT fa.	(FFT fa.)	Transmitter Attached? If so:
Species	Sex	Age	Repro. Condition	Wt.	Ear	Tragus	Fore-	Hind	Recapture Yes/No	Band	Band	Band Inscription	Band on Left/Right	Frequency (mHz)
Le, 611	N	A	NR	3.4	2	^	8	~	500	(1	((172.591
Time of Capture	Photo	Photo Taken	WNS Wing Score	Score	Wing	Wing Photo ID:	Ba	+ Namo:	Bat Name: 2014RE219,2	119,2				
Shlo	(S)	Xes) No	0		Remarks:	ks:								
		Repro.	Condition; N.	R= non	reproa	incrive, PC	i= pregn	ant, L= lactati	ing, PL= post h	retafing, SC	R= scrotal	Repro Condition: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epidid/mis swollen	cm	
Site Name Or Number:	,			Date:				Set No. Captured In:	Na Ide	Name of Person Identifying the Bat:	Bat		*Capture	ure er:
Height in meters captured above ground surface:	s captur irface:	pa	E		3	Body Measurements grams and millimeters)	suremen	ts ers)		Band les on bar's	Information RIGHT fa.	Band Males on bat's RIGHT fa. Females on bat's LEFT fa.)	(EFT fa.)	Transmitter Attached? If so.
Species	Sex	Age	Repro. Condition	Wt.	Ear	Tragus	Fore-	Hind Foot	Recapture Yes/No	Band Material	Band	Band Inscription	Band on Left/Right	Frequency (mHz)
Time of	Photo	Photo Taken	WNS Wing Score		Wing	Wing Photo ID:								
	Yes	Yes / No			Remarks:	ks:								

*Capture Number = number in sequence by site.

PGC Form: WD-DR-02/13 Section 4

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

tion -	Day 1100	or Data Oncor	
1- Landowner:	Name: Guy Wayne A	ddress:	-
	Phone: Hardlesty*		' <u>-</u>
2-BAT INFO Dates on Roos	st: 7/24/14 = Date bat was on roost; Roost No.= Bat # 8	Day Roost Numbe & numbered roost, in seque	er: <u>2014 Rt 219. 2./</u> ence, for that bat - 241PGC-01)
Surveyors: 5	hn Chenger Bryon Buttler Ty	rpe: Tree Building	- Rock - Other
Bat Species:	yotis leibii Band No .:_	Transmitte	Frequency: 172.591
	posting off ground: 1944. Where is bat roosting? Under bark? If build		orm Completed?YES NO
In a 1	large barn with b	lock roof.	
County: _	Somerset Quan	Irangle: <u>Avil</u>	ton.
Latitude:	39°44′28" (DMS)	Ele	evation (ft.): <u>2576</u>
Longitude: _	79°02'16° (DMS) %	Slope: 11%	Slope Aspect (0-360): /70°
Datum: _	Nad27 (prefered) NAD83 /	WGS84 (circle one)	
4-Roost INFOR	RMATION (If other than tree, indicate roc	k, rock cliff, house, barn et	c. for species)
	<i>∐/A</i> DBH (cm):		Is Tree Alive? YES NO (CIRCLE)
	(%UP + %DOWN) X D		
	(%UP + %DOWN) X Di		/
Estimate % (Canopy Cover Around Roost:		_
	Is suitable roost area exposed to dire f so - estimate # of hours of exposure to dire Azimuth of Exposure (which way does	ect sun: 17 /acc	
For Trees: Exfoliati	ing Bark? YES - NO E	stimate % of tree wi	th Exfoliating Bark: <u>\U/\/\/\/</u> %
Cavities? Y	YES - NO If yes - Describe:	N/A	
5-SURROUND	ING HABITAT Distance (m) to Water:80	m	Water Type: Creck
ι	Understory Species:	N/A	
6 Comments	Overstory Species: (Comment on Overstory Species, Habitat Co	N/A	acts. Use hack if peopled).
Hordest	owner is also the a was not allowed acc	ess to the m	ine to be sorveyed
100 FC-C	- in the past. This I	and owner 1.	access by this access

Bat: 2014Rt219.3



Figure 5. 2014Rt219.3. Adult, post-lactating female northern long-eared myotis (*Myotis septentrionalis*) captured at Site PA03. Voucher photograph of face and tragus.



Figure 6. 2014Rt219.3. Adult, post-lactating female northern long-eared myotis (*Myotis septentrionalis*) captured at Site PA03. Voucher photograph of keeled calcar.

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Comp	lete for all	(1) My	otis sodalis,	(2) My Date:	otis lei	Bat bii, (3) ba	Measur Is you an	e banding	g or ban	Bat Measurement and Capture Data Form (3) bats you are banding or band recaptures, (4) radio-tall bats you are Net No.	Data Form es, (4) radio-tage Name of Person	gged bats a	Bat Measurement and Capture Data Form [Complete for all (1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA) [Complete for all (1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA) [Complete for all (1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA)	not usually found	und in PA)
Or Number: 201484.219 Summer PA 03	14R1.2195	Symme	- PAOS	Cate.	7/26/14	41/0		Captur	d In:	3 Ide	antifying the	Bat: Tode	Identifying the Bat: Todd Smander	Number:	ure
Height in meters captured above ground surface:	s captured irface:	_	Е		3	Body Measurements grams and millimeters)	suremer	its ers)		(Band Ma.	Band les on bat's	Information RIGHT fa.,	Band Information (if banded) Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)	LEFT fa.)	Transmitter Attached? If so:
Species	Sex	Age	Repro.	Wt.	Far	Тгаоне	Fore-	Hind		Recapture Ves/No	Band	Band	Band	Band on	r requency (mHz)
Septentrionalis	ш		PL		19	19mm 10mm	36mm			ND	N/A	N/A	N/A	N/A	172.239
Time of	Photo Taken	-	WNS Wing Score		Wing	Wing Photo ID:									
2250	(Ŷes)/ No		0		Remarks:	ks: 8 _{AT}	NAM	E: 2	014 Rt.	BAT NAME: 2014 Rt. 219.3	Polse y	Polse Kake = 0.61	19.0		
Management of the state of the	A COLOR	Repro.Cond	ondition: N	R=non	reproa	uctive, PC	i= pregn	ant, L=	lactating	g. PL= post l	actating, SC	R= scrotal	tion: NR = nonreproductive, PG = pregnant, L = lactating. PL = post lactating, SCR = scrotal epididymis swollen	iii.	THE PERSON
Site Name				Date:				Set No.		ž	Name of Person	u(┢	ure
Or Number:								Captured In:	red In:	Ιď	Identifying the Bat:	Bat:		Number:	cr:
Height in meters captured above ground surface:	s captured irface:		E		9	Body Measurements	suremen	ifs		(Band Ma	Band bat's	Information RIGHT for	Band Information (if banded) Rand Moles on hat's RIGHT to Females on hat's LEFT ta)	(FFT fa)	Transmitter Attached? If so:
Species	<u> </u>	\vdash	Repro.	Wt			Fore-	Hind		Recapture	Band	Band	Band	Band on	Frequency (mH=)
	Sex A	Age	Condition	(g)	Ear	Tragus	arm	Foot	-	Yes/No	Material	Color	Inscription	Left/Right	
Time of	Photo Taken	_	WNS Wing Score		Wing	Wing Photo ID:									
Caping	Yes / No	°Z			Remarks:	ks:									
	Y	Repro. Condi		R= non	reproa	uctive, PC	i= pregn	ant, L=	lactating	L PL = post l	actating, SC	'R= scrotal	tion: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epiditiymis swollen	ıı	
Site Name				Date:				Set No.	٠,	Z	Name of Person	n uc		Г	ure
Or Number:								Captured In:	ed In:	Ιdε	Identifying the Bat:	Bat:		Number:	er:
Height in meters captured above ground surface:	s captured irface:		E		3	Body Measurements grams and millimeters)	suremen	its		(Band Ma	Band les on bat's	Information RIGHT fa.	Band Information (if banded) (Band Males on bat's LEFT fa.)	LEFT fa.)	Transmitter Attached? If so:
Species		Age	Repro. Condition	Wt.	Ear	Tragus	Fore-	Hind	- 1	Recapture Yes/No	Band Material	Band	Band Inscription	Band on Left/Right	(mHz)
		-4													a a
Time of	Photo Taken		WNS Wing	Score	Wing 1	Wing Score Wing Photo ID:		:			75				-
	Yes / No	92			Remarks:	ks:									
		1													

PGC Form: WD-DR-02/13 Section 4

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

Landowner: Name: PA Gone Commission Address: PA State Game Lands 231
southwest Regional Office
Phone: 724-238-9523 4820 Route 711 Bolivar, PA
2-BAT INFO Dates on Roost: 7/27/2614 Day Roost Number: 2014 RT219, 3.1 (Date = Date bat was on roost; Roost No.= Bat # & numbered roost, in sequence, for that bat ~ 241PGC-01)
Surveyors: Risa Weight; Jacob Eshelmon Type: (Tree)- Building - Rock - Other
Bat Species: Myotis Septembrianalis Band No.: Transmitter Frequency: 172.239
Ht.(m) bat is roosting off ground: 10.56m Was Bat Emergence Form Completed? YES - NO Comments: (Where is bat roosting? Under bark? If building-describe) Bat appears to be roosting under bark or in a tree cavity. It appears
to be in the top dead partion of a red maple. The bottom 34 of tree is alive
3-LOCATION
County: Somerset Quadrangle: Meyers dale
Latitude: 39 45 57.73 (DMS) Elevation (ft.): 2621
Longitude: 79° 01'47, 35" (DMS) %Slope: 21% Slope Aspect (0-360): 320°
Datum: Nad27 (prefered) NAD83 / WGS84 (circle one)
4-Roost INFORMATION (If other than tree, indicate rock, rock cliff, house, barn etc. for species)
Species: Acer rubrum DBH (cm): 8.7 Is Tree Alive? YES NO (CIRCLE)
Height: (%UP+ %DOWN) X Dist.(m) to tree =2\.5_b _m(For Trees)
1st Branch Ht. (%UP + %DOWN) X Dist.(m) to tree = 4,79m(For Trees)
Estimate % Canopy Cover Around Roost: 75%
Is suitable roost area exposed to direct sunlight? YES - NO (circle one) If so - estimate # of hours of exposure to direct sun: Azimuth of Exposure (which way does exposed part of roost face): [19 0
Exfoliating Bark? YES NO Estimate % of tree with Exfoliating Bark: %
Cavities? YES -(NO If yes - Describe: (none visible)
5-SURROUNDING HABITAT Distance (m) to Water: 908 m Water Type: _creek
Understory Species: Yellow Birch, Sassafras
6-Comments (Comment on Overstory Species, Habital Composition and non-tree roosts. Use back if needed)
Roost tree is in dense forest.





Figure 7 (Above left). Roost tree 2014Rt219.3.1. Upper portion of roost tree. Figure 8 (Above right). Roost tree 2014Rt219.3.1. Lower portion of roost tree.

PGC Form: WD-EM-05/02 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period. ROOST NO.: 2014 Rt219.3.1 ROOST TYPE: Building Tree Other: _____ Transmitter Frequency: 172, 239 Transmittered Bat Band No.:____ Temperature: 65,5 *F Weather Sky Condition Code: Wind Scale Code:_ **Beaufort Wind Scale Sky Conditions** Code MPH Indicators Code 0 Clear or a few clouds <1 Smoke rises vertically Smoke Drift shows wind direction 1-3 mph 1 Partly cloudy/variable sky 4 - 7 mph Wind felt on face/leaves rustle Cloudy (broken) or overcast 8 - 12 mph Leaves&sm.twigs in constant motion Fog or smoke 13 - 18 mph Raises dust & loose paper Drizzle Snow 19 - 24 mph Small trees in leave sway Showers Night Vision Equipment Used? YES - NO Bat Detector Used? YES - NO Telemety Equipment Present? YES - NO Time Surveyors arrived at Roost: 2045 (use 24 hour clock for times) Time First Bat Seen Flying: 2084 Time Transmittered Bat Emerged: ___ * And Azimuth Last Detected: ___ Time Last Bat Seen Emerging: 2054 Total Emergence Count:____ (include other emergence observations, weather, bat behavior, etc.) Comments: *Surveyors lettroost at 2230. Bet was still in roost.
At Just could clearly hear signs that bet was
moving in roost. By 2230 movement had stopped.

PGC Form: WD-EM-02/13 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period. * ROOST NO.: 2014 RT 219.3,1 DATE: 7/29/2014 ROOST TYPE: Building - Tree - Rock - Other _____ Ramirez Transmittered Bat Band No.: N/A Transmitter Frequency: N/A Temperature: 52.2 *F Sky Condition Code: Wind Scale Code: **Sky Conditions Beaufort Wind Scale** Code Code MPH Indicators 0 Clear or a few clouds <1 Smoke rises vertically 1 1-3 mph Smoke Drift shows wind direction 1 Partly cloudy/variable sky 2 2 4 - 7 mph Wind felt on face/leaves rustle Cloudy (broken) or overcast 8 - 12 mph Leaves&sm.twigs in constant motion Fog or smoke 5 Drizzle 13 - 18 mph Raises dust & loose paper 19 - 24 mph Small trees in leave sway Snow Showers Night Vision Equipment Used? YES (NO) Bat Detector Used? YES - NO Telemety Equipment Present? YES NO Time Surveyors arrived at Roost: 20:30 (use 24 hour clock for times) Time First Bat Seen Flying: Time Transmittered Bat Emerged: And Azimuth Last Detected: ____

(include other emergence observations, weather, bat behavior, etc.)

Time Last Bat Seen Emerging:_____

Comments:

Total Emergence Count:

PGC Form: WD-DR-02/13 Section 4

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

ction 4		Day Roost Data She	et	00.
1-	Nama PA Came	Address: S	4 Store Game Lands	0/2/
Landowner:	Name: Commission	Address. 3	4 Store Game Lands	17758
	Phone: 724- 238.	- 95-23 4	1820 Rose 711	
			Bolivas, PA	
2-BAT INFO Dates on Roost:	7/28/14	Day Roos	t Number: 2014 Rt. 219.3.7	7
(Date = L	Date but was on roost; Roost	No.= Bat # & numbered roo	st, in sequence, for that bat ~ 241PGC	-01)
			Balling Barb Other	
Surveyors: 102	of Dinander Jacob E	STACIMAN Type: (Tree)-	Building - Rock - Other_ escribe rock and other roost structures)	
Bat Species: M	gotis SeptentrionlisBan		nsmitter Frequency: 172.	
Ht.(m) bat is roo	sting off ground:	Was Bat Em	nergence Form Completed?YES - No	0
	here is bat roosting? Under ba			
Botis ma	crevis/court on	a smoll red m	rope sras that bro	inches
3-LOCATION	it of a lune red	orapie from the	ground.	
County: S	omerse t	Quadrangle: //	cyersdale	_
	1 45 57.5" (DM		Elevation (ft.): 2621	
_			% Slope Aspect (0-360)	: 320°
Datum:	Nad27 (prefered)	NAD83 / WGS84 (cir	cle one)	
4-Roost INFORM	MATION (If other than tree,	indicate rock, rock cliff, hou	ise, barn etc. for species)	
-	Red Maple DBI		Is Tree Alive? YES - NO	
Height: (4 ** OOWN + ** OOWN + 17) X Dist.(m) to tree_	20 = 0 m(For Trees)	
1st Branch Ht. (%	6UP_= 9 + %DOWN =\	X Dist.(m) to tree_	20 = 6 m(For Trees)	
Estimate % C	anopy Cover Around I	Roost: 80%		
	ls suitable roost area ext	oosed to direct sunlight?	YES - NO (circle one)	
If s	o - estimate # of hours of exp	And the state of t	-Zhrs	
	Azimuth of Exposure (which	th way does exposed part of	of roost face):	(1-360)
For Trees: Exfoliatin	g Bark? YES - NO	Estimate % o	of tree with Exfoliating Bark:_	0 %
Cavities? Y	S-NO If yes - Descri	be: Two feet lor	ig Slit foring south	
5-SURROUNDIN			*	
5-SUKKOUNDII	stance (m) to Water:_	908 m	Water Type:	ool
	nderstory Species: //	5 1 A	Sassafras	
			el Oak, Yellow bin	S
			non-tree roosts. Use back if needed)	
Tree	is in Matures	lecidus fore	15%.	

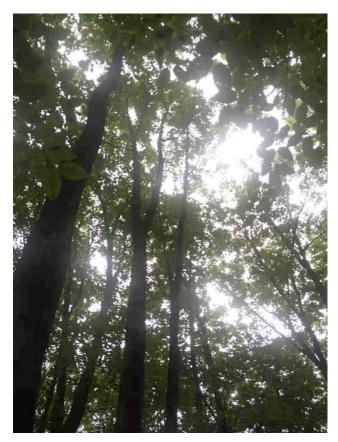




Figure 9 (Above left). Roost tree 2014Rt219.3.2. Upper portion of roost tree. Figure 10 (Above right). Roost tree 2014Rt219.3.2. Lower portion of roost tree.

PGC Form: WD-EM-02/13 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

 It is important to keep lights and noise disturbance 	to a minimum during the emergence period. *
ROOST NO .: 2014 2+219.3.2	DATE: 29 July 2014
ROOST TYPE: Building - Tree - Rock - Oth	ner
Surveyors: Bimbon Milling	
Transmittered Bat Band No.:	Transmitter Frequency:
Weather Temperature: 52.2 *F	1.1°C)
Sky Condition Code:	Wind Scale Code:
Sky Conditions Code Code	Beaufort Wind Scale MPH Indicators 1 Smoke rises vertically 1-3 mph Smoke Drift shows wind direction 4 - 7 mph Wind felt on face/leaves rustle 8 - 12 mph Leaves&sm.twigs in constant motion 13 - 18 mph Raises dust & loose paper 19 - 24 mph Small trees in leave sway Bat Detector Used? YES NO
Time Transmittered Bat Emerged: <u></u>	And Azimuth Last Detected:
Time Last Bat Seen Emerging:	Total Emergence Count:
Comments: (Include other emergence observations, **Transm: + ered bat shed transm	weather, bat behavior, etc.)

PGC Form: WD-EM-02/13 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to	o a minimum during the emergence period.		
ROOST NO .: 2014 Pt. 219 3:2	DATE: 07/30/14		
ROOST TYPE: Building - Tree - Rock - Other	er		
2 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
Surveyors. Wilman M-Clay			
<u> </u>			
Transmittered Bat Band No.:	Transmitter Frequency:		
Weather Temperature: 54, ✓ *F	12.6%		
Sky Condition Code:	Wind Scale Code:		
Sky Conditions Code	Beaufort Wind Scale MPH Indicators 1 Smoke rises vertically 1-3 mph Smoke Drift shows wind direction 4 - 7 mph Wind felt on face/leaves rustle 8 - 12 mph Leaves&sm.twigs in constant motion 13 - 18 mph Raises dust & loose paper 19 - 24 mph Small trees in leave sway Bat Detector Used? YES - NO		
The state of the s			
Time First Bat Seen Flying: 2104			
Time Transmittered Bat Emerged:*	And Azimuth Last Detected:		
Time Last Bat Seen Emerging: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Total Emergence Count:		
Comments: (include other emergence observations,	weather, bat behavior, etc.)		
	• -		

* But had dispred transmitted prior to Emergence

Bat: 2014Rt219.4



Figure 11. 2014Rt219.4. Adult, post-lactating female northern long-eared myotis (*Myotis septentrionalis*) captured at Site MD02. Voucher photograph of face and tragus.



Figure 12. 2014Rt219.4. Adult, post-lactating female northern long-eared myotis (*Myotis septentrionalis*) captured at Site MD02. Voucher photograph of keeled calcar.

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Page# / of /

Comp	lete for a	11 C	votis sodalis.	(2) Mv	otis lei	Bat]	Measur S vou are	: banding	and C	Bat Measurement and Capture Data Form 3) bats you are banding or band recaptures. (4) radio-2	ta Form	gred bats an	Bat Measurement and Capture Data Form Complete for all (1) Myotis sodalis. (2) Myotis leibii. (3) bats you are banding or band recaptures. (4) radio-tagged bats and (5) bat species not usually found in PA)	not usually fo	und in PA)
Site Name 2014R+2195ummer_HD02	14R+21	35umn	ner_MDO2	Date:	8-0	4102-40-8	5	Set No. Captured In:	ed In:	A Na	Name of Person Identifying the E	Bat: R:s	Name of Person Identifying the Bat: Rise Wright	*Capture Number:	ure 1
Height in meters captured above ground surface:	s capture irface:	-	u -		3	Body Measurements grams and millimeters)	suremen	its ers)		(Band Mai	Band es on bat's	Information RIGHT fa.,	Band Information (if banded) (Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)	LEFT fa.)	Transmitter Attached? If so:
Species	Sex	Age	Repro. Condition	Wt.	Ear	Tragus	Fore- arm	Hind		Recapture Yes/No	Band Material	Band	Band	Band on Left/Right	r requency (mHz)
Suptenderonalis	_	⋖	PL	7.0	5	6	36	0	-	1	1	1			172.172
Time of	Photo Taken	Taken	WNS Wing	Wing Score	Wing	Wing Photo ID:					E)				pulse 0.42
235Y	Yes // No	°Z	0		Remai	Remarks: Name: 2014R+219.4	, W C.	2014	R+210	4.4					
	STATE OF THE STATE OF	Repro.Condi	Condition: N	R= non	reproa	luctive, PC	i= pregn	ant, $L=$	lactating	. PL= post le	sciating, SC	'R= scrotal	ttion: NR= nomeproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epidid/mis swollen	en	
Site Name Or Number:	-			Date:				Set No. Captured In:	od In:	Na	Name of Person Identifying the Bat:	n Bat:		*Capture Number:	ture ber:
Height in meters captured	s captured	-D	Ε		*	Body Measurements	suremen	tts		(Band Mar	Band fex on bat's	Information RIGHT fa.	Band Information (if banded) Band Information (if banded) Refer fa.	s LEFT (a.)	Transmitter Attached? If so:
Species	Sex	Age	Repro. Condition	Wt.	Ear	Tragus	Fore- arm	Hind		Recapture Yes/No	Band Material	Band	Band Inscription	Band on Left/Right	Frequency (mHz)
Time of	Photo Taken	Taken	WNS Wing	Wing Score	Wing	Wing Photo ID:									
Capture	Yes / No	No			Remarks:	ks:									
		Repro.	Condition: N	R= non	reprod	luctive, PC	i= pregn	ant, L=	lactating	, PL= post h	retating, SC	'R= scrotal	$Repro\ Condition:\ NR=nonreproductive,\ PG=pregnant,\ L=lactating,\ PL=post\ lactating,\ SCR=scrotal/epididymis\ swollen$	en	THE REAL PROPERTY.
Site Name				Date:				Set No.	:	S.	Name of Person	uc			ture
Or Number:								Captured In:	ed In:	ğ	identifying the Bat:	. Bat:	" Oftendah	Number	Transmitter
above ground surface:	s capture irface:	=	8		3	Body Measurements (grams and millimeters)	millimet	ers)		(Band Ma	band les on bat's	RIGHT fa.	Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)	s LEFT fa.)	Attached? If so:
Species	Sex	Age	Repro. Condition	Wt.	Ear	Tragus	Fore-	Hind Foot		Recapture Yes/No	Band Material	Band	Band Inscription	Band on Left/Right	requency (mHz)
ě		-+													
Time of	Photo Taken		WNS Wing	Score	Wing	Wing Score Wing Photo ID:									
	Yes / No	°Z			Remarks:	rks:									
		1					*Captur	e Number	= number	*Capture Number = number in sequence by site.	ite.		Ī		

PGC Form: WD-DR-02/13 Section 4

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

1- Landowner: Name: Sidney Markowtz Address: 10800 Pebble Brook Lone
Phone: Address: 10800 Pebble Brook Lone Potomac, MD 20854
2-BAT INFO Dates on Roost: 5 Acu 2014 6 Acc 2014, 74 x 2014, 84 3 20 Day Roost Number: 2014 64 219 • 4 • 1 (Date = Date bat-was on roost; Roost No. = Bat # & numbered roost, in sequence, for that bat ~ 241PGC-01)
Surveyors: Dorgan Shanz Jode Simplet, Joob Fype: Tree - Building - Rock - Other
Bat Species: Myst's appendicionalis Band No.: Transmitter Frequency: 172,172
Ht.(m) bat is roosting off ground: Was Bat Emergence Form Completed? YES NO Comments: (Where is bat roosting? Under bark? If building-describe)
3-LOCATION TOSSIBLY LINGOT BOOK
County: Garrett Quadrangle: Avilton
Latitude: 39° 42' 43.1" (DMS) Elevation (ft.): 2 495
Longitude: 79° 64' 44.5 (DMS) %Slope: 10% Slope Aspect (0-360): 72°
Datum: Nad27 (preferred) NAD83 / WGS84 (circle one)
4-Roost INFORMATION (If other than tree, indicate rock, rock cliff, house, barn etc. for species)
Species: Honey larust DBH (cm): 36 Is Tree Alive? YES - NO (CIRCLE)
Height: (%UP $138 + \text{MDOWN} \cdot 22$) X Dist.(m) to tree $20 = 32$ m(For Trees)
1st Branch Ht. (%UP 106 + %DOWN 122) X Dist.(m) to tree 20 = 3.2 m(For Trees)
Estimate % Canopy Cover Around Roost: 50%
If so - estimate # of hours of exposure to direct sunlight? Azimuth of Exposure (which way does exposed part of roost face): Exfoliating Bark? YES - NO Estimate % of tree with Exfoliating Bark: 15
Cavities? YES NO If yes - Describe:
5-SURROUNDING HABITAT Distance (m) to Water: 40 m Water Type: pond
Understory Species: yellow birth red maple
Overstory Species: Cherry Red Maple Yellow birch honey
6-Comments (Comment on Overstory Species, Habitat Composition and non-free roosts. Use back if needed)
Roost is ma stream lowland between the stream and
Pond within mature mixed Grost with numerous six





Figure 13 (Above left). Roost tree 2014Rt219.4.1. Upper portion of roost tree. Figure 14 (Above right). Roost tree 2014Rt219.4.1. Lower portion of roost tree.

PGC Form: WD-EM-05/02 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

t is important to keep lights and noise disturbance to a minimum during the emergence period. ROOST NO .: 2014 (+219.4.1 ROOST TYPE: Building Other: Surveyors: < Transmitter Frequency: 172.172 Transmittered Bat Band No.: Temperature: 65.4 *F Weather Wind Scale Code: Sky Condition Code: Sky Conditions **Beaufort Wind Scale** Code Code MPH Indicators 0 Clear or a few clouds <1 Smoke rises vertically 1 Partly cloudy/variable sky 1-3 mph Smoke Drift shows wind direction 2 Cloudy (broken) or overcast 4 - 7 mph Wind felt on face/leaves rustle Fog or smoke 8 - 12 mph Leaves&sm.twigs in constant motion Drizzle 13 - 18 mph Raises dust & loose paper Snow 19 - 24 mph Small trees in leave sway Showers Night Vision Equipment Used? YES - NO Bat Detector Used? YES - NO Telemety Equipment Present? YES - NO Time Surveyors arrived at Roost : 20/5 (use 24 hour clock for times) Time First Bat Seen Flying: 2042 Time Transmittered Bat Emerged: 2048 And Azimuth Last Detected: 5 Time Last Bat Seen Emerging: 2048 Total Emergence Count: Comments: (include other emergence observations, weather, bat behavior, etc.) 2047 but seen flying above roost-tree After transmittered but left roost the buts were flying above roost tree. After about a minute only one was flying above tree, and continued for 2 or 3 minutes.

PGC Form: WD-EM-05/02 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period. *

ROOST NO .: 2014 R+ 219 . 4. 1	DATE: 6 Aug 2014
ROOST TYPE: Building Tree Other	·
Surveyors: Duncan Schanz	
Surveyors. Donash School C	
W 1 W/	
Transmittered Bat Band No.:	Transmitter Frequency: 172, 172
Weather Temperature: 60 + F	
Sky Condition Code:	Wind Scale Code:
Sky Conditions	Beaufort Wind Scale
Code Code	MPH Indicators
0 Clear or a few clouds 0 1 Partly cloud/variable sky 1	<1 Smoke rises vertically 1-3 mph Smoke Drift shows wind direction
1 Taray areas promote say	1-3 mph Smoke Drift shows wind direction 4 - 7 mph Wind felt on face/leaves rustle
2 Cloudy (broken) or overcast 2 4 Fog or smoke 3	8 - 12 mph Leaves&sm.twigs in constant motion
5 Drizzle 4	13 - 18 mph Raises dust & loose paper
7 Snow 5	19 - 24 mph Small trees in leave sway
8 Showers	
Night Vision Equipment Used? YES NO	Bat Detector Used? YES - NO
Telemety Equipment Present? YES-NO	
Time Surveyors arrived at Roost :	(use 24 hour clock for times)
Time First Bat Seen Flying: 2034	, i) a
Time Transmittered Bat Emerged: 2034	And Azimuth Last Detected:
Time Last Bat Seen Emerging: 2057	Total Emergence Count:
Comments: (include other emergence observations,	weather, bat behavior, etc.)
- Transmittered but left rough	soins in the direction windles time
and the signal was lost a	and was at 2040 - to was
- Second but seen fly from the next few minutes of the test few minutes of the test few minutes of the test few moraed	weather, but behavior, etc.) going in the direction 310° the property of minutes time the cost was at 2040. For bot (asoming this bat) was bot (asoming the bat)
the next ten mind to	of of the
- 2043 third but emerged	1 2/3 to the top
- 1043 this by	ee about the small period
- 4 but circled	top of their to
eventually 175	ee about 2/3 to the top top of trea for small period top of treatm seen clinging to bette with forearm seen clinging to Did not witness but
an manted bot 5:10	Did not withes
- 205/ tree near tree crotch	
Tree .	

PGC Form: WD-EM-02/13 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period. *

	ROOST	NO .: 20148+219.4.1	<u>-</u> .	DATE: 7/20 2014	
	ROOS	T TYPE: Building - Tr	e - Rock - Othe	er	
	Surveyor	rs: Duncan Schanz			
	Transmit	tered Bat Band No.:	VA	Transmitter Frequency: 172.172	
	Transmi		5a.86	Transmitter Frequency.	
	Weather	Temperature	: <u>6/0/</u> *F		
	Sky Con	dition Code:		Wind Scale Code:	
		Sky Conditions		Beaufort Wind Scale	
	Code		Code	MPH Indicators	
	0	Clear or a few clouds	0	<1 Smoke rises vertically	
	1	Partly cloudy/variable sky	1	1-3 mph Smoke Drift shows wind direction	
	2	Cloudy (broken) or overcast	2	4 - 7 mph Wind felt on face/leaves rustle	
	4	Fog or smoke	3 4	8 - 12 mph Leaves&sm.twigs in constant motion	
	5	Drizzle	5	13 - 18 mph Raises dust & loose paper 19 - 24 mph Small trees in leave sway	
	7 8	Snow	J	13 - 24 mph Shail trees in leave sway	
	0	Showers			
	Night Vis	ion Equipment Used? YE	S-NO	Bat Detector Used? YES - NO	
	Telemety	Equipment Present?	s - NO		
	Time Su	rveyors arrived at Roost	: 1940	(use 24 hour clock for times)	
	Time Fir	st Bat Seen Flying: 20	34		
		ansmittered Bat Emerged		And Azimuth Last Detected: 250°	
	Time La	st Bat Seen Emerging:	1042	Total Emergence Count:	
	Comme			weather, bat behavior, etc.)	
- Fire	it but to	emerged at 2034.	About ten se	econds later transmittered but emi	roed.
-20:	37 thir	but emerged, Pleu	oround roost tr	ee roughly 2/3 up for just under a cor a bat was flying near top of roc	minute
4	han di	soppeared. About ha	If a minute late	r a bat was flying near top of roc	7
,	roo Ent	about two minutes.		0.	2
.1	,	A THE RESERVE OF THE PARTY OF T	by and forth	h. 2047 one flew to a 416	
- 2c	45 tu	10 outs were calling	LOGIC CONTRACTOR	of a cer times with the oth	25
	about	20 m from roos	+ HELL / ECTIVE	calls sounded to be that of .	Le
	Land I	look of rooin	at 20510	Code as	
	O-NC	TOOL OF		h. 2047 one flew to a tree ed a few times with the other Colls sounded to be that of	
	Barred	out.			

PGC Form: WD-EM-05/02 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturb	ance to a minimum during the emergence period.
ROOST NO.: 2014 Pt 219.4.1	DATE: 8Avg 14
ROOST TYPE: Building (ree)	Other:
Surveyors: Doran Schonz	
Surveyors. 2000 Surveyors	
3.13	170 170
Transmittered Bat Band No.:	Transmitter Frequency: 172.172
Weather Temperature: 64.9 *F	
Sky Condition Code:	Wind Scale Code:
Sky Conditions <u>Code</u>	Beaufort Wind Scale ode MPH Indicators
Clear or a few clouds Partly cloudy/variable sky	0 <1 Smoke rises vertically 1 1-3 mph Smoke Drift shows wind direction
1 Partly cloudy/variable sky 2 Cloudy (broken) or overcast	2 4 - 7 mph Wind felt on face/leaves rustle
4 Fog or smoke	3 8 - 12 mph Leaves&sm.twigs in constant motion
5 Drizzle	4 13 - 18 mph Raises dust & loose paper
7 Snow 8 Showers	5 19 - 24 mph Small trees in leave sway
Night Vision Equipment Used? YES -NO Telemety Equipment Present? YES - NO	Bat Detector Used? YES - NO
Time Surveyors arrived at Roost : 2005	(use 24 hour clock for times)
Time First Bat Seen Flying: 2034	
Time Transmittered Bat Emerged: 2034	And Azimuth Last Detected: 270°
Time Last Bat Seen Emerging: 2036	Total Emergence Count:
Comments: (include other emergence observ	ations, weather, bat behavior, etc.)
-2033 notable signal fluctulation -2035 boot sean flying around n -2040 boot old a few posses left briefly, came back before flying off.	ear top of roost tree briefly (not transmittered between crotch of tree and surveyor, between area for a few more passes to some orea for a few more passes
-Surveyor was sitting at a bed this position did not allow from this position it was absor- the crotch of the tree and	for the sky to backlight most but erred that all three buts emerged from flew off at a bearing of roughly

PGC Form: WD-DR-02/13 Section 4

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

ction 4	Day Roost Data Sheet
1- Landowner:	Name: Sidney Markaite Address: 10800 Pebble Brook Lane
	Phone:
2-BAT INFO Dates on Roost: (Date = Date)	9 Aug 2014, Day Roost Number: 2014 R+219, 4, 2 ate bat was on roost; Roost No.= Bat # & numbered roost, in sequence, for that bat ~ 241PGC-01)
	Operation of the Control of the Cont
Bat Species: Myc	ohs septent on Band No.: NA Transmitter Frequency: 172.172
Comments: (Who	sting off ground: Was Bat Emergence Form Completed? YES - NO were is bat roosting? Under bark? If building-describe) Parts to be roosting under bark
3-LOCATION	
County: 60	Quadrangle: Axilton
Latitude: 39	1° 42' 44.5" (DMS) Elevation (ft.): 2505'
Longitude: 7	9°04′ 45.3″ (DMS) %Slope: 20 Slope Aspect (0-360): 342°
Datum:	Nad27 (prefered) NAD83 / WGS84 (circle one)
4-Roost INFORM	IATION (If other than tree, indicate rock, rock cliff, house, barn etc. for species)
Species: Ho	oney 10 cust DBH (cm): 37cm Is Tree Alive YES - NO (CIRCLE)
	UP 135 + %DOWN <u>05</u>) X Dist.(m) to tree 20m = 28 m(For Trees)
1st Branch Ht. (%	UP35 + %DOWN _ 05) x Dist.(m) to tree ZOM = 8 m(For Trees)
Estimate % Ca	nopy Cover Around Roost: 70%
For Trees:	Is suitable roost area exposed to direct sunlight? YES - NO (circle one) - estimate # of hours of exposure to direct sun: Azimuth of Exposure (which way does exposed part of roost face): Bark? YES NO Estimate % of tree with Exfoliating Bark:
Cavities? YE	S NO If yes - Describe:
	stance (m) to Water: 20m Water Type: 00nd
Un	derstory Species: Red mple, Cherry
Ov 6 Comments (2)	verstory Species: Kellow birch Red Maple Honey locust green ash
Al-though	there is suitable roast area exposed to direct sunlight at the





Figure 15 (Above left). Roost tree 2014Rt219.4.2. Upper portion of roost tree. Figure 16 (Above right). Roost tree 2014Rt219.4.2. Lower portion of roost tree. Figure 17 (Bottom). Roost tree 2014Rt219.4.2. Exfoliating bark.

PGC Form: WD-EM-02/13 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period. *

ROOST NO .: 2014 Rt 219 .4.2	DATE: 9 Aug 2014
ROOST TYPE: Building - Tree - Rock - Ot	her
Surveyors: Duncan Schanz	
Transmittered Bat Band No.: NA	Transmitter Frequency: 172.172
Weather Temperature: <u>69.8</u> *F	
Sky Condition Code:	Wind Scale Code:
Sky Conditions Code Code	<1 Smoke rises vertically 1-3 mph Smoke Drift shows wind direction 4 - 7 mph Wind felt on face/leaves rustle 8 - 12 mph Leaves&sm.twigs in constant motion 13 - 18 mph Raises dust & loose paper 19 - 24 mph Small trees in leave sway
Night Vision Equipment Used? YES NO	Bat Detector Used? YES NO
Telemety Equipment Present? YES - NO	
Time Surveyors arrived at Roost : 1940	(use 24 hour clock for times)
Time First Bat Seen Flying: 2032	
Time Transmittered Bat Emerged: 2032	And Azimuth Last Detected: 290°
Time Last Bat Seen Emerging: 2042	Total Emergence Count:
Comments: (include other emergence observations 2000 crow landed at the top of the raining beforehand. 2003 crow for passed heading 70.	s, weather, but behavior, etc.) est tree, crows had been calling a few lew off, soon after a flat of crows
2032 transmittered but and an seconds of each other. Both 200° than quickly headed to all before disappearing from sight.	other emerged from roost within bots headed out of tree at about bout 40; one did a small loop
2042 two more bots emerged. One did a few law passes hard; ust before flying off. All four bots emerged from the son	me spot under back.

PGC Form: WD-EM-02/13 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period. *

ROOST NO.: 2014 rt 219.4.2	DATE: 16 Aug 2014
ROOST TYPE: Building Tree Rock	s - Other
Surveyors: Doncan Shanz	
Transmittered Bat Band No.:	Transmitter Frequency: 172,172
Weather Temperature: 60.7	*F
Sky Condition Code:	Wind Scale Code:
Sky Conditions Code Clear or a few clouds Partly cloudy/variable sky Cloudy (broken) or overcast Fog or smoke Drizzle Snow Showers	Code MPH Indicators 1 1-3 mph Smoke Drift shows wind direction 4 - 7 mph Wind felt on face/leaves rustle 3 8 - 12 mph Leaves&sm.twigs in constant motion 4 13 - 18 mph Raises dust & loose paper 5 19 - 24 mph Small trees in leave sway
Night Vision Equipment Used? YES -NO	Bat Detector Used? YES (NO)
Telemety Equipment Present? YES (NO	
Time Surveyors arrived at Roost : 2000	(use 24 hour clock for times)
Time First Bat Seen Flying:NA	<u>.</u>
Time Transmittered Bat Emerged: NA	And Azimuth Last Detected: WA
Time Last Bat Seen Emerging:	Total Emergence Count:
Transmitter may have failed or we No bots seen emerging from to	orea for about a minute; ree, landed than flew off
in same direction it came	2 from.

PGC Form: WD-DR-02/13 Section 4

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

1- Landowner: Name: Sidney Markowitz Address: 10800 Pebble Brook Lane
Phone: Potomac, MD 20854
2-BAT INFO Dates on Roost: Day Roost Number: 20/4 Rt 219, 4, 3 (Date = Date bat was on roost; Roost No.= Bat # & numbered roost, in sequence, for that bat ~ 241PGC-01)
Surveyors: Donan Schon 2 Type: Tree - Building - Rock - Other (Describe rock and other roost structures)
Bat Species: Mystis septentionalis Band No.: NA Transmitter Frequency: 172.172
Ht.(m) bat is roosting off ground: Was Bat Emergence Form Completed YES - NO Comments: (Where is bat roosting? Under bark? If building-describe)
Bat is in a large wood barn with metal roof.
County: Garret Quadrangle: Avilton
Latitude: 39° 43' 10.6" (DMS) Elevation (ft.): 2,459
Longitude: 79° 04' 47.5" (DMS) %Slope: 6% Slope Aspect (0-360): 7°
Datum: Nad27 (prefered) NAD83 / WGS84 (circle one)
4-Roost INFORMATION (If other than tree, indicate rock, rock cliff, house, barn etc. for species)
Species: Born DBH (cm): Is Tree Alive? YES -NO (CIRCLE)
Height: (%UP/ <u>s35</u> + %DOWN <u>s00</u>) X Dist.(m) to tree <u>20m</u> = <u>27</u> m(For Trees)
1st Branch Ht. (%UP+ %DOWN X Dist.(m) to tree =m(For Trees)
Estimate % Canopy Cover Around Roost: 5%
Is suitable roost area exposed to direct sunlight? YES NO (circle one) If so - estimate # of hours of exposure to direct sun: Azimuth of Exposure (which way does exposed part of roost face): For Trees: Exfoliating Bark? YES - NO Estimate % of tree with Exfoliating Bark:
Cavities? -YES - NO If yes - Describe:
5-SURROUNDING HABITAT Distance (m) to Water: 140 m Water Type: 5 trea m
Understory Species: Wild apple green ash, elderberry
6-Comments (Comment on Overstory Species, Habitat Composition and non-tree roosts. Use back if needed)
But seemed to be roosting at joint of horizontal support beam.



Figure 18. Roost 2014Rt219.4.3. Large wood barn with metal roof.

PGC Form: WD-EM-02/13 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period, * ROOST NO .: 2014 RT 219.4.3 ROOST TYPE: (Building)- Tree - Rock - Other____ Transmittered Bat Band No.: NA Transmitter Frequency: 172.172 Temperature: 59 *F Sky Condition Code: O Wind Scale Code:_ **Sky Conditions Beaufort Wind Scale** Code Code MPH 0 Clear or a few clouds Smoke rises vertically Partly cloudy/variable sky 1-3 mph Smoke Drift shows wind direction 2 Cloudy (broken) or overcast 4 - 7 mph Wind felt on face/leaves rustle Fog or smoke 8 - 12 mph Leaves&sm.twigs in constant motion Drizzle 13 - 18 mph Raises dust & loose paper 7 Snow 19 - 24 mph Small trees in leave sway Showers Night Vision Equipment Used? YES NO Bat Detector Used? YES -(NO) Telemety Equipment Present? YES (NO) Time Surveyors arrived at Roost : 20100 (use 24 hour clock for times) Time First Bat Seen Flying: NA Time Transmittered Bat Emerged: NA And Azimuth Last Detected: NA Time Last Bat Seen Emerging: NA Total Emergence Count: Comments: (include other emergence observations, weather, bat behavior, etc.) Saw one but flying in open field at 20140. Saw one but flying near born at 2014s. Did not see any bats emerge from barn.

2014 RT.219 FALL BAT HARP TRAPPING AND ABANDONED MINE/ROCKY HABITAT ASSESSMENT

U.S. Route 219 Improvements Project, S.R. 6219, Section 019 Somerset County, Pennsylvania and Garrett County, Maryland October 2-12, 2014



Site RH2014-03

Bat Conservation and Management, Inc. *Carlisle, Pennsylvania*

2014 Rt. 219 Fall Bat Harp Trapping & Abandoned Mine/Rocky Habitat Assessment U.S. 219 Improvements Project S.R. 6219, Section 019 Somerset County, PA

Prepared by:



220 Old Stone House Road North, Carlisle, Pennsylvania 17015 Office and Fax: (717) 241-2228 Cellular: (814) 442-4246 www.batmanagement.com

Project Principal:

John Chenger Bat Conservation and Management, Inc.

Surveyors:

Bryan Butler John Chenger Jacob Eshelman Cory Mattas Kirk Silas

Photography by:

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Report Prepared by:

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Executive Summary

Introduction

The Route 6219 Improvement Project is located in Garrett County, Maryland and Somerset County, Pennsylvania. The project consists of the construction of approximately 13 kilometers (8 miles) of four-lane limited access highway south from Meyersdale, Pennsylvania bypassing the borough of Salisbury to the east before linking with I-68 south of the Pennsylvania state line (Figure 1). The project is located within the known range of the endangered Indiana bat (Myotis sodalis). The United States Fish and Wildlife Service (USFWS) State College Office requested surveys for potential Indiana bat hibernacula near the project area. In 2005, the entire project area was investigated for the presence of portals (including mine adits, caves, and other openings larger than 6 inches), which are potential entrances to bat hibernacula, and included follow-up harp trapping and acoustic surveys. In 2014, Bat Conservation and Management, Inc. (BCM) of Carlisle, Pennsylvania was commissioned to conduct follow-up investigation and rocky habitat assessment, which included mine feature investigation, as well as harp-trapping surveys within the U.S. 219 Section 019 project area for the purpose of determining potential impact of this project development to any threatened and endangered (T&E) bat species, as well as to provide an inventory of bats species that may be using previously identified hibernacula.

Objective and Work Plan

This report summarizes the results of the follow-up survey to the harp trapping survey and mine feature assessment conducted by Bat Conservation and Management, Inc., in 2005. The 2014 surveys utilized the following survey methods: harp trapping, acoustic recording, mine portal assessment, and rocky habitat survey assessments. Assessments were conducted both on-foot and using desktop analyses of new and previously identified potential habitat.

In 2014, each of the Alternatives Retained for Detailed Study (ARDS) were walked by Environmental Scientists from McCormick Taylor, Inc., and L.R. Kimball, Inc., during their environmental field studies. Surveyors noted rocky habitat that could potentially serve as summer bat habitat. Data on all rocky habitat or additional portals discovered were then turned over to BCM for bat-specific analysis and added to the 2014 reinvestigation survey. A total of forty-nine (49) sites were investigated by BCM and evaluated for additional capture and/or acoustic surveys, including fifteen (15) potentially suitable rocky habitat sites for *Myotis leibii*, and thirty-four (34) potential bat hibernacula.

Methods

Survey Protocol: Phase 1-Rocky Habitat Assessment for *Myotis leibii*

The rocky habitat features (RHFs) identified as potential eastern small-footed bat (*Myotis leibii*), or MYLE, roosts were categorized into one of three levels of summer habitat quality: *Low*, *Medium*, or *High*. Additionally, rocky habitats were surveyed for any potential winter hibernacula features. Each category takes into consideration a number of factors associated with small-footed myotis habitat including, but not limited to, size and aspect of the rock formation, number and depth of crevices, and the spatiotemporal extent of solar exposure. Canopy cover determinations were expressed as a percentage with 0% representing no canopy cover and 100% representing full canopy cover, as determined by ocular estimation to the nearest 5%. Habitat disturbance codes were assigned to each potential habitat using the Disturbance Assessment code sheet included in Attachment B.

All habitat sites assessed during this survey were photographed (Appendix B) and descriptions of the potential rocky habitat such as size, aspect, and type of rock were recorded. A summary of the data for each potential rocky habitat investigated is provided in Attachment A. Some habitat that was encountered during this survey was marked as "FRO" or "for the record only." This means that the habitat contained no suitable solar exposure and/or crevice dimensions evaluated on a spatiotemporal scale that were deemed suitable for MYLE summer use.

Low-quality habitat describes rock formations that may be suitable summer roosting habitat for non-reproductive females, bachelor males, and/or other transitory bats moving through the area. This habitat is generally not considered likely to sustain a stable, season-long reproductive (maternity) population, and represents over-dispersed, temporary roosts for opportunistic use, and is therefore not essential to survival of the population or species. Low quality habitats include sites with few small rock formations, few crevices and shallow interstices and high canopy effect (e.g., low solar exposure), such that on a spatiotemporal scale less than 33% of the formation contained adequate roost spaces and/or received 3 hours or less of daily summer solar exposure.

Medium-quality habitat includes rock formations that may be suitable summer roosting habitat when areas of higher quality habitat are not available. Although it is not likely that lactating females would be found in these formations, it cannot be discounted. Sites were categorized as medium quality if there was significant sun exposure (greater than 50% on a spatiotemporal scale) on the rock formations and/or at least 50% of the formation containing crevices and interstices in the rock formations with suitable characteristics to provide roost spaces for bats.

High-quality habitat describes rock formations that are consistent with known summer habitat preferences of eastern small-footed myotis, especially pregnant and lactating females, and has a high potential for use by this demographic. These habitats were characterized by high solar exposure and the availability of multiple crevice roosts within the site (i.e., numerous crevices and/or deep interstices) so that at 67% or more of the available rock habitat had suitable roost spaces <u>and</u> the habitat site received 6 or more hours of daily summer sun.

Survey Protocol: Phase 1-Hibernacula Survey

For the 2014 hibernacula survey the project area was delineated after reviewing the project's original centerline and buffer using aerial photographs. This preliminary "desktop investigation" was conducted using QGIS software. Map layers that were found to be applicable to the project study area and utilized during this phase included deep mining, industrial mineral, modern and historical permits for oil and gas, as well as pre-1936 Abandoned Mine Land Feature (AMLF) data. These data were reviewed in order to identify any potential abandoned mine land features in the revised project area for a more detailed ground survey. Both "Coal Mine Point Locations" and "Abandoned Mine Land Features" that were found using this method were labeled as "CMPL" and "AMLF" respectively.

The resulting data was combined with the Phase 1 project area survey completed by BCM in 2005 and all potential sites were included in 2014 for on-foot investigation and reinvestigation surveys. Survey data was collected from the investigation of abandoned mine features and included portal type, condition, and site surrounding observations. Results are included in the 2014 Abandoned Mine Land Feature Update in Attachment A.

Survey Protocol: Phase 2-Harp Trapping

Surveys were conducted from October 2nd through October 12th, 2014 at five (5) previously identified locations (Table 1). In accordance with Appendix A of the USFWS and Pennsylvania Game Commission's Protocol for Assessing Bat Use of Potential Hibernacula, all locations were surveyed for three nights with one harp trap, and an acoustic bat detector (Table 1). Capture and acoustic surveys began 30 minutes prior to sunset and continued for a minimum of five hours.

Harp trapping involved placing frames threaded with two vertical layers of monofilament line at the portal entrance. Bats attempting to pass through the trap were captured either by colliding with the lines or by entering the space between the frames. Once their forward flight momentum is reduced by contact with the lines, they flutter down into a catch bag where they are held until physically removed for identification. This

method of sampling is designed for use at roosts where the potential for catching large numbers of bats during a short time is likely and is more appropriate than mist-netting, which requires that each individual bat be carefully untangled (Tuttle 1974). Two harp trap sizes (Bat Conservation and Management, Inc., Carlisle, PA) were used for this project, a small trap measuring 3 feet square (1 meter square) and a large trap measuring 6 feet x 7 feet (1.8×2.1 meters). The harp traps were placed to best cover the entrances of each hibernacula, and then the remaining space surrounding the traps was obstructed using bird netting to maintain natural airflow in and out of the sites, while funneling the bats into the trap. The harp traps were checked a minimum of every 30 minutes for captured bats.

Meta-data was collected, fully describing individual capture sites and includes photographs (Appendix A), global positioning satellite (GPS) coordinates, nightly weather conditions during sampling, and general information regarding habitat and surrounding area (Appendix C). The survey night was considered valid if the temperature remained above 50°F (10°C) for the first two hours of sampling and did not fall below 35°F (1.6°C) by midnight. In addition to low temperatures, adverse weather conditions can also include precipitation including rain and/or heavy fog that persists for more than 30 minutes or that continues intermittently during the survey period, and sustained winds greater than 9mph (4mps), i.e., "3" on the Beaufort wind scale. Because adverse weather can affect capture success, survey efforts were suspended or repeated when any of these weather conditions were present throughout all or the majority of the sampling period.

Each captured bat was identified to species and metrics including sex, age, and reproductive status were recorded. Age classification was determined by degree of ossification of the epiphyseal plates of the finger bones (Brunet-Rossinni and Wilkinson 2009). The reproductive condition of females was noted by inspection of the mammary glands and of males by the inspecting for spermatozoa in the epididymis (Racey 2009).

Survey Protocol: Phase 2-Acoustic Inventory

Capture surveys for bats can be a labor-intensive process, especially when harp traps are used to physically capture individuals to confirm species identification. Moreover, all survey methods are biased, and some bat species are extremely adept at evading capture methods. In recent years, the collection of acoustic recordings of ultrasonic bat echolocation calls has been determined to be an effective, and efficient way to document many bat species, without the disturbance caused by physical capture efforts (Ahlén and Baagoe 1999; Biscardi et al. 2004; Duchamp et al. 2006; and Gannon and Sherwin 2004). Many bat species are easy to distinguish amongst based on their echolocation call types alone (Barclay 1999). And, in areas with depauperate *Myotis* species fauna, documentation of *Myotis* species bats is often more efficient using acoustic recording rather than deploying

physical capture methods (Ford et al. 2011).

A Pettersson D500x bat detector (Pettersson Elektronik, Uppsala, Sweden) was placed within 15 feet of each portal entrance. Detector microphones were placed 6.5 feet (2 meters) or higher above the ground and orientated towards the largest volume of airspace directly in front of the entrance for each site surveyed. Each detector was stationary and programmed to record for at least five hours, beginning at ½ hour before local sunset. Recorded echolocation calls were post-processed using SonoBat 3.2 call analysis software (SonoBat, Arcata, CA). This process attributed meta-data from the survey effort to each recording, while preserving the date-time stamp when each recording was made forming a permanent record of each echolocation call recorded during the inventory. Recorded bat passes were tallied for each mine portal in one-hour increments beginning at ½ hour before sunset and continuing for at least five hours.

Acoustics provide an efficient survey tool for assessing a three-dimensional area of habitat, as in this survey. The obvious advantage of acoustic monitoring is that bats that may not be captured using harp traps, that cover a two-dimensional space, may be recorded acoustically. But, because the D500x detectors system is extremely sensitive and may record bats from greater distances, as well as at some distance behind the microphone, interloping species will be recorded during acoustic surveys at entrances that are not necessarily entering or exiting the site. Usually these interlopers have louder and lower frequency echolocation calls than the T&E species of interest (e.g., Eptesicus fuscus (EPTFUS), big brown bat; Lasiurus cinereus (LASCIN), hoary bat; and Pipistrellus subflavus (PIPSUB), eastern pipistrelle), and their calls are recorded outside times normally identified as representing exits or entries to roosts (e.g., randomly throughout the night, not at dusk or during the pre-dawn hours). As data was reviewed, attempts were made to quantify the species of interest vs. the interlopers to determine actual bat use at each portal.

All acoustic recordings collected were also analyzed using the SonoBat automatic classifier (North-northeast version) allowing species classifications to be determined by the computer, along with metrics to assign confidence to the decisions. It should be noted that any automated classification software can render inaccurate results in many situations especially when recording bats performing behaviors that result in: inspection calls (e.g., approach phase), attack calls (e.g. acquisition or feeding-buzz), social calls or directives between species and among individuals, and call variations due to multiple individual bats in the same airspace. Moreover, the use of stationary microphones to record mobile bats on the wing can also result in poor, out of range recordings that are picked up by microphones on a tangent or off-axis to the best volume of microphone detection. Therefore, all recordings are manually reviewed to attempt to identify if any of these situations existed

and classifications for those recordings were amended or eliminated from consideration when reporting species results.

During the manual vetting process, each recording was verified to probable species or species group, based on the results from the automated classification and the visual inspection of the spectrogram (i.e., the call frequency and intensity vs. time display) associated with the entire call sequence. John Chenger performed all manual vetting of the recordings collected during this effort. He has over 20-years of experience with collecting and analyzing bat echolocation calls from North American bat species, and over 8-years of experience using SonoBat software for these types of analyses.

When recordings were confidently assigned to species (defined for the purposes of this survey as having ≥ 5 fully-formed, high-quality call pulses in a sequence that received a discriminant probability classification to species of ≥ 0.95) recordings were labeled with a four-character species identification code, comprised of the first two letters of the genus and species designation for each bat (e.g., for *Myotis septentrionalis*, the species code is MYSE).

Results

Phase 1 Outcome: Rocky Habitat Assessment

A total of fifteen (15) new rocky habitat locations were visited during the survey (Table 5-1). Of these fifteen, nine (9) sites were identified as potentially suitable rocky habitat for MYLE with all nine sites marked as Low Quality Habitat containing quantitatively and/or qualitatively minimal roosting resources. The remaining six (6) sites were designated as "FRO" or "for the record only", meaning they contained no suitable solar exposure and/or crevice dimensions evaluated on a spatiotemporal scale that were deemed suitable for MYLE summer use. All habitat site assessments have been updated and descriptions included in this report (Attachment A).

Phase 1 Outcome: Hibernacula Survey

During the 2014 survey at total of thirty-three (35) sites were investigated or reinvestigated as potential hibernacula, including the twenty-eight (28) sites that were previously investigated in 2005. The desktop QGIS software analysis revealed a total of two (2) AMLI locations, and four (4) CMPL sites. These were further investigated on foot in order to evaluate them as current potential hibernacula and results of these efforts are recorded in Attachment A.

During the hibernacula investigation one (1) site, "CMPL2014-03-253615" was found connected to a large boulder field beneath deciduous forest canopy and adjacent to agricultural fields. Though no evidence of mine workings was present, the area was further assessed as potential suitable rocky habitat for *Myotis leibii* (Table 5-1).

Also during the hibernacula investigation, a total of (5) sites out of the 35 investigated were selected as potential hibernacula and were sampled by means of harp-trapping and acoustic monitoring for Phase 2 fall trapping. All previously sampled hibernacula from 2005 were selected for fall trapping during this 2014 survey, including sites 2005-01, 2005-19, 2005-27, and 2005-28. The fifth site, "BCM-2014-01", was discovered and selected during this year's hibernacula investigation and included for fall trapping and acoustic monitoring. Complete descriptions of all potential hibernacula site evaluations are provided in Phase One Abandoned Mine Land Feature 2014 Update (Attachment A) and in Table 5-2.

Phase 2 Species Occupancy: Capture Results

The five (5) sites that were identified for capture and acoustic efforts during this survey are summarized in Table 1 of this report. Harp traps were set in the entrances of five (5) individual hibernation sites for a period of three (3) nights each (Table 1). Trapping began ½ hour before sundown and lasted for a minimum of five (5) hours each night for a total of 15-trap hours per site, and 75 trap-hours total for the entire survey period.

A total of two (2) bats, both northern long-eared myotis (*Myotis septentrionalis*) were captured during this survey effort. Both bats were caught at Site 2005-28. Of the 2 bats, 100% (n=2) were male and determined to be reproductive (Tables 2 and 4). Due to the proximity of capture and similarity in recorded measurements, it is possible that the second bat was a recapture. On nights in which no bats were captured, there were no signs of guano seen within the harp trap catch bag.

Phase 2 Species Occupancy: Acoustic Survey Results

Bat detectors were deployed near the entrances of each of the five (5) hibernation sites for a period of three (3) nights each. Monitoring began ½ hour before sundown and lasted for a minimum of eight (8) hours on nights 1 and 2, and 3 for a total of 24-detector hours at each site and 120-detector hours for the entire survey period. A total of two (2) bat passes from one (1) confidently identified species were recorded. Species with confidently identified recordings included only *Myotis septentrionalis* (MYSE), the northern long-eared bat (100%), which is currently under review for federal threatened or endangered species listing. Bat passes from MYSE were recorded at Site 2005-28 in the last three hours of the survey night during the second night of sampling. A complete summary of the confidently identified species at each site is noted in Table 1 and hourly activity summaries for each survey night at each site is noted in Table 3 of this report.

Weather Data

Weather data was recorded each day netting was conducted. Additional information including weather events, wind, and cloud cover is recorded in Appendix C on PGC Forms P-70008-N/T for bat capture data. All forms are organized in the Appendix by site number, in ascending order. In the case of an adverse weather event, netting was either delayed or suspended until protocol permitted continuation of the survey night. Unless otherwise noted, overall weather was nominal for the survey period.

Discussion & Conclusions

Data collected by Bat Conservation and Management, Inc. included mine portal assessment for potential T&E bat species hibernacula, rocky habitat evaluation for *Myotis leibii* summer roosting, harp trapping, and acoustic monitoring to determine T&E species occupancy at potential roosts. Results of this data continues to suggest that the investigated portals presently do not provide habitat suitable for significant numbers of bats of any species, including any federal or state T&E species of interest.

Additionally, overall results of the fall 2014 survey bat-detection survey indicate that these previously identified hibernation sites have experienced a decline in bat activity and/or use when compared to 2005's survey. Variation in fall swarming times as well as the widely recognized decline in Pennsylvania's bat numbers due to the emergent fungal disease White-nose Syndrome (WNS) may be contributing factors to this year's paucity of results.

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Figures

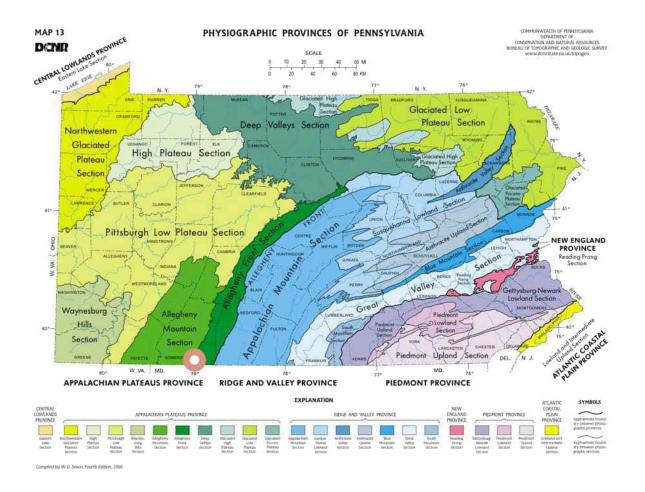


Figure 1. Route 6219 Improvement Project, Somerset County Pennsylvania

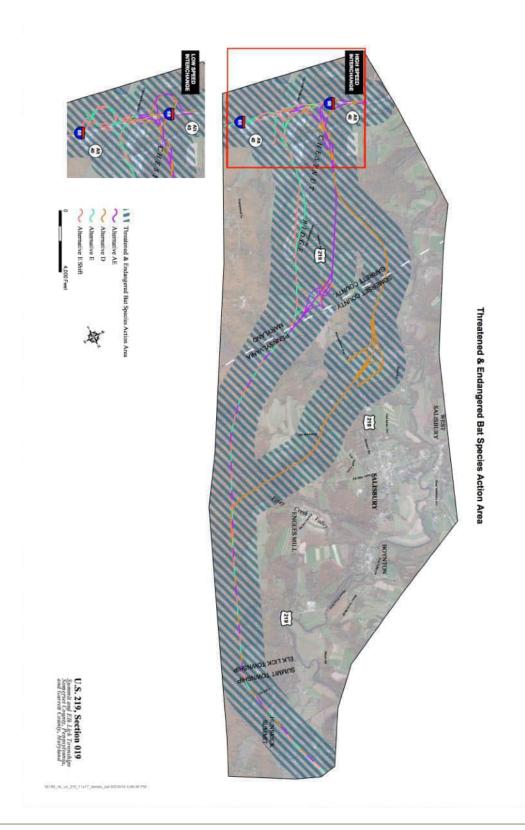


Figure 2. Survey location: Site 1 Portal, Somerset County, PA



Figure 3. Survey location: Site 4 Airshaft, Somerset County, PA

Figure 4. Threatened & Endangered Bat Species Action Area



Tables

Table 1. Survey site coordinates, monitoring results, and habitat descriptions.

NAD 27 datum	Latitude/Longitude	Survey Methods	Physical Captures	Acoustic Activity	Identified Bat Calls	Description					
Site 2005-01	39" 47" 7.75" 79" 01' 42.46"	1-6' Harp Trap 1-Pettersson D500x	¥i	n/a	n/a	Old, partially collapsed mine entrance surrounded by dense decidious forest with small acid mine drainage stream from entrance in center of steep enbankment. Trap placed perpendicular to mine entrance. 0500x placed 7' above ground oriented approximately 10' from mine entrance.					
5ite 2005-19	39" 44" 36.12" 79"03"24.49"	1-3' Harp Trap 1-Pettersson D500x	2	n/a	n/a	Entrance located ~75' above Piney Creek on a very steep hillside with harp trap positioned parelle entrance. D500x external mic 6' above ground facing small cave opening located on a steep embankment and 8' from opening.					
5ite 2005-27	39° 44° 44.61" 79° 03' 20.83"	1-6' Harp Trap 1-Pettersson D500x	5.	n/a	r/a	Entrance located on steep slope, 15 ft. from Piney Creek. DS00x mic approximately 6' above ground oriented horizontally facing old mine entrance on east bank of Piney Creek. Positioned on the edge of a depression 10' from entrance.					
Site 2005-28	39" 44" 42.61" 79" 03" 19.54"	1" 1-6' Harp Trap (2) MYSE 2 (2) MYSE Entrance on steep stream valley slope approximately 75'		Entrance on steep stream valley slope approximately 75' from Piney Creek. D500x mic positioned 9' above ground facing small collapsed mine portal along Piney Creek.							
5ite 2014-01	39" 44" 55.36" 79" 03" 17.67"	2-9m Single High 1-Pettersson D500x	<u></u>	n/a	n/a	Small collapse found in forested cow pasture with unimproved road near an open field. 0500x detector with external microphone 7' above ground oriented horizontal to ground facing parallel to surrounding trench. Approximately 10' from open hole at trench bottom.					

Abbreviations used in this table: MYSE= Myotis septentrionalis (Northern long-eared myotis). Activity identified only recordings identified as "bat calls," with a "bat call" described as any recording containing at least one obvious bat echolocation pulse. Identified Bat Calls include all recordings expertly (manually) vetted and attributed to species or species guild. It does not indicate absolute number of bats.

Table 2. Bat capture totals

		Myotis sep	tentrionalis	5						
	Fen	nale	М	ale	Fer	nale	М	ale	SITE	
	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	TOTALS	
Site 2005-01	-	-	-	-	7.	-	-	-	0	
Site 2005-19	141	-	-	-	343	-	-	-	0	
Site 2005-27	3 4 5	-		-	5 4 5	-	- ,	-	0	
Site 2005-28	S+.:	-	2	-	S-4:	-	2	-	2	
Site 2014-01	0 + g		; -	-	<u></u>	-	-	-	0	
	0	0	2	0	0	0	0	0		
Totals			2			2				

Scientific names used in this table: Myotis septentrionalis (northern long-eared myotis). Abbreviations used in this table: Ad = adult; Juv = juvenile.

Table 3. Acoustic summary with hourly breakdowns of activity at survey sites.

SITE	Survey		1	Surve	y Day	y: On	e		Survey	Survey Day: Two							Survey Date	Survey Day: Three							AVG. bat	TOTAL bat
	Date	hr.	2 rd hr	3 rd hr	4 th	5" hr	6 th	7/8" hr	Date	1" hr	2 nd hr	3 ^m	4 [™] hr	5" hr	br.	7/8 th	Survey Date	hr.	2 ^{rst} hr	3 th	4 th	5 th	6 th	7/8 th	passes	passes
5 te 2005-01	10/7/14	a	ū	0	0	0	d	0	10/9/14	0	0	d	q	0	0	a	*10/10-	0	0	0	0	0	ti	0	O/hr.	
Site 2005-01 Totals	Htte 2005-01 Totals 0				10/3/14	0				12/2014	0						0/night	0								
5 te 2005-19	10/5/14	d	ä	q	0	0	q	0	10/7/14	0	0	:0	q	0	0	a	andre de	0	0	d	q	- 0	d	0	0/hr.	0
Site 2005-19 Totals	10/6/14	· C					10/7/14				0				10/8/14	G.					0/night					
5 te 2005-27	10/6/14	d	ä	0	0	0	q	0	10/7/14	0	0	:0	q	0	0	a	10/8/14	0	0	d	d	- 0	(d	0	O/hr.	
Site 2005-27 Totals	10/0/14	a 10/7						10/7/14	0					10/0/14	· d					0/night	.0					
5 te 2005-28	10/6/14	d	ä	0	0	0	q	0	10/7/14	0	0	- 0	q	0	1	1	10/8/14	0	0	d	ď	0	d	0	.042/hr.	
Site 2005-28 Totals	· ·						10/7/14				0				10/0/14				a.				0.67/night			
5 te 2014-01	10/7/14	d	ä	0	0	0	q	0	10/8/14	0	0	- 0	q	0	0	a	10/0/14	0	- 0	d	d	- 0	d	0	O/hr.	
Site 2014-01 Totals		-			· a				10/4/14	_	0				19/9/14	G.					0/night	0				

Totals represent total number of bat passes per hour/per survey night; averages represent total number of bat passes per hour/night for the monitoring period. Grand total represents the total number of bat passes from all sites with an average number of bat passes per hour for all 120-hours of monitoring. *Survey day was extended and completed at the alternate date due to inclement weather.

Table 4. Reproductive condition of captured bats

		MYOSEP		TOTALS						
	Female	Ma	ile	Female	Male					
	NR	SCR	NR	NR	SCR	NR				
Site 2005-01	•	-	•	-	-	-				
Site 2005-19	-	-	-	-	-	-				
Site 2005-27	-	-	-	-	-	-				
Site 2005-28	-	2	-	-	2	-				
Site 2014-01				-	-	-				
Totals	0	2	0	0	2	0				
iotais		2			2					

Abbreviations used in this table: MYOSEP = Myotis septentrionalis;, NR = non-reproductive, SCR = reproductive/scrotal.

Table 5-1. Summary of Potentially Suitable Rocky Habitat

Hab Site Name	Use Potential	Date 20141009	County	Quadrangle Avilton	Latitude (NAD27) 39"45'05.48"	Longitude (NAD27) 79'02'52.47"	Geol. Form.	Site Size Longest length(m)	Site Size Avg Width(m)	Habitat Disturbance Code			Comments
										1A	20	214	Boulder field in deciduous forest with 100% canopy.
RH2014-01	FRO	20141009	Samerset	Avilton	39"42"51.16"	79'06'19.25"	Allegheny	22	10	1N	l.	0	Small open face rock facing north was beside a creek. The rocky habitat had a small over hang, but no crevices.
RH2014-02	FRO	20141007	Garrett	Avilton	39"43"9.03"	79"05'03.50"	Conemaugh	35	10	1E	2Н	20	Majority of rock out crop was covered in organic matter. No crevices were present.
RH2014-03	Low/Med	20141007	Garrett	Avilton	39"42"27.54"	79"05'32.95"	Conemaugh	30	10	14	20	20	Isolated rock piles formed medium crevices along agricultural field. Habitat faces south to southeast with good sun exposure.
RH2014-D4	FRO	20141007	6arrett.	Avilton	39'42'21.07"	79'05'45.08"	Conemaugh	26	10	10	20	26	Recent tree removal around rocky habitat. Few shallow rock crevices were found. Majority of the crevices were filled with organic matter.
RH2014-05	Low	20141008	Garrett	Avilton	39"41"35.04"	79*07'06.09*	Conemaugh	32	1	16	14	20	Small cliff edge facing highway with tall grass shading crevices in part of the rocky habitat.
RH2014-D6	Low	20141008	Garrett	Avilton	39'41'35,59"	79"05'55.05"	Conemaugh	34	8	iA	2C	26	Southwest orientation with about five hours of sun exposure. Rocky habitat is on edge of deciduous forest.
RH2014-07	Low	20141008	Garrett	Avilton	39"41"28,02"	79'06'21.76"	Conemaugh	100	50	2H	2C	36	Boulder field in deciduous forest with majority of habitat covered in organic matter.
RH2014-08	Low	20141008	Garrett	Avilton	39"41"20,44"	79"05"56,16"	Conemaugh	80	30	26	3С	**	Southeast exposure, however majority of the habitat was covered by tree and shrubs.
RH2014-09	Low	20141008	Garrett	Avilton	39'41'17.95"	79'05'56.16"	Conemaugh	25	5	16	ЭС.	2	5mall drainage ditch off Highway 68 with shallow crevices.
RH2014-10	Low/Med	20141008	Garrett	Avilton	39"41"06.77"	79"05"13.44"	Allegheny	400	10	16	2H	30	Talus slopes on either side of highway.
RH2014-11	Low	20141009	Samerset	Avilton	39'43'50,00"	79"03'22.00"	Glenshaw	30	В	1E	2G	7.	Northeast sun exposure along road. Majority of rock was covered in organic matter.
RH2014-12	FRO	20141009	Samerset	Avilton	39"43"52.00"	79"03"23,00"	Glenshaw	10	5	1E	2G		Northeast sun exposure along road. Rocky habitat was over grown with grasses and covered in organic matter.
RH2014-13	FRO	20141009	Samerset	Avilton	39"43"59.00"	79'03'29.00"	Glenshaw	40	10	1E	2G	2A	Northeast sun exposure along road. Rocky habitat was over grown with grasses and covered in organic matter:
RH2014-14	Low/Med	20141009	Samerset	Avilton	39'44'01.00"	79"03'30,00"	Glenshaw	150	15	16	2G	2A	Northeast sun exposure along road. Some spots contained deep crevices, but majority of the rocky habitat was over grown.

^{*} Disturbance code descriptions located in Attachment B.

Hab Site Name	2014 Search?	Phase II?	Date(s) Visited/ Surveyed	Latitude (NAD27)	Longitude (NAD27)	2014 Update Comments				
BCM 2005-01	Yes	Yes	2005.08.28 2014.10.02	39"47"07.74"	79"01"42.46"	Old partially collapsed mine entrance surrounded by dense deciduous forest. Small acid mine drainage stream from entrance in center of steep embankment.				
BCM 2005-02	Yes	No	20050828 20141002	39'46'46.43"	79'01'53.53"	No mine entrances were found.				
BCM 2005-03	No	No	20050828	39"46"38.43"	79'01'54.08"	Determined to be reclaimed.				
BCM 2005-04	Yes	No	20050828 20141002	39*46'37.35"	79"02"7.14"	No mine entrances were found.				
BCM 2005-05	No	No	20051001	39"46'26.71"	79'02'18.90"	Site not investigated in 2014 due to location falling outside of T&E Buffer Study Area.				
BCM 2005-06	No	No	20050828	39*46'40.0"	79"02'20.0"	Site not investigated in 2014 due to location falling outside of T&E Buffer Study Area.				
BCM 2005-07	Yes	No	20051001 20141002	39"46"11.82"	79'02'9.13"	initially marked again during QQIS desktop analysis. No mine entrances or discharge point were found upon investigation				
BCM 2005-08	No	No	20051001	39"45'53.63"	79'02'43.40"	Site not investigated in 2014 due to location falling outside of T&E Buffer Study Area.				
BCM 2005-09	Yes	No	20051001 20141002	39*45'49.68"	79"02'41.91"	No mine entrances were found.				
BCM 2005-10	No	No	20050828	39*45'59.95"	79"03"13.94"	Site not investigated in 2014 due to location falling outside of T&E Buffer Study Area.				
BCM 2005-11	No	No	20051001	39*45'53.42"	79"03"12.36"	Site not investigated in 2014 due to location falling outside of T&E Buffer Study Area.				
BCM 2005-12	No	No	20051001	39"45'44.20"	79'03'2.12"	Site not investigated in 2014 due to location falling outside of T&E Buffer Study Area.				
BCM 2005-13	No	No	20051001	39*45'55.81"	79'03'32.91"	Site not investigated in 2014 due to location falling outside of T&E Buffer Study Area.				
BCM 2005-14	No	No	20051001	39"45"48.61"	79'03'37.34"	Site not investigated in 2014 due to location falling outside of T&E Buffer Study Area.				
BCM 2005-15	Yes	No	20050828	39"45"0.11"	79'03'25.74"	No mine entrances were found.				
BCM 2005-16	Yes	No	20050828	39'44'58.94"	79*03'23.70"	No mine entrances were found.				
BCM 2005-17	Yes	No	20050828	39'44'57.37"	79'03'28.40"	No mine entrances were found.				
BCM 2005-18	Yes	No	20050828 20141002	39*44'47.95"	79'03'30.37"	No mine entrances were found. Several blind trenches with springs/seeps noted.				
BCM 2005-19	Yes	Yes	20050930 20141006	39'44'36.12"	79'03'24.71"	Mine portal. Phase II survey conducted.				
BCM 2005-20	Yes	No	20050827 20141002	39*44*13.08*	79"03'40.54"	No mine entrances were found.				
BCM 2005-21	Yes	No	20050827 20141002	39*44'12.05"	79'03'39.80"	No mine entrances were found.				
BCM 2005-22	Yes	No	20051001 20140722	39*43'28.41"	79'04'9.29"	Site reclaimed.				
BCM 2005-23	Yes	No	20051002 20141008	39*43'22.81"	79'06'14.08"	No new entrances were found.				
BCM 2005-24	Yes	No	20050828 20140801	39"41"29.39"	79*05'50.16"	No mine features reported.				
BCM 2005-25	Yes	No	20050828 20140801	39"41"24.24"	79"05'37.11"	No new features reported.				
BCM 2005-26	Yes	No	20050828 20140722	39*41'20.77"	79'05'18.35"	No new features were noted.				
BCM 2005-27	Yes	Yes	20050827 20141006	39"44"44.61"	79'03'20.83	Mine portal. Phase II survey conducted.				
BCM 2005-28	Yes	Yes	20050827 20141006	39*44'42.62"	79*03*19.55"	Mine portal. Phase II survey conducted.				
BCM 2014-01	Yes	Yes	20140926	39"44"55.36"	79'03'17.67"	Mine portal. Phase II survey conducted.				
BCM 2014-02	Yes	enterente enterente enterente enterente	20141002			Site located during re-investigation of 2005-18 and 19. Small slump along old mining road with no airflow. Marked for the record only to minimize site confusion during future surveys.				
AMLI 2014-01	Yes	No	20141002			No evidence of mine workings present.				
AMLI 2014-02	Yes	No	20141002			No evidence of mine workings present.				
CMPL 2014-04- 4533	Yes	No	20141009			Acid mine drainage remediation site. No entrances to underground workings found.				
CMPL 2014-05- 252313	Yes	No	20140724			Strip mine point discharge treatment sites.				

Table 5-2. Summary of Potentially Suitable Habitat (AMLI)

Attachment A

Abandoned Mine Land Feature 2014 Update

AMLI 2014-01

The site area was visited on October 02, 2014 and no evidence of mine workings were present except for at the nearby site 2005-01. What might appear to be a mine spoil pile on aerial photos 470 meters northeast of the AMLI 2014-01 is a small pond. Time on site 210 minutes. *John Chenger, Kirk Silas, Bryan Butler*

AMLI 2014-02

The site area was visited on October 02, 2014 and no evidence of mine workings were present except for at the nearby site 2005-01. What might appear to be a mine spoil pile on aerial photos 470 meters northeast of the AMLI 2014-01 is a small pond. Time on site 210 minutes. *John Chenger, Kirk Silas, Bryan Butler*

CMPL 2014-03-253615

The site area was visited on October 9, 2014 and no evidence of mine workings was present. However, the area consisted of a large boulder field adjacent to agricultural fields. This area was surveyed as possible *Myotis leibii* habitat. The habitat was located in a deciduous forest. The area was 230 meters in length and ranged from 45 to 135 meters in width. The habitat consisted of boulders ranging in size from less than 1 meter to 5 meters with shallow and deep crevices. The majority of the habitat was covered with organic matter and 100 percent canopy coverage. Time on site 120 minutes. *Kirk Silas, Bryan Butler*

CMPL 2014-04-4533

The site area was visited on October 9, 2014 and was to be an acid mine drainage remediation site. No entrances to underground workings were discovered. Time on site: 40 minutes. *Jacob Eshelman, Cory Mattas*

CMPL 2014-05-252313 (6 points)

The sites were visited on July 24, 2014 and were found to be strip mine point discharge treatment sites. No entrance to underground workings exist. *John Chenger*

BCM 2005-01

A foot search was conducted for this site on August 28, 2005. An empty shell of a block building is located in the open forest 300' from the road. A small stream flows past this foundation. Following the water upstream leads to an obvious coal mine entrance 6' wide and 3' high. An old mine cart is in front of the mine, more than half buried in the sediment outflow from the drift. A strong draft of wind can be felt emerging from the drift and cold air can be felt over 100' away. A passage can be seen trending east at least 50'. Remnants of a rail line and mine-related foundations are nearby. Total time on site searching: 50 minutes. *John Chenger, Kevin Rhome*

The mine was surveyed on September 17 and 18, 2005 by John Chenger. A 6'x7' harp trap was placed parallel with the entrance dripline, and essentially filled the entrance area flyway. Temperatures under clear skies each night ranged between 68°F and 55°F. Twenty-seven (27) bats were captured including 14 little brown bats (Myotis lucifugus), 7 Northern long-eared (Myotis septentrionalis), and 6 Eastern pipistrelles (Pipistrellus subflavus).

A Pettersson 240x bat detector and an Iriver digital recorder were placed along the stream about 50' from the entrance pointing upwards. The detector was not placed at the entrance because the device would have been overwhelmed with multiple call sequences in each file. On September 17 the detector was active between 10 PM and midnight and recorded 45 call sequences. Files were sorted and 37 were attributed to Eastern pipistrelles and 8 attributed to Northern Long-ear bats. On September 18 the recorder was operating

between 7:00 and midnight. Eighty-five (85) files were generated including 40 attributed to Eastern pipistrelles, 18 to Northern long-ear bats, and 17 little brown bats. Ten files are of some undetermined Myotis species. The detector was monitoring approximately 7 hours averaging about 18 call sequence per hour.

The mine was surveyed on October 2, 9, 10, and 12, 2014 by Bryan Butler, Jacob Eshelman, and Kirk Silas. A 6'x7' harp trap was placed perpendicular with the entrance drip line and plastic was then used to fill the entrance area flyway. Temperatures ranged between 16.1° C and 8.4° C under partly cloudy and cloudy skies. Netting was suspended on 10/10/2014 due to constant rain. No bats were captured and no guano was found in the harp trap catch bag at the end of the nights.

BCM 2005-02

A foot search was conducted for this site on August 28, 2005. The forest immediately behind a mobile home was searched. The homeowner was aware of previous mining activity but did not know of an actual entrance. There are a few old rails from tracks nearby. No entrance or other mining evidence was immediately apparent. Total time on site searching: 35 minutes. John Chenger, Kevin Rhome

The site was visited on October 02, 2014. No mine entrances were found and the site description did not require updating. Time on site: 75 minutes. *John Chenger, Kirk Silas, Bryan Butler*

BCM 2005-03

A foot search was conducted for this site on August 28, 2005. The area of the reported mine has been reclaimed and is presently a meadow containing immature trees. No entrance was apparent. Total time on site searching: 40 minutes. John Chenger, Kevin Rhome

The site was not investigated in 2014 due as BCM has determined it has been reclaimed.

BCM 2005-04

A foot search was conducted on August 28, 2005. An old outbuilding is visible from the road. Just southeast of this structure a 20' deep collapsed trench can be followed 300' southeast through thick hemlocks ending in a blind valley. There are timbers visible in the bottom of the trench, along with old rail remnants. No open portals were found in this area. Time on site searching: 70 minutes. John Chenger, Kevin Rhome

The site was visited on October 02, 2014. No mine entrances were found and the site description did not require updating. Time on site: 60 minutes. *Bryan Butler, Kirk Silas*

BCM 2005-05

A foot search was conducted for this site on October 1, 2005. A fragment of an old rail line and a concrete structure are found at this location. No entrance was apparent. Total time on site searching: 30 minutes. *Kevin Rhome*

The site was not investigated in 2014 due to the site being outside of the T&E Buffer Study Area.

BCM 2005-06

A foot search was conducted for this site on August 28, 2005. The reported mine location is in a small woodlot between a mobile home and a public road. The homeowner was unaware of previous mining activity. No entrance or mining evidence was immediately apparent. Total time on site searching: 40 minutes. *John Chenger, Kevin Rhome*

The site was not investigated in 2014 due to the site being outside of the T&E Buffer Study Area.

BCM 2005-07

A search was conducted on October 1, 2005. This land has been strip mined and reclaimed. Presently the land where an entrance was is now a meadow. No open portals were found in this area. Time on site searching: 30 minutes. *Kevin Rhome*

The site was visited on October 02, 2014 due to an additional GIS point being placed at the site (CMPL2014-01). No mine entrances or discharge points were found and the site description did not require updating. Time on site: 20 minutes. *John Chenger*

BCM 2005-08

A search was conducted on October 1, 2005. Upon entering the forest, spoil piles are evident. Moving past the piles northeast, the land has been strip mined and reclaimed. No open portals were found in this area. Time on site searching: 30 minutes. Kevin Rhome

The site was not investigated in 2014 due to the site being outside of the T&E Buffer Study Area.

BCM 2005-09

A search was conducted on October 1, 2005. On the south side of the road is a collapsed trench/adit containing timber remnants. An old fan house is located in the trench and another related outbuilding foundation is immediately to the west. A small stream emerges from the workings and covers much of the bottom of the trench. A very small 2' wide, 1' high hole can be found under a tree at the east end of the trench. This leads to a very small chamber which was formed by slump action caused by the stream action and does not lead into any workings. No airflow was observed. No open portals were found in this area. Time on site searching: 100 minutes. John Chenger, Kevin Rhome

The site was visited on October 02, 2014. No mine entrances were found and the site description did not require updating. Time on site: 60 minutes. *Kirk Silas, Bryan Butler*

BCM 2005-10

A foot search was conducted on August 28, 2005. A steeply sided, forested blind valley is located at the reported mine location. No open portals were found in this area, although the odd topography suggests past mine use. Time on site searching: 30 minutes. John Chenger, Kevin Rhome

The site was not investigated in 2014 due to the site being outside of the T&E Buffer Study Area.

BCM 2005-11

A search was conducted on October 1, 2005. This location is within an open deciduous forest with relatively high visibility. No open portals were found in this area. Time on site searching: 30 minutes. John Chenger, Kevin Rhome

The site was not investigated in 2014 due to the site being outside of the T&E Buffer Study Area.

BCM 2005-12

A search was conducted on October 1, 2005. The area is located in open deciduous forest. No open portals were found in this area. Time on site searching: 40 minutes. Kevin Rhome

The site was not investigated in 2014 due to the site being outside of the T&E Buffer Study Area.

BCM 2005-13

A search was conducted on October 1, 2005. This location is in open deciduous forest with relatively high visibility. A cornfield is nearby. The mine location was at an intersection of two old roads where an old

clearing has become overgrown with brush. No open portals were found in this area. Time on site searching: 60 minutes. John Chenger

The site was not investigated in 2014 due to the site being outside of the T&E Buffer Study Area.

BCM 2005-14

A search was conducted on October 1, 2005. This location is in open deciduous forest with relatively high visibility. Several cornfields are nearby. The mine location was in open woods with low slope. A number of trees were blown down. No open portals were found in this area. Time on site searching: 60 minutes. John Chenger

The site was not investigated in 2014 due to the site being outside of the T&E Buffer Study Area.

BCM 2005-15

A foot search was conducted on August 28, 2005. This is one reported entrance in a small group of three. A large, obvious spoil pile is immediately encountered east of Piney Run Road within deciduous forest. From the top of the spoil pile, there are a number of adit traces and sinks located within 500 feet to the southeast. There is another parallel level of similar old development traces approximately 75 feet higher in elevation. A few hundred feet northeast of Mine 15 there is small brick foundation next to what appears to have been one of the better entrances but now is merely an old collapsed trench. Just beyond this to the north, the forest gives way to pasture which appears to be a reclaimed strip mine which is not depicted on the USGS Meyersdale/Avilton 7.5 minute topographic map. No open portals were found in this area. Time on site searching: 90 minutes. John Chenger, Kevin Rhome

The site was visited on October 02, 2014. No mine entrances were found and the site description did not require updating. Time on site: 60 minutes. *John Chenger*

BCM 2005-16

A foot search was conducted on August 28, 2005. This is one reported entrance in a small group of three. A large, obvious spoil pile is immediately encountered east of Piney Run Road within deciduous forest. From the top of the spoil pile, there are a number of adit traces and sinks located within 500 feet to the southeast. There is another parallel level of similar old development traces approximately 75 feet higher in elevation. A few hundred feet northeast of Mine 15 there is small foundation next to what appears to be an old collapsed trench. Just beyond this the forest gives way to pasture that appears to be a reclaimed strip mine not depicted on the USGS Meyersdale/Avilton 7.5 minute topographic map. No open portals were found in this area. Time on site searching: 90 minutes. John Chenger, Kevin Rhome

The site was visited on October 02, 2014. No mine entrances were found and the site description did not require updating. Time on site: 60 minutes. *John Chenge*

BCM 2005-17

A foot search was conducted on August 28, 2005. This is one reported entrance in a small group of three. A large, obvious spoil pile is immediately encountered east of Piney Run Road within deciduous forest. From the top of the spoil pile, there are a number of adit traces and sinks located within 500 feet to the southeast. There is another parallel level of similar old development traces approximately 75 feet higher in elevation. A few hundred feet northeast of Mine 15 there is small foundation next to what appears to be an old collapsed trench. Just beyond this the forest gives way to pasture that appears to be a reclaimed strip mine not depicted on the USGS Meyersdale/Avilton 7.5 minute topographic map. No open portals were found in this area. Time on site searching: 90 minutes. John Chenger, Kevin Rhome

The site was visited on October 02, 2014. No mine entrances were found and the site description did not require updating. Time on site: 60 minutes. *John Chenger*

BCM 2005-18

A foot search was conducted on August 28, 2005. This entrance was reportedly located on the west bank of Piney Creek, directly behind several private residences. Homeowners indicated no knowledge of a mine in that location, but instead reported on Mine 19, 27, and 28. The area was searched regardless of the landowner reports and no open portals were found in this area. No evidence of previous mining activity was immediately apparent. Time on site searching: 20 minutes. *Kevin Rhome*

The site was visited on October 02, 2014. No mine entrances were found. Several blind trenches were seen, a few with small springs or seeps emerging. Time on site: 30 minutes. *John Chenger*

BCM 2005-19

A foot search was conducted on September 30, 2005. This entrance is located 75' above the west bank of Piney Creek. Locals also refer to the mine entrance as "panther hole." The drift is on a very steep hillside without old road traces. The entrance is largely collapsed and only a 3' high, 4' wide crawlway remains. The crawl slopes down over rubble and the passage cannot be estimated beyond. No airflow was apparent. No other evidence of previous mining activity was visible. Time on site searching: 120 minutes. *John Chenger, Kevin Rhome*

The mine was surveyed on September 30 and October 1, 2005 by John Chenger and Kevin Rhome. A 6'x7' harp trap was placed parallel with the entrance dripline, and essentially filled the entrance area flyway. Temperatures under clear skies each night ranged between 62°F and 42°F. Four bats were captured including 2 little brown bats, and 2 Eastern pipistrelles.

A Pettersson 240x bat detector and an Iriver digital recorder were placed at the entrance pointing upwards. The detector was placed 20' from the entrance, pointing at the entrance. On September 30 the detector was active between 8 PM and midnight and recorded 3 call sequences attributed to Eastern pipistrelles. On October 1 the recorder was operating between 8:00 and midnight.

Three files were generated attributed to the big brown bat (*Eptesicus fuscus*). The detector was monitoring approximately 8 hours and averaged less than 1 call sequence per hour.

The mine was surveyed on October 6, 7, and 8, 2014 by Bryan Butler, Jacob Eshelman, Cory Mattas and Kirk Silas. A 3'x3' harp trap was placed parallel with the entrance drip line and plastic was used to fill the entrance area flyway. Temperatures under clear and cloudy skies each night ranged between 12.8°C and 9.6°C. Rain events were present during the first two nights of trapping. No bats were captured and no guano was found in the harp trap catch bag at the end of each night.

BCM 2014-02

During the course of reinvestigating 2005-19 and 2005-18 on October 02, 2014, this small slump was found along an old mining road 100' above the west bank of Piney Creek. It appears to be slumped shut and had no airflow. It is listed for-the-record-only (FRO) to minimize confusion during future surveys. *John Chenger*

BCM 2005-20

A foot search was conducted on August 27, 2005. This is one of two entrances reported in relatively open deciduous forest. Coal spoil piles are located north of a gravel road. There is mining evidence in this entire woodlot consisting of at least 7 traces of trenches and 2 entrance drifts that now end in blind valleys. No open portals were found in this area. Time on site searching: 60 minutes. *John Chenger*

The site was visited on October 02, 2014. No mine entrances were found and the site description did not require updating. Time on site: 50 minutes. *Kirk Silas, Bryan Butler*

BCM 2005-21

A foot search was conducted on August 27, 2005. This is one of two entrances reported in relatively open deciduous forest. Coal spoil piles are located north of a gravel road. There is mining evidence in this entire woodlot consisting of at least 7 traces of trenches and 2 entrance drifts that now end in blind valleys. No open portals were found in this area. Time on site searching: 60 minutes. *John Chenger*

The site was visited on October 02, 2014. No mine entrances were found and the site description did not require updating. Time on site: 50 minutes. *Kirk Silas, Bryan Butler*

BCM 2005-22

A search was conducted on October 1, 2005. This land has been strip mined and reclaimed. Presently the land where an entrance was is now a meadow. No open portals were found in this area. Time on site searching: 45 minutes. *John Chenger*

The site was visited on July 22, 2014 and found to be reclaimed. John Chenger

BCM 2005-23

A search was conducted on October 2, 2005. This site is located within a few hundred feet of a utility right-of-way. Mining traces include a built up earthen work area leading into a small blind valley. A smaller collapse feature is just inside the treeline on the north side of the right-of-way, downhill of the larger working. No open portals were found in this area. Time on site searching: 90 minutes. *John Chenger, Kevin Rhome*

The site was visited on October 08, 2014. No mine entrances were found and the site description did not require updating. Time on site: 60 minutes. *Jacob Eshelman, Cory, Mattas, Kirk Sllas*

BCM 2005-24

A foot search was conducted for this site on August 28, 2005. The topography has been significantly altered by the construction of an I-68 exit ramp at the location of the reported entrance. No entrance or mining evidence was immediately apparent. Total time on site searching: 35 minutes. *Kevin Rhome*

The site area was visited on August 1 and 8, 2014 by McCormick/Taylor survey crews and did not report mine features. *Dawn Noel*

BCM 2005-25

A foot search was conducted on August 28, 2005. A patch of forest adjacent to a recycling center and US 40 Alternate was searched. From the recycling center, a few small depressions are located near US 40 Alternate in the brush. The slope and forest cover increases to the northeast and no other features are notable. Total time on site searching: 35 minutes. *John Chenger*

The site area was visited on August 1 and 8, 2014 by McCormick/Taylor survey crews and did not report mine features. *Dawn Noel.* The site was visited on July 22, 2014 and no new features were noted. *John Chenger*

BCM 2005-26

A foot search was conducted on August 28, 2005. The area is located in a gently sloping, open deciduous forest littered with small fragments of sandstone. Small, shallow depressions are located 600 feet due west of the reported mine location within sight of a garage. Additional depressions are just northeast of the garage. All depressions are only traces of previous development. No portal was found. Total time on site searching: 90 minutes. *John Chenger, Kevin Rhome*

The site was visited on July 22, 2014 and no new features were noted. John Chenger

BCM 2005-27

A foot search was conducted on August 27, 2005. This entrance is located on the east bank of Piney Creek, approximately 15 feet above the stream. The entrance is 12' wide and 5' high. The passage can be seen to extend at least 40' trending northeast. Time on site searching: 60 minutes. *John Chenger*

The mine was surveyed on September 30 and October 1, 2005 by John Chenger and Kevin Rhome. A 6'x7' harp trap was placed parallel with the entrance dripline, and essentially filled the entrance area flyway. Temperatures under clear skies each night ranged between 62°F and 42°F. Two Eastern pipistrelles were captured. A Pettersson 240x bat detector and an Iriver digital recorder were placed on a ledge overlooking the entrance. On September 30 the detector was active between 8:15 PM and 11:30 PM and recorded 2 call sequences attributed to Northern long-eared bats. On October 1 the recorder was operating between 9:30 PM and 11:30 PM. No files were generated containing bat calls on this night. The detector was monitoring approximately 5 hours and averaged less than 1 call sequence per hour.

The mine was surveyed on October 6, 7, and 8, 2014 by Bryan Butler, Jacob Eshelman, Cory Mattas and Kirk Silas. A 6'x7' harp trap was placed parallel with the entrance drip line and plastic was used to fill the entrance area flyway. Temperatures under clear and cloudy skies each night ranged between 12.8°C and 9.6°C. Rain events were present during the first two nights of trapping. No bats were captured and no guano was found in the harp trap catch bag at the end of each night.

BCM 2005-28

A foot search was conducted on August 27, 2005. This entrance is located 75' from the east bank of Piney Creek, approximately 20 feet above the stream. The entrance is 8' wide and 3' high. The passage can be seen to extend at least 40' trending northeast. Cold air can be felt emerging from the entrance. Several bat droppings were found on a large rock under the dripline. Access to the portal was improved by using earth to form a raised platform in front of the entrance. Another entrance may have existed 100' south where a seep emerges from a slump in the hillside. Time on site searching: 60 minutes. *John Chenger*

The mine was surveyed on September 30 and October 1, 2005 by John Chenger and Kevin Rhome. A 3'x4' harp trap was placed perpendicular with the entrance dripline. The mine entrance was then covered with plastic. Temperatures under clear skies each night ranged between 62°F and 42°F. Two Eastern pipistrelles were captured.

A Pettersson 240x bat detector and an Iriver digital recorder were placed on a ledge overlooking the entrance. On September 30 the detector was active between 8:15 PM and 11:30 PM and recorded 2 call sequences attributed to Northern long-eared bats. On October 1 the recorder was operating between 9:15 PM and 11:30 PM. No files were generated containing bat calls on this night. The detector was monitoring approximately 5 hours and averaged less than 1 call sequence per hour.

The mine was surveyed on October 6, 7, and 8, 2014 by Bryan Butler, Jacob Eshelman, Cory Mattas and Kirk Silas. A 6'x7' harp trap was placed parallel with the entrance drip line and plastic was used to fill the entrance area flyway. Temperatures under clear and cloudy skies each night ranged between 12.8°C and 9.6°C. Rain events were present during the first two nights of trapping. Two Myotis septentrionalis were captured on October 6, 2014. No guano was found in the harp trap catch bag at the end of the other nights of trapping.

BCM 2014-01

On September 26, 2014 John Chenger was revisiting a small group of reported entrance locations 2005-15, 2005-16, and 2005-17. An entrance feature was encountered east of this cluster. There is a steep sided trench with a small spring emerging from the hillside just below an open meadow, where a farm lane briefly intersects the forest. There are a few old timbers in the trench. 50' up the trench from where the water emerges is a small 1.5' diameter hole the drops steeply. Water can be heard dripping in the chamber inside. No airflow was observed. Given the extent the trench is collapsed above this hole, the passage may be collapsed. John Chenger

The hole was surveyed on October 7, 8, and 9, 2014 by Bryan Butler, Jacob Eshelman, Cory Mattas and Kirk Silas. Two 9 meter long mist nets were placed diagonally in a "V" formation along the hole. Temperatures ranged between 16.0°C and 10.2°C under cloudy skies. Rain events were present during the first night of trapping. No bats were captured.

RHF 2014-01

A foot search was conducted on October 09, 2014. A small open rock face was surveyed. The area was 22 meters in length and ranged from 8 to 12 meters in width. The habitat consisted of rocks that were less than 1 meter with shallow crevices, covered in organic matter and boulders 5 to 10 meters in size with no crevices. The habitat was located adjacent to a creek and had north facing orientation. No potential activity centers were assigned. Total time on site searching: 60 minutes. *Jacob Eshelman, Cory Mattas.*

RHF 2014-02

A foot search was conducted on October 07, 2014. A small boulder field located under a utility line was surveyed. The area was 35 meters in length and ranged from 8 to 12 meters in width. The majority of rocks were less than 1 meter in size with a few ranging from 1 to 3 meters. The rocks were mostly covered with organic matter with few suitable crevices for bats. No potential activity centers were assigned. Total time on site searching: 60 minutes. *Jacob Eshelman, Cory Mattas, Kirk Silas*.

RHF 2014-03

A foot search was conducted on October 07, 2014 finding isolated rock piles along an agricultural field. Two piles were assigned as potential *Myotis leibii* activity centers. These piles had south the southeast orientation with good sun exposure and medium to deep crevices which would indicate good bat habitat. Total time on site searching: 40 minutes. *Jacob Eshelman, Cory Mattas, Kirk Silas*

RHF 2014-04

A foot search was conducted on October 07, 2014. A small rocky area located adjacent to a house and road was surveyed. The area was 26 meters in length and ranged from 2 to 10 meters in width. The habitat consisted of isolated small rock piles. The majority of rock sizes ranged between 1 to 3 meters. Few shallow crevices were found with the majority of these crevices filled with organic matter. No potential activity centers were assigned. Total time on site searching: 40 minutes. *Jacob Eshelman, Cory Mattas, Kirk Silas*

RHF 2014-05

A foot search was conducted on October 08, 2014. A small rocky cliff located adjacent to a highway was surveyed. The area was 32 meters in length and ranged from 0.5 to 2 meters in width. Few crevices and overhangs were found. Two potential activity centers were assigned with suitable crevices; however the habitat had northeast orientation with tall grasses blocking sun exposure. Total time on site searching: 40 minutes. *Jacob Eshelman, Cory Mattas, Kirk Silas*

RHF 2014-06

A foot search was conducted on October 08, 2014. A small rocky area located adjacent to a mechanic shop and road was surveyed. The habitat was located on the edge of a deciduous forest. The area was 34 meters in length and ranged from 6 to 10 meters in width. The habitat consisted of isolated small rock piles. The majority of the habitat was rock sized between 1 to 3 meters covered with organic matter. Bare rock with shallow crevices was found with southwest orientation with a possible 5 hours of sun exposure. This area was assigned as a potential activity center. Total time on site searching: 50 minutes. *Jacob Eshelman, Cory Mattas, Kirk Silas*

RHF 2014-07

A foot search was conducted on October 08, 2014. A large rocky area located adjacent to a commercial center was surveyed. The habitat was located in a deciduous forest with nearly 100 percent canopy coverage. The area was 100 meters in length and ranged from 20 to 70 meters in width. The habitat consisted of a boulder field with majority of rock sized less than 1 meter to 3 meters. The area was extensively covered with organic matter. One area was assigned as a potential activity center. This area was 20 meters by 6 meters with some open crevices but with little sun exposure. Total time on site searching: 90 minutes. *Jacob Eshelman, Cory Mattas, Kirk Silas*

RHF 2014-08

A foot search was conducted on October 08, 2014. A large rocky area located adjacent a highway was surveyed. The area was 80 meters in length and ranged from 13 to 80 meters in width. The habitat consisted of a rocky hillside with southeast exposure with minimal bare rock. The majority of the habitat was covered with trees and shrubs. One area was designated as a potential activity center due to its available sun and shallow crevices. Total time on site searching: 70 minutes. *Jacob Eshelman, Cory Mattas, Kirk Silas*

RHF 2014-09

A foot search was conducted on October 08, 2014. A small rocky area located adjacent to a highway road was surveyed. The area was 25 meters in length and ranged from 4 to 6 meters in width. The habitat consisted of drainage rocks leading to a storm drain. The rocks were sized less than 1 meter and were bare with no organic matter and no canopy coverage. Shallow crevices were found throughout. The habitat also had southward orientation with long sun exposure. One area in particular had possible deep crevices and was designated a potential activity center. Total time on site searching: 40 minutes. *Jacob Eshelman, Cory Mattas, Kirk Silas*

RHF 2014-10

A foot search was conducted on October 08, 2014. A large rocky area located on either side of the highway was surveyed. The area was 400 meters in length and ranged from 5 to 20 meters in width. The habitat consisted of large talus slopes. The majority of the habitat was fragile shale outcrops with numerous crevices. On the south facing side, a large boulder field with rocks less than 1 meter was located above the shale rock. The boulder rocks contained shallow crevices. Six potential activity centers were assigned with suitable crevices and rock structure. Half the habitat was south facing while the other half was north facing. Total time on site searching: 120 minutes. *Jacob Eshelman, Cory Mattas, Kirk Silas*

RHF 2014-11

A foot search was conducted on October 09, 2014. A small rocky area located adjacent to a road was surveyed. The habitat was located on the edge of a deciduous forest. The area was 30 meters in length and ranged from 5 to 10 meters in width. The habitat consisted of boulders ranging in size from less than 1 meter to 3 meters with shallow and deep crevices. The majority of the habitat was covered with organic matter and had northeast sun exposure. One area was designated as a potential activity center due to its deep crevices and lack of organic matter. Total time on site searching: 40 minutes. *Jacob Eshelman, Cory Mattas*

RHF 2014-12

A foot search was conducted on October 09, 2014. A small rocky area located adjacent to a road was surveyed. The habitat was located on the edge of a deciduous forest. The area was 10 meters in length and ranged from 4 to 6 meters in width. The habitat consisted of boulders ranging in size from less than 1 meter to 3 meters with shallow crevices. The habitat was covered with organic matter, overgrown with grasses and had northeast sun exposure. No potential activity centers were designated. Total time on site searching: 40 minutes. *Jacob Eshelman, Cory Mattas*

RHF 2014-13

A foot search was conducted on October 09, 2014. A small rocky area located adjacent to a road was surveyed. The habitat was located on the edge of a deciduous forest. The area was 40 meters in length and ranged from 6 to 12 meters in width. The habitat consisted of boulders ranging in size from less than 1 meter to 5 meters with shallow crevices. The habitat was covered with organic matter, overgrown with grasses and had northeast sun exposure. No potential activity centers were designated. Total time on site searching: 40 minutes. *Jacob Eshelman, Cory Mattas*

RHF 2014-14

A foot search was conducted on October 09, 2014. A large rocky area located adjacent to a road was surveyed. The habitat was located on the edge of a deciduous forest. The area was 150 meters in length and ranged from 10 to 20 meters in width. The habitat consisted of boulders ranging in size from less than 1 meter to 3 meters with shallow and deep crevices. The habitat was covered with organic matter, overgrown with grasses and had northeast sun exposure. Two potential activity centers were assigned due to their deep crevices and lack of organic matter. Total time on site searching: 40 minutes. *Jacob Eshelman, Cory Mattas*

Attachment B

Habitat Assessment Data Sheet Codes

Table 1.	Classification	of surface	rock	habitat.
A 441716 A 4	CHASSILICATION	MI SHITHEE	racie	******

For small-footed bat habitat deliniations, crevices refer to crevices sized for small-footed bats. *Suitability defined in report text.

HABITAT TYPE	QUALITY OF HABITAT	SIZE OF ROCK	SUITABILITY* FO	
			1111 high suitability	
		111 blocks less than 1 meter	1112 moderate suitability	
		111 blocks less than 1 meter	1113 low suitability	
	LITTLE HITCH		1114 not suitable for roosting.	
	<u> </u>		1121 high suitability	
	II have made door interestors	112 blocks 1-3 meters	1122 moderate suitability	
	11 bare rock, deep interstices	112 blocks 1-3 meters	1123 low suitability	
			1124 not suitable for roosting	
			1131 high suitability	
		112.11 1 2 2	1132 moderate suitability	
		113 blocks 3-5 meters	1133 low suitability	
			1134 not suitable for roosting	
			1211 high suitability	
		PARTER TO PARTE TO A STATE OF THE STATE OF T	1212 moderate suitability	
		121 blocks less than 1 meter	1213 low suitability	
			1214 not suitable for roosting	
	12 bare rock, shallow interstices		1221 high suitability	
		122 blocks 1-3 meters	1222 moderate suitability	
			1223 low suitability	
			1224 not suitable for roosting	
		123 blocks 3-5 meters	1231 high suitability	
			1232 moderate suitability	
			1233 low suitability	
			1234 not suitable for roosting	
1 talus or boulders		131 blocks less than 1 meter	1311 high suitability	
			1312 moderate suitability	
			1313 low suitability	
			1314 not suitable for roosting	
	12 work consend to account protected		1321 high suitability	
	13 rock covered by organic material		1322 moderate suitability	
	including humus, leaves, moss, with	1.32 blocks 1-3 meters	1323 low suitability	
	deep interstices		1324 not suitable for roosting	
			1331 high suitability	
		122 11 1 2 2	1332 moderate suitability	
		133 blocks 3-5 meters	1333 low suitability	
			1334 not suitable for roosting	
			1411 high suitability	
		+ 44 EX-CT-10 Serve Albert E transfer	1412 moderate suitability	
		141 blocks less than 1 meter	1413 low suitability	
			1414 not suitable for roosting	
	14		1421 high suitability	
	14 rock covered by organic material		1422 moderate suntability	
	including humus, leaves, moss, with	142 blocks 1-3 meters	1423 low suitability	
	shallow interstices		1424 not suitable for roosting	
			1431 high nestability	
		CHARLES THE COLUMN TWO COLUMNS TO THE COLUMN TWO COLUMNS THE COLUMN TWO COLUMNS TO COLUMNS TWO COLUMNS TO COLUMN TWO COLUMNS TWO COLUM	1432 moderate suitability	
		143 blocks 3-5 meters	1433 low suitability	
			1434 not suitable for roosting	

			2111 high suitability
	21 numerous overhangs, crevices, and "caves"	AND DESCRIPTION OF THE PROPERTY OF THE PROPERT	2112 moderate suitability
		211 blocks 5-10 meters	2113 low suitability
			2114 not suitable for roosting
			2121 high suitability
	and caves		2122 moderate suitability
		212 blocks 10 meters+	2123 low suitability
			2124 not suitable for roosting
rock city, large float blocks			2211 high suitability
			2212 moderate suitability
		221 blocks 5-10 meters	2213 low suitability
	22 few or no overhangs, crevices,		2214 not suitable for roosting
	and "caves"		2221 high suitability
	and Leives	And the second second second	2222 moderate suitability
		222 blocks 10 meters+	2223 low suitability
			2224 not suitable for roosting
			3111 high suitability
		CONTROL III III WARE NO WAREN	3112 moderate suitability
		311 less than 3 meters high	3113 low suitability
	31 numerous overhangs, crevices,	100	3114 not suitable for roosting
	31 numerous overnangs, crevices, and "caves" 32 few or no overhangs, crevices, and "caves"		3121 high suitability
		Total Section 1988	3122 moderate suitability
		312 3- meters high	3123 low suitability
		The state of the s	
3 cliffs, rock outcrops			3124 not suitable for roosting
		321 less than 3 meters high	3211 high suitability
			3212 moderate suitability
			3213 low suitability
			3214 not suitable for roosting
		322 3+ meters high	3221 high suitability
			3222 moderate suitability
			3223 low suitability
			3224 not suitable for roosting
			4111 high suitability
		411 entrance 0-2 meters	4112 moderate suitability
		77.1 Cilitance v-2 meters	4113 low suitability
	41 rarely visited, may be gated		4114 not suitable for roosting
	11 fairely visited, may be galed		4121 high suitability
		412 entrance 2+ meters	4122 moderate suitability
		112 chilance 2 i meters	4123 low suitability
			4124 not suitable for roosting
			4211 high suitability
		421 entrance 0-2 meters	4212 moderate suitability
		+21 chirance 0-2 meters	4213 low suitability
4 cave or mine entrance zone	42 manusiamully violend		4214 not suitable for roosting
4 cave or mine entrance zone	42 occasionally visited		4221 high scatability
		422	4222 moderate suitability
		422 entrance 2+ meters	4223 Iow suitability
			4224 not suitable for roosting
			4311 high suitability
		ANALYSIS HOUSE TO A SECTION AND THE WORLD	4312 moderate suitability
		431 entrance 0-2 meters	4313 low suitability
	43 active, heavily visited or		4314 not suitable for roosting
	commercialized	Catalogue and the second	4321 high suitability
	Commercialized		4322 moderate suitability
		432 entrance 2+ meters	4323 low suitability
			1

			5111 high suitability
		511 less than 3 meters high	5112 moderate suitability
		311 less than 3 meters high	5113 low suitability
	51 highwall with numerous		5114 not suitable for roosting
	crevices, boulders, etc.		5121 high suitability
		510.2	5122 moderate suitability
		512 3+ meters high	5123 low-suitability
6 months on automorate			5124 not suitable for roosting
5 quarry or mine pit			5211 high suitability
		521 1 1 2 1 . 1	5212 moderate suitability
		521 less than 3 meters high	5213 low suitability
	52 highwall with few or no crevices,		5214 not suitable for roosting
	boulders, etc.		5221 high suitability
	7,777	522 2 1 1 1	5222 moderate suitability
		522 3+ meters high	5223 low suitability
			5224 not suitable for roosting
		611 less than 3 meters high	6111 high sunability
			6112 moderate suitability
	61 few or no suitable crevices, overhangs, or other interstices		6113 low suitability
			6114 not suitable for coosting
		612 3+ meters high	6/21 high suitability
			6122 moderate suitability
6 other man made rocky			6123 low suitability
abitat such as stone walls,			6124 not suitable for roosting
railroad and road cuts.			6211 high suitability
buildings, etc.			6212 moderate suitability
A CONTRACTOR OF THE CONTRACTOR		621 less than 3 meters high	6213 low suimbility
	62 numerous suitable crevices,		6214 not suitable for roosting
	overhangs, or other interstices		6221 high suitability
	THE RESERVE OF THE PROPERTY OF	700 D	6222 moderate suitability
		622 3+ meters high	6223 low suitability
			6224 not suitable for roosting
		711 bare ground/low ground cover	7114 not suitable for roosting
	71 forest	712 moderate ground cover	7124 not suitable for roosting
		713 high ground cover	7134 not suitable for roosting
		721 bare ground/low ground cover	7214 not suitable for roosting
No rock habitat present		722 moderate ground cover	7224 not suitable for roosting
		723 high ground cover	7234 not suitable for roosting
		731 bare ground/low ground cover	7314 not suitable for roosting
		732 moderate ground cover	7324 not suitable for roosting
	(Was spendered	733 high ground cover	7334 not suitable for roosting

Appendix A

Representative Harp Trap Site Photographs



Site 2005-19 - Portal

Cropped photo showing 3' harp trap (above)
Landscape photo showing 3' harp trap and acoustic detector (below)





Landscape photo showing 6' harp trap (above)
Cropped photo showing acoustic detector facing cave entrance(below)





Site 2005-28

Landscape photo of 6' harp trap in front of entrance with acoustic detector (above)

Landscape photo showing 6' harp trap (below)





Site 2014-01

Landscape photo showing 9-meter single high configuration above sinkhole (above) Cropped photo showing acoustic detector and single high configuration (below)





Photo showing 6' harp trap stacked parallel to mine entrance (above/below)



Appendix B

Habitat Assessment Photographs



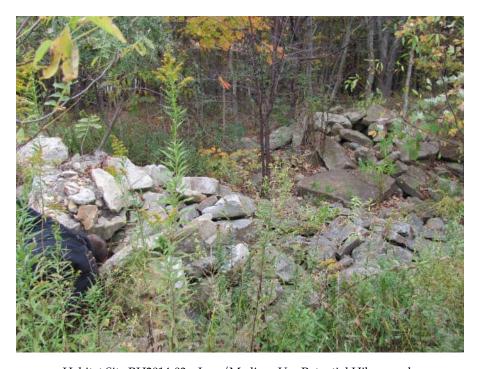
Habitat Site CMPL-2014-03 - FRO



Habitat Site RH2014-01 - FRO



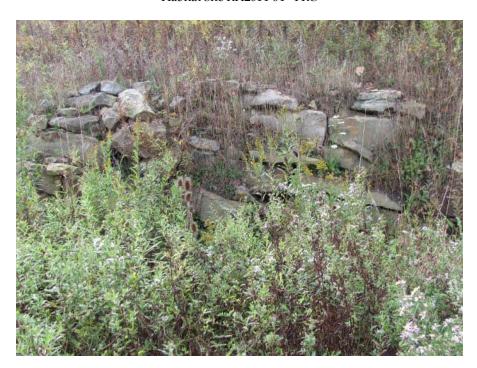
Habitat Site RH2014-02 - FRO



Habitat Site RH2014-03 – Low/Medium Use Potential Hibernacula



Habitat Site RH2014-04 - FRO



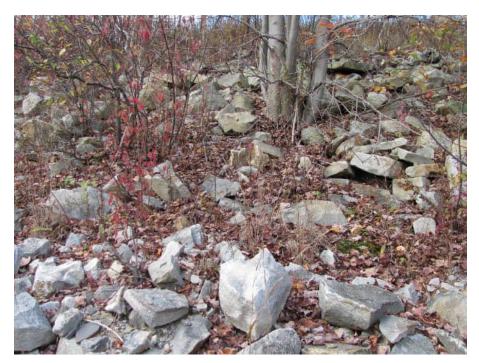
Habitat Site RH2014-05 - Low Use Potential Hibernacula



Habitat Site RH2014-06 - Low Use Potential Hibernacula



Habitat Site RH2014-07 - Low Use Potential Hibernacula



Habitat Site RH2014-08 - Low Use Potential Hibernacula



Habitat Site RH2014-09 - Low Use Potential Hibernacula



Habitat Site RH2014-10 - Low/Medium Use Potential Hibernacula



Habitat Site RH2014-11 - Low Use Potential Hibernacula



Habitat Site RH2014-12 - FRO



Habitat Site RH2014-13- FRO



Habitat Site RH2014-14 - Low/Medium Use Potential Hibernacula

Appendix C

Site Survey Data Sheets

Instructions

All information must be completed each night. Partially complete forms will not be accepted. Completed forms are to be turned in to the Team Leader each morning.

PROJECT: Name of the entire survey project. SITE#: The number given to every trap site in a seperate geographic location. Site # remains the same regardless of how many nights are spent at

location. Site # temains the same regardless of how many nights are spent at the same location.

DATE: Pre-midnight date which trapping began.

LONGITUDE/LATITUDE: Coordinates from a GPS receiver.

LD. BY: USFWS qualified person identifying bats at this site.

MOON AFFECT: Was moon present during survey? If so what phase? Was moonlight illuminating nets? Note times.

NUMBER OF NETS/TRAPs: Description of nets, e.g. A: 3Hx9m, B: 2Hx6m C: LHx9mx12m; "I' configuration."

2Hx6m, C: Hx9mx 12m "L" configuration.

SKY CONDITIONS: General weather conditions and temperature in °F, at start, middle, and end of sampling times.

WIND CONDITIONS: Use Beauford scale and note time.

SITE DESCRIPTION: A general overview of the site, e.g. "Shallow stream with long pools surrounded by deciduous forest with maple, oak, and beech. A small clearing and residence is nearby."

A small clearing and residence is nearby."

ANDERSON III CODE: Use Level III codes and percentages within 1KM

of site. Percentages should total 100%.

DISTURBANCE CODE: List up to three of the most significant disturbances within 500 meters. Include distance to disturbance.

	Disturbance Codes and K	ley
PROXIMITY	TYPE	
1 Disturbance on site	A Dumping	H Unimproved roads
	B Party spot	1 Recreation area
2 Disturbance within	C Buildings	J Mining
100 meters of site	D Agriculture	K Fire
	E Utility rights-of-way	L Clearcut
3 Disturbance 100-500	F Railread rights-of-way	M Insect defoliation
meters of site	G Improved roads	N No disturbance

		Beuford	f Wind Scale Codes an	d Key
Code	Speed(m/sa)	Description	Land Condition	Comfort
0	0.05	Calm	Smoke rises	No noticeable wind
1	05-15	Light air	Smoke drifts vertically	
2	1.6 - 3.3	Light breeze	Leaves rande	Wind felt on face
3	3.4 - 5.4	Gentle breeze	Wind extends	Hair disturbed, clothing flaps
4	55-79	Moderate breeze	Small branches in motion	Hair disarranged, raises dust & loose
5	8.0 - 10.7	Fresh breeze	Small trees wileaf begin to sway	Force of wind felt on body
6	10.8 - 13.8	Strong breeze	Whistling in telegraph wires large branches in motion	Umbrellas used with difficulty
7	13.9 - 17.1	Near gale	Whole trees in motion	Inconvenience in walking
8	17.2 - 20.7	Gale	Twigs broken from trees	Progress impeded/difficult in gusts

Common name: Species: Little brown Myotis lucifugus Big brown Eptesicus fuscus Pipistrelle Pipistrellus subflavus Northern longear Myotis septentrionalis Myotis leibii Smallfooted

Indiana Myotis sodalis Red Lasiurus borealis Hoary Lasiurus cinereus Silver haired Lasionycteris noctivagans Townsend's Big-eared Corynorhinus townsendii

Rafinesque's Big-eared Corynorhinus rafinesquii Evening Nyctuceius humeralis

Reproductive condition: Age:
NR= Non Reproductive A: Adult
or: - Programt J: Juvenile L= Lactatine PL= Post Lactating SCR= Scrotal

> DO NOT WRITE IN MARGINS OF **DATA SHEETS**

Anderson Classification Codes first and second level categories

- Urban or Built-Up Land
- Residential
- Commercial Services
- Transportation, Communications Industrial and Commercial
- Mixed Urban or Built-Up Land Other Urban or Built-Up Land
- Agricultural Land
- Cropland and Pasture Orchards, Groves, Vineyards, Nurseries
- Confined Feeding Operations Other Agricultural Land
- 31
- Herbaceous Rangeland Shrub and Brush Rangeland
- 33 Mixed Rangeland
- Forest Land
- Evergreen Forest Land Mixed Forest Land

- Streams and Canals Lakes
- 53 Reservoirs
- Bays and Estuaries
- Forested Wetlands Non forested Wetlands
- Barren Land
- Sandy Areas Other than Beaches

Mixed Barren Land

Bare Exposed Rock Strip Mines, Quarries, and Gravel Pits Transitional Areas

Note: The pipistrelle is now designated as the tri-colored bat (*Perimyotis subflavus*).

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Section 2
BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 10 02 2014 2. Company Name: Bat Conservation & Management
3. Bat Identifier: KIRK SIKAS 4. Assistants: JACOXS Eshelman
5. Site Name and/or Number: 2014 RT 219 Fall 2005-01
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - Open entrance with stream.
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
NA
8. County: Somerset 9. 7.5' Quad .: Meyers dale
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 47 '-7.75 "N, Longitude: 79 °- 01 '-42.46 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Control Private
Deburah Hower, McCornick Taylor, 5 Captel Or, Saite 400, Horrisburg, PA 17110, (1773) 540-6040
13. Time (militury) & Temperature: Start Time /8:30 h Stop Time DO:00 h Total Minutes: 330
15.2°C at 22000 Start Temp./6./ °C End Temp. 14:3 °C (musi stay ≥10°C for summer neth
4. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorins; Snow; Other:
5. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling). Windy (Trees Swaying).
16. Capture Setup at Site:

Set#	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	
1	Harp	1	1.8mx 2.1m	In front of entrance	3.78 m 2
Ā					÷
-					

Total Capture Area: 3.78 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

+CA PEUDE DECLI TO

Page 2 of 2

(Site Survey Record - Continued)	Site Name/No.:	2014 RT 219	Fall Mine 01	Date: 10 00 00 0014
			40	
17. Describe habitat 150 m aroun	d site: (topography	and vegetation is	ncluding dominant t	ree species.)

Old partially collapsed mine entrance surrounded by dense deciduous forest. Small acid mine drainage stream from entrance in center of steep embandment.

Dominant tree species include birch red oak, chestrut oak.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*	ew::-	13.77	ber of Female	5	No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesious fuscus	2		1		The state of	3	2	-1	-1	4	7
Myotis Iucifugus								1			-/
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus	-					7			9		
Perimyotis subflavus						med					
Lasiurus borealis					e c			34			
Lasiurus cinereus				X>	300						
Lasionycteris noctivagans			10								
Other - specify:											
Other - specify:	/										
Reproductive		PL= pc	st lacta	ting, SCI	R= scrota	nant, L= l/epididyr ture Da	nis swoll	en.	II:		Grand Total
(1) N	Ivotis so	dalis, (2) Myot	is leibii, (3) bats y	ou are b	anding o	r band	recaptur	es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana hat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or informed device when vite can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	r 2 nd hour 3 rd hour 4 th hour		4 th hour	5 th hour
Start Time: 18:28	Start Time: 19/29	Start Time: 20:30	Start Time: 21:51	Start Time: 22.32
End Time: 19:28	End Time: 20:29	End Time: 21:30	End Time: 22:31	End Time: 23:32
Tullies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

Noguero found in haptrep at end of trapping.

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Section 2 BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 10/9 2014 2. Company Name: BAT CONSERVATION & MANAGEMENT INC.
3. Bat Identifier: KIRK SILAS 4. Assistants: British Business
5. Site Name and/or Number: 2014 RT 219 FALL 2005-1
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel, other structure, describe - Offw fraction with Stream.
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
8. County: Someaser 9. 7.5' Quad.: MEYERSOALE
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 47 '- 7.76"N, Longitude: 39 °- 01 '-42.46"W
Datum (circle one): (NAD27) (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access?' Give name and address.) (setting + faire)
BEBORNEL HOUSE, McConnice Tryese, Scholle On Song 400, 14800158406 PA. 17110 717 540 6040
13. Time (militury) & Temperature: Start Time 1820 h Stop Time 2345 h Total Minutes: 325 10,3°E 2255° Start Temp. 11.3 °C End Temp. 8-3 °C (must stay ≥10 °C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend neuting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling). Windy (Trees Swaying).
16 Capture Setup at Site:

OTAL AREA (m)	TOT	Description	Dimensions	Count	Type	Set#
124.8 sq. m	12	Stacked over trail	12m x 2.6m	4	Nets	1
3.78 m z	3.	IN FAMT OF ENTERWISE	1.8m+211-n	. /	HARP TRAP	1
			i .	50		
_						

3,78 Total Capture Area:_ __sq. m (Site Survey Record - Continued) Site Name/No.: 2011

FALL MINS of Date: 10/09/2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

OLD PARTITULY COLLARSED COME MINE FRITTH SURROUNDED BY DEWSE DECIDIOUS FOREST.

SMALL ACID MINE DRAWAGE STREAM FROM ENTRANGE IN THE CENTER OF STEEP EMBANKMENT.

DOMINANT THEE SPECIES INCLUDE FIRCH , RED ONK, CHESTNUT OAK

18. Was reproductive status checked? (YES) NO (if "NO" only enter numbers in Total columns)

	Number of Adult Females				No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesious fuscus	2	SANCTE I	1	Legal Conf.	E (CHF)	3	2	1	- 1	4	7
Myotis lucifugus											
Myotis septentrionalis								/			
Myotis leibii							/				
Myotis sodalis						/	2112				
Eptesicus fuscus					/		3				
Perimyotis subflavus				/	6	PX /					
Lasiurus borealis				1	O	1		ot ————————————————————————————————————			
Lasiurus cinereus		1									
Lasionycteris noctivagans											
Other - specify:											
Other - specify:					II CONTRACTOR						D.
Reproductive	Compl	PL= po ete <u>Me</u> dalis. (2	ost lacta asure () Myot	ting, SCI ment ar is leibii.	R= scrota nd Cap (3) bats	ıl/epididy ture Da	mis swol	m for a	recaptu	res.	Grand Total

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tollies of bat passes / hour. One to 5 hours required for Indiana had hiberracula surveys. Monitor one hour ofter 22:00 hrs when trapping/neuting hiberracula and 5 hours when only monitoring with bat detectors, night wision or infrared device (when size can not be trapped/neuted). Describe procedure & equipment used in remarks.

1 st hour	n or infrared device (when site can not be trapped net		4th hour	5 th hour		
Start Time: /0:/7	Start Time: 1918	Start Time: 2019	Start Time: 2/:20	Start Time: 22:2		
End Time: 19:17	End Time: 20:15	End Time: 2/5/9	End Time: 22:20	End Time: 23:2		
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:		

20. REMARKS:

No guano found in hair trap at end of trapping.

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Section 2 Page 1 of 2
1. Survey Date: 10 10 2014 2. Company Name: Bat Conservation & Management, Inc
3. Bat Identifier: Kirk Silas 4. Assistants: Dacob Eshalman
5. Site Name and/or Number: 2014 RT 219 Pall 2005-01
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - Open entrance with stream.
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
NA .
8. County: Somerset 9. 7.5' Quad .: Meyers dole
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 %- 47 1-7.75 "N, Longitude: 77 %- 42.46 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Cortact 1 Provate
Deborah Hover, McCormick Taylor, 5 Capital Dr. Swite 400, Flarestone, PA 17110, (717) 540-6040
13. Time (military) & Temperature: Start Time 1815 h Stop Time 21130 h Total Minutes: 195
Start Temp. 10.5 °C End Temp. 10.5 °C (nust stay ≥10 °C for summer ne
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend neuting during periods of rain) Steady Rain) Thunderstorins; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set#	Type	Count	Dimensions	Description	TOTAL AREA
8177	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	thip Top	1	1.8m × 2.1m	In front of entrance	3,78,2
12					N. P.
	1 LT				, i
	W.				

Total Capture Area: 3.78 sq. m

Date: 10/10/2014

(Site Survey Record - Continued)

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission Site Name/No.: 2014 KT 214 Fe/11 72005-01

Species		Number of Adult Females			581.650	Total No.	Number of Adult Males		No. Juv.	Total No.	Species
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesions fuscus	2		-1	an ega	24 N	3	2	1	- 1 .	4	7
Myotis						2					-/
lucifugus			_								/
Myatis		Ü				1					
eptentrionalis Mvotis	_	-		-	T	7 - 7				/	
leibii									/		
Mvotis									/		1.9
sodalis							20.107	/			
Eptesicus		l si					1				
fuscus				gramer:			0		-	-	
Perimyotis		V				Spri	/				
subflavus Lasiurus			-			CITY					
borealis	, i	ı,			est.						
Lasiurus					2/				Tr.	1	
cinereus	1			6				1.28.	-		
Lasionycteris		,	V	-/					į,		1
noctivagans			20			-				7	
ner – specify:	1										
									-	-	-
her - specify:	1										100
	/										
Reproductive	Comple	PL= po ete <u>Me</u> dalis, (2 dio-tagg	st lactati asurem Myotis ed bats	ng, SCF ient an leibii, (and (5)	R= scrota d Cap 3) bats y bat spec	ture Day you are basies not us	ta Fort anding o	n for a r band und is	recaptu PA.		Grand Total
		e oth	ER MO	NITOR						mornig win	Our HEIECHOTA.
19. BAT DETE		ne hour af site can no	ter 22:00 h u be trappe	rs when ir d/netted).	Describe	procedure a	едифтен	4th hou	r	5 th	hour
9. BAT DETE ibernacula surveys. ision or infrared des	Monitor of vice (when s	ne hour af site can no 2 nd	ter 22:00 h n be trappe hour	d/netted).	3 rd h	our	C++7	4 hou	r	Start Time	hour
9. BAT DETE	Monitor of vice (when s	ne hour aft site can no 2 nd art Time:	ter 22:00 h u be trappe	7 Sta	3 rd h	procedure a	Start T	4 hou		Start Time	e: /
9. BAT DETE ibernacula surveys. ision or infrared det 1st hour	Monitor or vice (when s	ne hour af site can no 2 nd	ter 22:00 h n be trappe hour	7 Sta	3 rd h	our	C++7	ime:	r /		e: /

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA

Pennsylvania Game Commission

12/09	
Section	2

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 10/12/2014 2. Company Name: Bat Conservation and Management Inc.
1. Survey Date: 10/14/2014 2. Company Name: 2. Company Na
3. But Identifier: Kick Silas 4. Assistants: Local Eshelman
5. Site Name and/or Number: 2014 RT 219 Full 2005-01
6. Site is (circle one): Summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - Open entrance with stream.
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
N/A
8. County: Somerset 9. 7.5' Quad .: Meyersdale
10. Was site GPS'd (required)? YES) - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 47 '-7.75"N, Longitude: 79 °- 01 '-4.46"W
11. Geographic Coordinates (D-M-S): Lantide: 31 - 41 - 1.77 N, Longitude: 11 - 51 - 1-10 W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.)
13. Time (military) & Temperature: Start Time 815 h Stop Time 0000 h Total Minutes: 345
Start Temp. 11.2 °C End Temp. 8.4 °C (must stay ≥10°C for summer netting
 General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): (alph, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set#	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Ŷ.	Harp Trap	Ţ	1.8m x 2.1m	In Front of entrance	3.78 m2
		-		g 3	
		1		.53	
					7

Total Capture Area: 3.78 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 RT219 Fall 2005-01 Date: 10/12/2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

old partially collapsed more enfrance surrounded by dense decidious forest, Small acid mine drainings stream form entance in conter of steep embourhaunt.

Dominut free species include: bitch, let onk, overstaut ark.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

945 - G			ber of Females	,	Juv. N	Total No.	U	Number of Adult Males		Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	ales Totals
Eptesicus fuscus	2	TO SERVICE SER	1		15.00	3	2	1	1	4	7
Myotis lucifugus	7					h.				0	
Myotis septentrionalis		1]		
Myotis leibii				7					/		
Myotis sodalis							27764	0/			
Eptesicus fuscus						. 0	R/V				=
Perimyotis subflavus					- 4	9			<u>'</u>		
Lasiurus borealis					13/4 CX						
Lasiurus cinereus			0	PK5							
Lasionycteris noctivagans	1		70				-1				
Other – specify:				f							-
Other – specify:											
Reproductive		PL= pos	t lactati	ng, SCR	= scrotal/	epididym	is swolle	en.			Grand <u>Total</u>
*(1) M	votis sod	alis, (2)	Myotis	leibii, (3	d Captu b) bats yo bat specie	u are ba	nding or	band r	ecapture	s,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of but passes I hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping netting hibernacula and 5 hours when only monitoring with hat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour	
Start Time: /8:13	Start Time: 19:19	Start Time: 20:15	Start Time: 21:16	Start Time: Z 2:17	
End Time: /9, 13	End Time: 20:14	End Time: 21:15	End Time: 22:/6	End Time: 2/:/7	
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:	

20. REMARKS:

Temperature was 10.1% at 20:30.
No guans bund in halp top at the end of trapping.

FORM P-70008-N/T

COMMONWEALTH OF PENNSYLVANIA

12/09 Pennsylvania Game Commission	
Section 2 BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2	
1. Survey Date: 10 06 2014 2. Company Name: Bat Conservation & Management, Iuc	
3. Bat Identifier: Kirk Siles 4. Assistants: Bryan Butler (Responsible Recorder)	
5. Site Name and/or Number: 2014 RT219 Fall 2005-19	
6. Site is (circle one): hibernation site summer habitat	
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,	
other structure, describe - Harrizontal Mine Entrance along a rock face.	
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):	7.0
8. County: Somerset 9. 7.5' Quad.: Avilton	
10. Was site GPS'd (required)? YES - NO	
11. Geographic Coordinates (D-M-S): Latitude: 39 o-44 '-36.12"N, Longitude: 79 o-03 '-24.49"W	
Datum (circle one) NAD27 (Preferred), NAD83, WGS84, Other:	
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Contact Private	
Deborah Howar, McCornick Taylor, 5 Captal Drive, Sutr 400 Herrisburg, PA 17110, (717) 540-6040	
13. Time (military) & Temperature: Start Time 1820 h Stop Time 0000 h Total Minutes: 340	
Start Temp. 10 C End Temp. C (must stay ≥10 ℃ for summe	netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during	
periods of rain) Steady Rain; Thunderstorms; Snow; Other:	
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling). Windy (Trees Swaying).	
16. Capture Setup at Site:	

Set#	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Harp Trap	i.A.	1.9m × 0.9m	Placed parallel at entrance	1.8m2
					18
	-				

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record - Continued) Site Name/No.: 2014 RT219 FALL 2005-19 Date: 10/06/2019

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Entrance located 75 feet above Pirey Creek on a very steep hillside. Dominant trees
Include: hemlock, yellow birch and shadedendren.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

a	Number of Adult Females			Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesious fuscus	2		1	DREET LAND	PAGE IN	3	2	1	- 1	4	7
Myotis lucifugus				Ŭ.	1	J January					
Myotis septentrionalis										/	
Myotis leibii											
Mvatis sodalis		1					11 11	4			
Eptesicus fuscus							N	/			
Perimyotis subflavus					7	200	10				1
Lasiurus borealis						0		135			
Lasiurus cinereus					ye.						
Lasionycteris noctivagans			1	12/							ļ
Other - specify:		1	10								
Other - specify:	/								2		31
Reproductiv	e Status:	NR= n	onrepro	ductive,	PG= preg	gnant, L=	lactating	llen.		-	Grand <u>Total</u>
/t> #	Avotie en	ete Me	asure	ment a	nd Can	ture Da	ata For	m for : or band	recaptu	res,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana hal Inbernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour		
Start Time: 18.22	Start Time: 19:23	Start Time: 76'24	Start Time: 21:25	Start Time: 22:24		
End Time:	End Time:	End Time: 24:24	End Time: 22:25	End Time: 23:25		
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:		

20. REMARKS:

Tamp at 20:30 was 10.8°C, Temp at 23:15 was 10.3°C

Rain events from 18:20-18:50, 22:25-22:35, 22:50-23:20 Gra total of 70 mins.

No guano was found in harp trap ratch bug at and of trapping.

FORM P-70008-N/T 12/09 Section 2

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

		BAT	NETTING/TRA	PPING SITE SURVEY RECORD	Page 1 of 2
Survey Da	ite: 10 07	2014	2. Company N	ame: Bat Conservation & 1	Management, Ive
				ants:	
Site Name	and/or Nu	mber:	014 RT 219 1	Fall 2005-19	
Site is (ci		hibernati		summer habitat	
a. If hibern	ation site ci	rcle one: li	mestone mine, coa	al mine, limestone cave, sandstone ca	ave. RR tunnel,
		ot	her structure, desc	ribe - Horizantal mine entrance alo	ng rock face.
b. If summ	er habitat, e	+		(e.g. forested stream or forest clearing	5
	19				
3. County:	Some	rset	9.	7.5' Quad.: ANLTON	
			YES - NO		
				<u>ু ৭৭</u> ু- <u>৪৮।২</u> শ, Longitude: <u></u>	W" PP. PG Ed P
1. Geograp					
				, NAD83, WGS84, Other:	THE RESERVE OF THE PARTY OF THE
2. Owners	hip and Acc	ess: (Who	owns site or contro	ols access? Give name and address.)	Contact (Private
Debarah F	loover McCo	ormiek Taylo	r. 5 Capital Br., 5	Swite 400, Harrisburg, PA 17110 1	717) 540-6040
				h Stop Time Olico h	
5. Time (m	initory C	cinperatur		.9 °C End Temp	
4. General	Weather (circle one):		udy; Mostly Cloudy; Cloudy; Driz	
periods o			Steady Rain; Thu	inderstorms; Snow; Other:	•
5. Genera	Wind Con	ditions (circ	ele one); (Calm.)	Breezy (Leaves Rustling). Windy (Trees Swaying).
6 Centur	e Setup at S	Site:			
от сприи					
Set#	Type	Count	Dimensions	Description	TOTAL AREA (m)
-1	Nets	4	12m x 2.6m	Stacked over trail	
	Trap	b	0.9m x 0.9m	Placed parallel of entrance	1.8ma
			1	T.	
		-			
	-				

Total Capture Area:__

1.8

_sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record - Continued)

Site Name/No.: 2014 RT 219 Fall 2005-19

Date: 10 07 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.) Entrance located 75 feet above Princy Crock on very steep slope. Dominant trees include: hemlock, yellow brech and rhododendren.

18. Was reproductive status checked? YES // NO (if "NO" only enter numbers in Total columns)

14	Number of Adult Females			No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Epiesicus fuscus	2	32174	1	REF TAIL	NEGOTO:	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis										/	
Myotis leibii									/		
Myotis sodalis						1	1/1	1			
Eptesicus fuscus					j Termo	<u></u>	-/				
Perimyotis subflavus						1					
Lasiurus borealis				25	otv	100		20			
Lasiurus cinereus	82-2			Were	CX						
Lasionycteris noctivagans			25	00							
Other - specify:		No	0								
Other - specify:	/	-								ź	
Reproductiv	e Status:	NR= n	onrepro	ductive,	PG= preg	gnant, L=	lactating	, llan			Grand Total
(I) I	Auntio or	lete Me	asure	ment a	nd Cap (3) bats	al/epididy oture Da you are b cies not u	ata For	m for a	recaptu	res,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of but passes / hour. One to 5 hours required for Indiana hat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping netting hibernacula and 5 hours when only monitoring with bat detectors. night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3rd hour	4 th hour	5 th hour		
Start Time: 13:70	Start Time: 19:21	Start Time: 70:22	Start Time: 21:23	Start Time: 22:29		
End Time: 19:20	End Time:	End Time: 21:27	End Time: 22 : 2 3	End Time: 23:24		
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:		

20. REMARKS:

Temperature was 11.5°C at 21:00.

Rain events from 19:05-19:30 and 20:00-21:15 for a total of 100 mins No guara found in herp trop catch bay at end of trapping.



COMMONWEALTH OF PENNSYLVANIA

12/09 Pennsylvania Game Commission	
Section 2 BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1	of?
1. Survey Date: 10 08 2014 2. Company Name: Bat Conservation & Management, In	<u>x</u>
3. Bat Identifier: Kirk Silas 4. Assistants:	
5. Site Name and/or Number: 2014 RT 219 Fall 2005-19	- 145 - 1
6. Site is (circle one): hibernation site summer habitat	
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,	
other structure, describe - Horizontal mine entrance along a rock for	at.
	*
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):	
NA	
8. County: Somerset 9. 7.5' Quad.: AVILTON	
10. Was site GPS'd (required)? YES - NO	
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '-36/2"N, Longitude: 79 °- 03 '-34/4	<u>"</u> "W
Datum (circle one): NAD27 Preferred). NAD83, WGS84, Other:	<u> </u>
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Contact: Private	c
Deborah Hoover, McCormick Taylor 5 Copital Drive Suite 400 Horrisburg, PA 1	1110
13. Time (military) & Temperature: Start Time 8115 h Stop Time 00,000 h Total Minutes:	
Start Temp. 28 °C End Temp. 10-7 °C (must stay > 10 °C fo	r summer netting
14. General Weather (circle one): Clear, Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent I	Rain;
periods of rain) Steady Rain; Thunderstorms; Snow; Other:	
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling). Windy (Trees Swaying).	
16. Capture Setup at Site:	

Set#	Type	Count	Dimensi

Set#	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Harp		0.9mx D.9m	Placed parallel of entrance	1,8m2
					=
	1	1			

(Site Survey Record - Continued)

Site Name/No.: 2014 RT219 Fall 2005-19

Date: 10/08/2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.) Entrance located TS feet above. Piney Creek on very steep slope. Dominant trees include hemlock, yellow birch and rhododendren.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

				*	CAPTU	RE RES	ULIS				
	Number of Adult Females		No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv. Male	No. Males	Species Totals			
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Мине	viales	
Eptesious fusaus	2.		I	et right	HELP TOP	3	2	1-1	1	4	7
Myotis Iucifugus								1			/
Myotis septentrionalis						i wa		-		_/	
Myotis leibli											
Myatis sodalis							17%		/		
Eptesicus fuscus					i.						
Perimyotis subflavus					7	Just	10				
Lasiurus borealis					e C						
Lasiurus cinereus				3							
Lasionycteris noctivagans			Soo	2/							
Other - specify:		9	1								
Other - specify:	/										l a
Reproductiv	Comp	PL= p	ost lacta	ting, SC	R= scrott nd Can	ture D	mis swo	m for	all:	res	Grand Total

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes: | hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4th hour	5 th hour	
Start Time: 18-75	Start Time: 19:25	Start Time: 20:21	61.66	Start Time: 22:2:	
End Time: 19:19	End Time: 20170	End Time: 2/:2/	End Time: 22:22	End Time: 23 : 23	
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:	

20. REMARKS:

Temperature at 20130 was 10.10 C

No gueno was found in harptrap catch bay at end of trapping

FORM P-70008-N/T 12/09 Section 2

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

	SATISFACIONES DE L'ARREST MAN PRANCE D'ARREST	
Section 2	BAT NETTING/TRAPPING SITE SUR	VEY RECORD Page 1 of 2
	4 2. Company Name: Rad Consers	-
3. Bat Identifier: Kirk Sile (Responsible Recorder)	as 4. Assistants: Cory Ma	Has
5. Site Name and/or Number:	2014 Rt. 219 Fall / 2005-2	
6. Site is (circle one): hib	pernation site summer habitat	
7a. If hibernation site circle or	ne: limestone mine, coal mine, limestone c	ave, sandstone cave, RR tunnel,
	other structure, describe - Old end	rance
7b. If summer habitat, descri	be area being sampled (e.g. forested stream	
8. County: Somerset	9. 7.5' Quad.:	Avilton
10. Was site GPS'd (required)	?? (YES) - NO	
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '-44.61"	N, Longitude: 79 °-53 -2053"W
. Datum (circle on	ne): NAD27 (Preferred), NAD83, WGS84	, Other:
12. Ownership and Access: (Who owns site or controls access? Give nar	me and address.) Contect Private
	Taylor, 5 Capital Dr. Suite 400, Horrisbu	
13. Time (military) & Temper	rature: Start Time 820 h Stop Tim	ne_0000 h Total Minutes:340
	Start Temp. 11.7 °C End Te	emp. 9-6 °C (must stay ≥10 °C for summer netting
14. General Weather (circle of (suspend neuting during periods of rain)	one): Clear, Partly Cloudy; Mostly Cloudy Steady Rain; Thunderstorms; Snow;	
7000MM APTHUMA		

15.	General Wind Conditions (circle one):	Calm)	Breezy (Leaves Rustling).	windy (Trees Swa	tymg).

16. Capture Setup at Site:

Set#	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Harp trap	1	1.8m x 2.1m	Placed at entrance	3.78m²
			/		
					45

Total Capture Area: 3.78 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 Rt. 219 Fall / 2005 - 27

Date: 10-06-14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Entrance located on steep slope, 15 Get from Princy Creek. Dominant trees include i hemlock, yellow birch, red oak, red maple and rhededendren.

18. Was reproductive status checked? (YES) NO (if "NO" only enter numbers in Total columns)

-	Number of Adult Females			No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv. Male	No. Males	Species Totals		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	1. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.	CARCINADOS,	
Eptesious fuscus	2		L^{-1}	#F-0,1-22	REAL PROPERTY.	3	2	1	1	4	7
Myotis Iucifugus							= : -				/
Myotis septentrionalis										/	
Myotis leibii		V se						0.00	/		-
Myotis sodulis								1		-	
Eptesicus fuscus							5/				
Perimyotis subflavus				2		3/2	/_				
Lasiurus borealis					0				-		-
Lasiurus cinereus	1835			7						-	-
Lasionycteris noctivagans											-
Other - specify:									J.	46	
Other - specify.											
Reproductiv	e Status:	NR= n	onrepro	ductive,	PG= pre	gnant, L=	lactating	g. Ilen			Grand Total
av i	M	lete Mo	easure	ment a	(3) bats	al/epididy oture D you are l cies not i	ata For	<u>m</u> for or band	recapin	res	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes i hour. One to 5 hours required for Indiana hat hibernacula surveys. Monitor one hour after 22:00 has when trappingmetting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour	
Start Time: In 100	Start Time: 19:22	Start Time: 20:24	Start Time: 2/25	Start Time: 22:24	
End Time:	End Time: 20:23	End Time: 21 24	End Time: 22:25	End Time: 23:26	
19:2Z	Tallies:	Tallies:	Tallies:	Tallies:	

Temp at 20:30 was 10.8°C, Temp at 23:15 was 10.3°C

Rain events from 18:20-18:50, 22:25 - 22:35, 22:50-23:20 for a total of 70 mins.

No guano found in herp trap at end of trapping.

FORM P-70008-N/T 12/09 Section 2

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Section 2 BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 10-07-14 2. Company Name: Bat Consecuation and Management Inc.
3. Bat Identifier: Kick Silas 4. Assistants: Jacob Eschelman
5. Site Name and/or Number: 2014 Rt. 219 Fall / 2005 - 27
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave. RR tunnel,
other structure, describe - Old entrance.
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
MA
8. County: Somerset 9. 7.5° Quad.: Avilton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '-44.61"N, Longitude: 19 °-03 '-20.83"W
Datum (circle one): (AD27)(Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Contact Private
Deborah Hower McCommike Taylor, 5 Capital Dr. Swite 400, Harrisburg PA 17110 (717) 540-6040
13. Time (military) & Temperature: Start Time 1820 h Stop Time 01100 h Total Minutes: 400
Start Temp. 11.9 °C End Temp. 11. \ °C (nuss stay ≥10 ℃ for summer netti
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend neuting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling). Windy (Trees Swaying).
16. Capture Setup at Site:

Set#	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Harp Trap	l	1.8m x 2.1m	Placed at entrance	3.78 m²
					10
	10 11 2				

Total Capture Area: 3.78 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record - Continued) Site Name/No.: 2014 Rt. 219 Fall / 2005 - 27 Date: 10-07-14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Entrance located on steep slope, 15 feet from Piney Creek. Dominant trees include hembek, yellow brech, red oct, red maple and rhododendren.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

		Numi Adult F	er of emales		No. Juv.	No.	Number of Adult Males		No. Juv.	Total No.	. Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesions fusqus	2		1	#ESTEQ!	187.000	3	2	1	I = I	4	7
Myotis lucifugus											/
Myotis septentrionalis			=							/	
Myotis leibii									/		
Myotis sodalis							.72	/			
Eptesicus fuscus											
Perimyotis subflavus			il .			Jose					
Lasiurus borealis									-	1	
Lasiurus cinereus				J	ere						
Lasionycteris noctivagans			1	3					100		
Other - specify:		1	10						ľ		
Other - specify:	/										1 1/1
Reproductiv	e Status:	NR= no	onrepro	ductive,	PG= preg	nant, L= al/epididy	lactating	llen.	-	-	Grand <u>Total</u>
(1) M	Avotie en	ete Me	asure	ment a	nd Cap (3) bats	ture Da	ata For	m for a	recaptu	res.	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of but passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/notting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour	
Start Time: 18:20	Start Time: 1912/	Start Time: 20:22	Start Time: 2/23	Start Time: 22:2	
End Time: /9:20	End Time: 20:21		End Time: 22:23	End Time: 23:24	
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:	

20. REMARKS: Temperature was 11.5°C at 21:00.

Rain events from 19105-19130 and 20:00-21:15 for a total of 100 mins. No guano found in harp trap at end of trapping

FORM P-70008-N/T 12/09 Section 2

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

	renns	yivan	ia Ga	me C	Ommins	31011	

Page 1 of 2

2,33,75	SETTING/TRAFFING SITE SURVET RECORD
	2. Company Name: Bat Conservation and Management Inc.
Bat Identifier: Kirk Silas	4. Assistants: Cory Mattas
. Site Name and/or Number: 2	014 Rt. 219 Fall/ 2005 - 27
. Site is (circle one): hibernal	tion site summer habitat
a. If hibernation site circle one:	imestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
c	other structure, describe - Old enfrance
/b. If summer habitat, describe a	rea being sampled (e.g. forested stream or forest clearing with stream):
8. County: Somerset	9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)?	YES - NO
11. Geographic Coordinates (D-M	-S): Latitude: 39 °-44 '-44.61"N, Longitude: 79 °-03 '-2083"W
Datum (circle one):	NADZY (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who	owns site or controls access? Give name and address.) Contact Private
Debornin Honor, McCornicle Taylor 5 Capita	1 Dr. Site 400, Herrisburg PA, 17110 (717) 540-6040
	re: Start Time 18/15 h Stop Time 00/00 h Total Minutes: 345
	Start Temp. 12,8 °C End Temp. 10 € (nuss stay ≥10 € for summer ne
(suspend netting during	Clear) Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
periods of rain)	Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (cir	rcle one): Calm. Breezy (Leaves Rustling). Windy (Trees Swaying).
16. Capture Setup at Site:	

Set#	Туре	Count	Dimensions	Description	TOTAL AREA (m)
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Harp Trup	1	1.8m x 2.1m	Placed at entrance	3.78 m²
					9

Total Capture Area: 3.78 sq. m

+CADTUDE DESILITS

(Site Survey Record - Continued) Site Name/No.: 2014 Rt, 219 Fall/2005-27 Date: 10-08-14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Entrance located on steep slope, 15 feet from Piney Creek. Dominant trees include:
hembel, yellow brea, red onk, red maple and rhododendress.

18. Was reproductive status checked? (YES)/ NO (if "NO" only enter numbers in Total columns)

			Number of Adult Females			Total No.	Numb Adult		No. Juv.		Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Epiesicus fuscus	2		1	grassne	legare.	3	2 .	1	1	4	7
Myotis lucifugus						i Lorge					/
Myotis septentrionalis									_ + =	_/	
Myotis leibii											
Myotis sodalis											- 7.7
Eptesicus fuscus				, ; ;; ;	ber	1.5	od				
Perimyotis subflavus					00	CXV					ii.
Lasiurus borealis					0			19			
Lasiurus cinereus				Del							
Lasionycteris noctivagans			mont?								
Other - specify:		Do									
Other - specify:	/									1	i si
Reproductiv	e Status:	NR= no	onrepro	ductive, I	PG= preg	gnant, L= al/epididy	lactating	len.			Grand <u>Total</u>
(1) M	Avotis se	lete Me	asure	ment a	nd Cap (3) bats	ture Da you are t cies not u	ata For	m for a	recaptu	res.	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of but passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2nd hour	3 rd hour	4 th hour	5 th hour
Start Time: /8:/9	Start Time: 19:20	Start Time: 20:2/	Start Time: 21:22	Start Time: 22:29
End Time: 19.19	End Time:	End Time: 2/:2/	End Time: 22:22	End Time: 23:23
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

Temperature of 20130 was 10,10c.

Nogueno found in herptrap ratch bog at end of trapping.

FORM P-70008-N/T	COMMONWEALTH OF P		
12/09	Pennsylvania Game	Commission	
Section 2	BAT NETTING/TRAPPING SI	TE SURVEY RECORD	Page 1 of 2
			1.75
1. Survey Date: 16 06 2014	2. Company Name: So	at Conservation of Manager	ment INC
3. Bat Identifier: Kirk S.	4. Assistants: 3	acob Eshelman	 ;
5. Site Name and/or Number	: 2014 Rt 219 Fall	2005-28	
6. Site is (circle one): hi	bernation site summer hab	vitat	
7a. If hibernation site circle o	ne: limestone mine, coal mine, lim	nestone cave, sandstone cave, RR tur	inel,
	other structure, describe -	ld entrance	•
,	AND THE PROPERTY OF SAME AND A		
7b. If summer habitat, descr	ibe area being sampled (e.g. foreste	ed stream or forest clearing with stream	m):
Au			
	1	N	
8. County: Somer	SET 9. 7.5' Qua	ad.: AVILTON	
10. Was site GPS'd (required)? YES - NO		
11. Geographic Coordinates	D-M-S): Latitude: 39 % 44 .	-42.61 "N, Longitude: 79 °- 03	- <u>19.54</u> "W
Datum (circle or	ne): NAD27 (Preferred), NAD83,	WGS84, Other:	
12. Ownership and Access:	Who owns site or controls access?	Give name and address.) Contact	Private
		msburg PA 17110 (717) 540-6	
13. Time (military) & Tempe	rature: Start Time 18:20 h	Stop Time 00,00 h Total Minu	ites: 340
	Start Temp. //. 7 °C	End Temp. 9.6 °C (musi stay >	10°C for summer netti
14. General Weather (circle (suspend neuing during	one): Clear; Partly Cloudy; Mostly	y Cloudy; Cloudy; Drizzle; Intermi	ittent Rain;
periods of rain)	Steady Rain; Thunderstorms;	Snow; Other:	
15. General Wind Condition	s (circle one): Calm) Breezy (Lea	eves Rustling). Windy (Trees Swayin	ng).

Set#	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
7	Harp		1.8mx 2.1m	Placed at entrance	3.78n2
	10				
					RF F
		-			

Total Capture Area: 3,78 sq. m

16. Capture Setup at Site:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Site Name/No.: 2014 RT219 FALL 2005-28 Date: 10 06 2014 (Site Survey Record - Continued)

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.) Entrance found on steep stream valley slipe. Dominant trees include: hemback, yellow birch, red oak, and red maple. Understory of rhododendron. Entrance is located 75 feet. from Piner Creek.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

	Number of Adult Females			No. Juv.	No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	R PG L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals	
Eptesicus fuscus	2		I	POTES.	120 July 18	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis								2		2	2
Myotis leibii											
Myotis sodalis	e Leve						810	16			
Eptesicus fuscus	it —			95771							
Perimyotis subflavus	8 2 = -1 = -										
Lasiurus borealis								17			
Lasiurus cinereus											
Lasionycteris noctivagans											
Other - specify:											
Other - specify:	1										12
Reproductiv	e Status: Compl	PL= po ete Me	st lacta	ting, SC ment a	R= scrota nd Cap	ıl/epididy ture Da	mis swol I ta For i	len. m for a	all:		Grand Total

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of but passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1" hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time: 18 177	Start Time: /9:23	Start Time: 20:24	Start Time: 21:25	Start Time: 22 2
End Time: 12 22	End Time: 20:23	End Time: 2/124	End Time: 22:25	End Time: 23:26
Tallies:	Tallies:	Tallies:	Tallies:	Tallies: 2

20. REMARKS:

Temp at 20130 was 10.8°C. Temp at 23:15 was 10.3°C. Rain events from 18120 to 18150 22:25 \$ 20:35 20150 10 23120 Total of 70 minutes of rain. FORM P-70008-N/T

COMMONWEALTH OF PENNSYLVANIA

12/09 Pennsylvania Game Commission
Section 2 BAT NETTING/TRAPPING SITE SURVEY RECORD Page of 2
1. Survey Date: 10 07 2014 2. Company Name: But Conservation & Management Tuc
3. Bat Identifier: Kirk Silos 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 RT 219 FALL 2005-28
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - Old entrance.
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
8. County: Somerset 9. 7.5' Quad .: AVILTON
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 o- 44 - 40.61"N, Longitude: 79 o- 03 -19.54 "W
Datum (circle one): NAD27 (Preferred). NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Contact Projete
Deborah Hower McCornick Taylor, 5 Capital Dr. Suite 400, Harrisburg, PA 17110 (717) 540-6040
13. Time (militury) & Temperature: Start Time 18:20 h Stop Time 01:00 h Total Minutes: 400
Start Temp. 11.9 °C End Temp. 11.1 °C (must stay ≥10 °C for summer ne
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling). Windy (Trees Swaying).
16. Capture Setup at Site:

Set#	Type	Count	Dimensions	Description	TOTAL AREA (m)
1	Nets	4	12m x 2.6m	Stacked over trail	124,8 sq. m
1	Horp Trap	1	1.8m x 2.1m	Placed at entrance	3.78n2
= 75				X	
	 				1 1 2 4 V == 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				A Company of the Comp	

Total Capture Area: 3.78 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission



(Site Survey Record - Continued)

Site Name/No.: 2014 SR 219 FALL 2005-28 Date: 10-07-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.) Entrance found on steep streen usillay slope. Dominant trees include ! hemlack, gellowbirch, red bak, and red maple. Understory of rhododendron. Entrance located 75 feet



18. Was reproductive status checked? (YES)/ NO (if "NO" only enter numbers in Total columns)

	Number of Adult Females				No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesious fuscus	2	Party	1	ENTERNY	No. of the	3	2	1	1	4	7
Myotis lucifugus											/
Myotis septentrionalis									7	/	
Myotis leibli		i							/		
Myotis sodalis							1874	_/			
Eptesicus fuscus		ľ					1				
Perimyotis subflavus						or					
Lasiurus borealis					(a)	COX) 4 ======		
Lasiurus cinereus				025	3000						
Lasionycteris noctivagans			10	000							
Other - specify:											
Other - specify:	/										H
Reproductiv	e Status:	NR= no	onrepro	ductive, I	PG= preg R= scrota	nant, L=	lactating	len.			Grand Total
* (1)	Compl	ete Me	asure	ment a	nd Cap (3) bats y	ture Da	ta For	n for a	all: recaptui	res,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of but passes i hour. One to 5 hours required for Indiana but hibernacula surveys. Monitor one hour after 22:00 has when trapping netting hibernacula and 5 hours when only manutaring with but detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour	
Start Time: 18:20	Start Time: 19:21	Start Time: 20:22	Start Time: 2/:23	Start Time: 22:24	
End Time: 19.20	End Time:	End Time: 21:22	End Time: ZZ:Z3	End Time: 23:24	
Tullies:	Tallies:	Tallies:	Tallies:	Tallies:	

20. REMARKS:

Temperature was 11.5°C at 21100.

Rain events from 19:05-19:30, and 20:00-21:15 for a total of 100 mins.

No guano found in harp trap at end of trapping.

12/09 Pennsylvania Game Commission
Section 2 Page 1 of 2
1. Survey Date: 10/08/2014 2. Company Name: Bat Conservation & Management, Ivc
3. Bat Identifier: Kirk Siks 4. Assistants: Jacob Eshelman (Responsible Recorder)
5. Site Name and/or Number: 2014 AT 219 Fell 2005-28
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine) limestone cave, sandstone cave, RR tunnel,
other structure, describe - Old entrance
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
8. County: Somerset 9. 7.5' Quad .: ANILTON
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '-42.6/"N, Longitude: 79 °- 53 '- 19.54"W
Datum (circle one): NAD27 Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Contact Private (717) 540-6040
Deborah Hower, McCormick Taylor, 5 Capital Dr. Suite 400 Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 18:15 h Stop Time 00:00 h Total Minutes: 345
Start Temp. 12.8 °C End Temp. 10.7 °C (must stay >10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend neuting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
periods of runn

15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling). Windy (Trees Swaying).

16. Capture Setup at Site:

Set#	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Harp	1	1.8mx2.1m	Placed at entrance	3.78m2
S.					
	+				
			<u> </u>		
			1		

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record - Continued)

Site Name/No.: 2014 RT 219 Fall 2005-28 Date: 10 08 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.) Entrance found on steep, stroom valley slope. Dominant trees include: hemlock, yellow birch, red oak and redenaple. Understory of rhododendron. Entrance is located Tstreet from Piney Creek.

18. Was reproductive status checked? (YES)/ NO (if "NO" only enter numbers in Total columns)



*	CAPTU	RE RESI	JLTS
	No.	Total	Numl
	1	No	Adult

Number of Adult Females			Juv. No.	Adult Males		Juv.	No.	Species Totals		
NR	PG	L	PL	Fem.	Fem.	SCR	NR	Wate	Males	
2		1,0		SE MALES	3	2	1	1	4	7
							1			/
								<u></u>	_/	
		Î			į.			/		
					1					
				7 2477 () #						
					Juse					
		3	Tie .	C			3			
			, 5º							
j.		X								V
	20								î	
										1 2
Comp	PL= p	ost lacta	ting, SC	R= scrott nd Can	al/epididy	mis swo	m for	all:	li Sko	Grand Total
	2 Status	Adult F NR PG 2 2 E Status: NR= n PL= p	NR PG L 2 1	Adult Females NR PG L PL 2 I 2 Status: NR= nonreproductive, PL= post lactating, SC	Adult Females NR PG L PL 2 I C Status: NR= nonreproductive, PG= preg PL= post lactating, SCR= scrott	Adult Females NR PG L PL 3 3 Second Status: NR= nonreproductive, PG= pregnant, L= PL= post lactating, SCR= scrotal/epididy Complete Measurement and Capture Descriptions Complete Measurement and Capture Descriptions	Adult Females NR PG L PL Fem. SCR 3 2 7 3 2 Fem. SCR 3 2 Fem. SCR Adult SCR SCR Complete Measurement and Capture Data For	Adult Females NR PG L PL Fem. Fem. SCR NR 2 1 3 2 1 3 2 1 4 Complete Measurement and Capture Data Form for	Adult Females NR PG L PL Fem. No. Fem. SCR NR Male Juv. Male SCR NR Male 2 7 3 2 7 7 Scr NR Male L PL PL PL PD Rem. SCR NR Male Adult Males SCR NR Adult Males SCR NR Male Adult Males SCR NR Adult Males Adult Males SCR NR Adult Males SCR NR Adult Males Adult Ma	NR PG L PL SCR NR Male Males 1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana has hibernacula surveys. Monitor and hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour	
Start Time: /g + 10	Start Time: 19:20	Start Time: 70:21	Start Time: 21:22	Start Time: 2212	
End Time: 10 10	End Time: 20 : 20	End Time: 21:21	End Time: 22:22	End Time: 23:23	
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:	

20. REMARKS:

Temperature at 20130 was 10.1°C.

No guano was found in harptrep ratch bag at end of



FORM P-70008-N/T 12/09 Section 2

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 10/07/14 2. Company Name: Bat Conservation And Management
3. Bat Identifier: KICK Silds 4. Assistants: Cory Mattas
5. Site Name and/or Number: 2014 State Pate 219 Fall BCM 2014-01
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - small sink hole opening -
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
8. County: Somerset 9. 7.5' Quad.: Avil top
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '-5536"N, Longitude: 79 °- 03 '-1767"W
Datum (circle one): NAD27 (Preferred). NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Control Provide
Deborah Hower McCornick Taylor, 5 Copte Dr Swite 400 Harrisburg, PA 17110 (717) 540-6040
13. Time (military) & Temperature: Start Time 820 h Stop Time 0100 h Total Minutes: 300
Start Temp. 16.0 °C End Temp. 1.8 °C (nucl stay =10 °C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend neiting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): (Calm.) Breezy (Leaves Rustling). Windy (Trees Swaying).
16. Capture Setup at Site:
Set # Type Count Dimensions Description TOTAL AREA

Type	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Nets	1	9mr2.bm	Diagonally over sinkholein	23.40
Nets	1	9mx2.6m	Diagonaly over sinkhole	23.4m
				1
	Nets Nets	Nets 4	Nets 4 12m x 2.6m	Nets 4 12mx 2.6m Stacked over trail Nets 1 9mx 2.6m Diagonally over sinkhole in

Total Capture Area: 46-8 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 State RT 219 Fall BOA 2014-01 Date: 10 09 2014

*CAPTURE DESILITS

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.) Forested cow pasture with unimproved road near an open field Dominant tree species include: howlock, sweet birth and sugar maple.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

Species			ber of Females		No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesious fuscus	2 1		1	ED-BAND	Hay Ara	3	2	1	1	4	7
Myotis lucifugus				ni Ti					i L		-/
Myotis septentrionalis	ſ.							re The	i 	/	
Myotis leibii											
Myotis sodalis	land or										
Eptesicus fuscus		1	esa sa				2				
Perimyotis subflavus						de					
Lasiurus borealis					se!			ńes			
Lasiurus cinereus				2	2						
Lasionycteris noctivagans			10/2								
Other - specify:			00								
Other - specify:	/										6
Reproductiv		PL= pc	ost lacta	ting, SCI	R= scrota	l/epididy	mis swol	len.	ın.		Grand Total
(1) N	Avotis so	dalis, (2) Myoti	is leibii,	(3) bats y	ture Da ou are b ies not u	anding o	r band	recaptur	·es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of but passes i hour. One to 5 hours required for Indiana bat Inbernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1" hour	2 nd hour	3 rd hour	4th hour	5 th hour	
Start Time: /8:17	Start Time: /9:/8	Start Time: 20:19	Start Time: 21:20	Start Time: 22;2	
End Time: /5:17	End Time: 20:18	End Time: 21:19	End Time: 22:20	End Time: Z3:21	
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:	

20. REMARKS:

Temperature was 10.4° at 20:30. Tenpenture was 10.000 at 22:10. FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

2/09	Pennsylvania Game Commission
section 2	BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
. Survey Date: 70 08 14	2. Company Name: BAT (DISERVATION & MANAGEMENT
Bat Identifier: Kigh S	11.45 4. Assistants: Burny Bottle
. Site Name and/or Number	2014 STATE 14. 219 FALL BOM 2014-01
. Site is (circle one): hi	bernation site summer habitat
a. If hibernation site circle o	ne: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
\$2	other structure, describe - Small sink hole opening.
b. If summer habitat, descr	ibe area being sampled (e.g. forested stream or forest clearing with stream):
8. County: Samenser	9. 7.5' Quad.: Ayreson
0. Was site GPS'd (required	1)? YES - NO
1. Geographic Coordinates	(D-M-S): Latitude: 39 °- 44 '- 5536'N, Longitude: 79 °- 03 '- 17.51"W
Datum (circle o	ne): NAD27 (Preferred), NAD83, WGS84, Other:
	(Who owns site or controls access? Give name and address.) Contact 1 Private
	Taylor, 5 Capital Dr. Suite 400, Harristurg, PA 17110, (717) 540-6040
13. Time (military) & Tempe	erature: Start Time 1900 h Stop Time Opp h Total Minutes: 360
¥11°C@2050	Start Temp. 3.9 °C End Temp. //, o °C (must stay > 10 °C for summer n
14. General Weather (circle (suspend netting during periods of rain)	one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; Steady Rain; Thunderstorms; Snow; Other:
5) 5: 0	ns (circle one): Calm. Breezy (Leaves Rustling). Windy (Trees Swaying).

Nets NEIS	4	12m x 2.6m	Stacked over trail	124.8 sq. m
NEIS	1.	0 71		
		m 1 - 1000	DIAGONALU/ TO SINKBOLL	23.4m
NETS	I	9 m 2 2,6 m	"V" Formation DENGENALLY to STANGHOLD	23.4~
				19
	NETS	NETS !	NETS 9 m x 2.6m	NETS I 9 m. 2 16 m V Formania to Simbilale

Total Capture Area: 469 sq. n

16. Capture Setup at Site:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record - Continued)

Site Name/No.: 2017 STATE RT. 219 FALL BOWN 2014-01 Date: 16/01/2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

FORESTED CON PASTURE WITH UNIMPROVED WEAR AN OPEN FIELD. DOMINANT SPECIES [MCLUDE HEMIOCH, SWEET BIRLY, SUCHEMPTLE

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

5	Number of Adult Females		No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species			
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesious fusaus	2	12591	1	ALTERNATION OF	e algue	3	2	1	-1	4	7
Myotis lucifugus										AT	
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis	a Same						/-	1/0	1		
Eptesicus fuscus	, 	, !		222			2	AT	1		
Perimyotis subflavus				air ~=	/	15	()	10	L yes		
Lasiurus borealis				1		10		1		VII.	
Lasiurus cinereus				/_	1	4					
Lasionycteris noctivagans											
Other - specify:		/									
Other - specify:											E
Reproductive		PL= po	st lactar	ing, SCI	R= scrota	nant, L= l/epididy ture Da	mis swol	len.	ıll:		Grand Total
(1) M	Ivotis so	dalis, (2	Myoti	s leibii, (3) bats y	ou are b ies not u	anding o	r band	recaptur	es,	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of but passes / hour. One to 5 hours required for Indiana but hibernacula surveys. Monitor one hour after 22:00 has when trapping/nelling hibernacula and 5 hours when only monitoring with but detectors, night vision or infrared device (when site can not be trapped/nelted). Describe procedure & equipment used in remarks.

1 st hour 2 nd hour		3 rd hour	4th hour	5 th hour	
Start Time:	Start Time: /9:20	Start Time: 20:21	Start Time: 2/:27	Start Time: Z2:23	
End Time: /9:19	End Time: 20:20	End Time: 21:21	End Time: 22:27	End Time: 23:23	
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:	

20. REMARKS:

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

12/09	Pennsylvania Game Commission
Section 2	BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 0 09 201	
(Responsible Recorder)	Silas 4. Assistants: Jacob Eshelman
5. Site Name and/or Numb	er: 2014 Stife Rt 219 Fall BCM 2014-01
	hibernation site summer habitat
7a. If hibernation site circle	e one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
	other structure, describe - Small sinkhole opening.
7h. If summer habitat des	cribe area being sampled (e.g. forested stream or forest clearing with stream):
NA	tribe area being sampled (e.g. forestee stream of forest elearning with stream).
8. County: Somers	et 9. 7.5' Quad .: AVILTON
10. Was site GPS'd (requir	ed)? YES- NO
11. Geographic Coordinate	es (D-M-S): Latitude: 39 °- 44 '-55.36"N, Longitude: 79 °- 63 '-17.67"W
Datum (circle	one): NAD27 Preferred), NAD83, WGS84, Other:
12. Ownership and Access	: (Who owns site or controls access? Give name and address.) Control: Private
Deborah Hoover McGrm	ick Taylor 5 Capital Dr Smite 400, Harrisburg PA 17110 (717) 540-6040
13. Time (military) & Tem	perature: Start Time 18:15 h Stop Time 00:000 h Total Minutes: 345
	Start Temp. 11.3 °C End Temp. 10.2 °C (must stay ≥10 °C for summer netting)
(suspend netting during	le one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; Steady Rain; Thunderstorms; Snow; Other:
periods of rain)	
15 General Wind Conditi	ons (circle one): (Calm) Breezy (Leaves Rustling), Windy (Trees Swaying).

16	Capture	Setun	at	Site:
10.	Captuic	Seren	**	PARE 1

Set#	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Net	1	9m×2.6m	Diagonally over sinkhale in	23.4 m ²
۵	Net	1	9m ×2.6m	"V" Formation Diagonally over sinkhale	23.4 m 2
					<u>.</u>
	1				
					1

Total Capture Area: 46.8 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 RT 219 FALL BCM 2014-01 Date: 10/07/2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Forested row pasture with unimproved road near and open field Dominant trees overstry: Hormbock, Sweet birch, Sugar Maple

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

Species Eplesious fuscus	NR		emunes	Number of Adult Females			Number of Adult Males		Juv.	No.	Species
Eplesicus fuscus	TIN	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
	2	STEELS	1	files (wir	THEFT	3	2	-10	1	4.	7
Myotis lucifugus											18
Myotis septentrionalis		1									
Myotis leibii		Title						1			-
Myotis sodalis					/		1114	4,7			in Linear Expension
Eptesicus fuscus											
Perimyotis subflavus				/	1	AI	7				
Lasiurus borealis			1	1	0 1			at			
Lasiurus cinereus		1.5		T W							
Lasionycteris noctivagans								1.	1		
Other - specify:	/								ú 6		
Other - specify:											
Reproductive S		PL= po	st lacta	ting, SCI	PG= preg R= scrota nd Capt	l/epididy	mis swol	len.			Grand <u>Total</u>

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

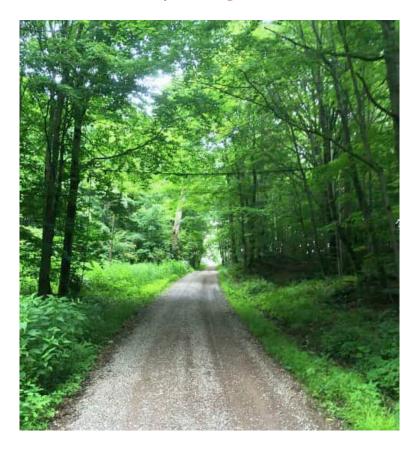
1st hour 2nd hour		3 rd hour	4 th hour	5 th hour	
Start Time: 18:20	Start Time: 19:21	Start Time: 70:22	Start Time: 21:23	Start Time: 22 29	
End Time:	End Time: 90:21	End Time: 21:22	End Time: 22:28	End Time: 28:24	
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:	

20. REMARKS:

Nats were closed between 19:05-19:30 and 20:00-20:15 for a total of 100 minutes due to rain events

2014 ROUTE 219 MEYERSDALE TO I-68 SUMMER BAT SURVEY

Garrett County, MD and Somerset County, PA 17 July - 5 August 2014



CAPTURE SITE MD01

Bat Conservation and Management, Inc. Carlisle, Pennsylvania

2014 Route 219 Meyersdale to I-68 Summer Bat Survey

Prepared by:



220 Old Stone House Road North, Carlisle, Pennsylvania 17015 Office and Fax: (717) 241-2228 Cellular: (814) 442-4246 www.batmanagement.com

Project Principal:

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Bat Conservation and Management, Inc.

Surveyors:

Bryan Butler
Jacob Eschelmann
Brandon McClung
Eddie Ramirez
Duncan Schanz
Todd Sinander
Risa Wright
Bat Conservation and Management, Inc.

Photography by:

Todd Sinander

Report Prepared by:

Bryan Butler
Bat Conservation and Management
October 2014

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Executive Summary

Introduction

The Federal Highway Administration (FHA), Pennsylvania Department of Transportation (PennDOT) and the Maryland State Highway Administration (MDSHA) initiated preliminary engineering and environmental studies for U.S. 219 Meyersdale to I-68 (PennDOT Project: SR 6219, Section 019). Bat Conservation and Management, Inc. (BCM) of Carlisle, Pennsylvania was commissioned to conduct a survey of summer bat species within the U.S. 219 Meyersdale to I-68 project area for the purpose of determining potential impact of this development to any threatened and endangered (T&E) bat species. The survey was conducted between 16 July and 5 August 2014.

Objective

The objective of this study was to provide an inventory of summer bat species present and any T&E species occurring within the vicinity of the project area. The 2014 Route 219 Summer Project sites were surveyed using physical capture methods, followed by radio telemetry to determine day-roost locations and characteristics for the T&E species of interest (e.g., eastern small-footed myotis, *Myotis leibii*; northern long-eared myotis, *M. septentrionalis*; and/or Indiana myotis, *M. sodalis*). The survey was performed using capture and telemetry protocols set by the U.S. Fish and Wildlife Service (USFWS) and Pennsylvania Game Commission (PGC). In accordance with the original project plan and scope of work, no acoustic survey methods were applied on this project.

Outcome

During this survey, thirty (30) sites were inventoried within Pennsylvania and Maryland; with twenty-one (21) sites located in the former and nine (9) sites located in the latter. From these sites a total of 127 bats representing five (5) species were captured. This included 82 big brown bats (*Eptesicus fuscus*), 40 Eastern red bats (*Lasiurus borealis*), one (1) little brown myotis (*Myotis lucifugus*), two (2) Northern long-eared myotis (*M. septentrionalis*), and two (2) Eastern small-footed myotis (*M. leibii*). Of these species, the two (2) Northern long-eared and two (2) eastern small-footed myotis were targeted for additional surveying using radio-tracking, as they are proposed for federal endangered species listing and considered to be a state-sensitive species, respectively. Both eastern small-footed myotis were captured in PA and tracked to man-made structures.

Methods

Project Area

The U.S. 219 Meyersdale to I-68 Project is a linear project approximately 13 kilometers (8) mi.) in length stretching from the southern end of the Meyersdale Bypass in Somerset County, Pennsylvania to Interstate 68 (I-68) in Garrett County, Maryland. This project is located in the Allegheny Mountain Section of Pennsylvania's physiographic Ridge and Valley Provinces and located in the Ridge and Valley section of the Great Appalachian Valley (Figure 1). The study area is U.S. 219 Meyersdale to I-68 and includes parts of Elk Lick and Summit Townships in Somerset County, Pennsylvania and the northeastern corner of Garrett County, Maryland (Figures 2 and 3). The project involves the consideration of a four-lane limited access facility from the Meyersdale Bypass, a four-lane limited access facility in Somerset County, PA to I-68, another four-lane limited access facility located in Garrett County, MD. The proposed route extension has been assessed as a key improvement project in both states as well regionally and nationally. Currently, two sections of U.S. 219, one north and one south of Meyersdale, remain as two-lane facilities. This proposed project, along with PennDOT's U.S. 219 project north of Meyersdale, would complete a four-lane, limited access highway from I-68 to the Pennsylvania Turnpike (I-76) and areas to the north, providing improved levels of service, safety, system linkage and efficient access to the region in order to improve economic development potential.

Survey Locations

Survey sites were selected by BCM using aerial photographs including the proposed project alternatives and buffer zone. A total of thirty (30) mist net survey sites were identified, placed at intervals of one (1) site for every one (1) km of habitat along the proposed U.S. 219 road extension project area (Figures 2 and 3). These sites were sampled during the nights of 16 July through 5 August 2014. Sites were divided between Pennsylvania and Maryland, with twenty-one (21) sites located on the Pennsylvania portion of U.S. 219 Section 019, and nine (9) sites located in Garrett County, Maryland. In general, more sites were selected in Pennsylvania given the greater project area in that state.

Survey Protocol: Capture

Mist net surveys followed the protocols described in the USFWS Range-wide Indiana Bat Summer Survey Guidelines¹ and the Standard Minimum Effort Requirements for Qualified Indiana Bat Surveyor Netting within the Commonwealth of Pennsylvania for Environmental Review Projects², issued by the Pennsylvania Game Commission (PGC). Based on these guidelines the required minimum level of effort for a linear project is six (6) net-nights per kilometer of suitable summer

habitat. A net-night is defined as any configuration of mist net lengths and heights between two poles set up for one (1) nights. To meet the capture objectives for this survey, at least three net-sets were deployed at each of the thirty (30) survey sites for two calendar nights. This provided an acceptable minimum effort of at least 180 net-nights during the 2014 survey.

At each survey site, each net-set was checked every 10-minutes, never exceeding 15-minutes between net checks. Survey sites did not contain more nets than could be managed by a single "qualified Indiana bat surveyor" (QIBS). Mist netting did not exceed three (3) consecutive nights at a single survey location. Each night, nets were opened at sundown and continued for at least five (5) hours for a minimum sampling period of 300-minutes each night. All sites were sampled using traditional mist netting techniques.³ The mist nets used for this survey are manufactured by Avinet, Inc. (Dryden, NY; 38mm mesh-nylon, reduced bag, 50/2, 38mm mesh, 2.6m high, 4 shelves).

Nets are placed over existing roads, trails, and streams in an effort to catch bats that utilized these features as flight corridors to move through the habitat between roosts and foraging areas. At each survey-site, nets are set according to the local microhabitat structure, and are deployed to completely span the entire height of the available flyway. "Single-high" nets consist of one 2.6 meter high net strung between two poles. "Double-high" nets consist of two 2.6 meter high nets strung between two poles. "Triple-high" nets consist of three 2.6-meter high nets stacked between two poles. The net lengths utilized are also determined by the physical characteristics of the site and deployed to span the width of the flyway. Nets range in length between 6 and 18 meters.

Meta-data was collected to fully describe individual capture sites and included photographs (Appendix A), global positioning satellite (GPS) coordinates, nightly weather conditions during sampling, and general information regarding habitat and surrounding area. Because adverse weather conditions can affect capture success, survey effort were suspended or even repeated when any of the following weather conditions were present throughout all or most of a sampling period: (1) temperatures below $50^{\circ}F$ ($10^{\circ}C$), (2) precipitation, including rain and/or heavy for, persisting for more than 30 minutes or that continues intermittently during the survey period, and (3) sustained winds greater than 9mph (4mps), i.e., "3" on the Beaufort wind scale.

Data were collected on all captured bats including species, sex, age, and reproductive condition. Species age was determined by using the Epiphyseal-diaphyseal Fusion method which "by transilluminating the wing of an individual using a headlight, a researcher can visualize the cartilaginous zone of the long phalanges . . . As the bat continues to grow, the epiphyseal plates eventually close until they are no longer visible to the unaided eye."⁴ The presence of reproductive

female and/or juvenile bats of any sex indicates maternity use of the area in which they were captured. The reproductive condition of females was noted by abdominal palpation and inspection of mammary glands⁵.

Survey Protocol: Radio-tracking

Radio tracking conducted during this survey followed USFWS and PGC protocols. The northern long-eared myotis (*Myotis septentrionalis*) is currently being considered for federal endangered species listing, and the eastern small-footed bat (*M. leibii*) is considered a "species of special concern" in Pennsylvania, therefore both were "species of interest" and targeted for additional survey methods, using radio-tracking to locate and quantify the day roosts and estimation of roost-population size by conducting nightly emergence counts. All species of interest were outfitted with radio transmitters and tracked to their respective day roosts following the night of capture, and for each subsequent night until the transmitter was no longer active or the bat was undetectable in the area. Data collected for each day roost identified included location, type of roost, description (e.g., height, tree species, percentage of exfoliating bark present, and canopy cover surrounding roost), surrounding habitat, and photographs. Nightly emergence counts at all identified roosts provided estimates of roost-population sizes (Table 5, Appendix C).

Radio tracking techniques and analysis follow accepted methods designed for bats⁶. Captured bats identified for radio-telemetry were examined for sex, age, reproductive status, white-nose syndrome (WNS) wing score, and were photographed prior to release (photos appear in Appendix C). A transmitter (Model LB-2, Holohil, Canada) was attached to the back of each bat using a medical grade temporary adhesive (PERMA-TYPE). The transmitters have a rated battery life of approximately 10 days and weighed between 0.36 and 0.52 grams. Transmitter weight did not exceed 10% of the bat's body weight, in accordance with USFWS 2014 protocols.

For tracking purposes, captured bats were released near the site of capture within 2-hours and tracked by obtaining bearings using radio telemetry receivers, 3-element Yagi-type antennas, and GPS receivers in conjunction with laptop computers. Initial tracking and triangulation was conducted with the use of a vehicle. Once triangulation was performed, tracking continued on foot using Field Marshall 1000 172kHz portable receivers with an attached 3-element antenna until the roost was identified. Once located, emergence counts were performed on all roosts, providing permission was granted to access the corresponding property.

Survey Protocol: Roost Emergence Counts

Once located, emergence counts are conducted on all roost locations, providing permission is granted to access the property containing the located roost. Emergence counts are conducted according to standard procedures for cavity dwelling, temperate bat species⁷. One or more observers will be stationed at each roost at least one hour prior to sundown to count emerging bats. The specific size and configuration of the roost exit(s) and or field(s) of view at each site will determine the number of observers required to survey each roost. Counts are conducted by direct observation as bats leave the roost and are backlit by the twilight sky. If necessary, special night-vision, infrared imaging, or thermal scopes will be used to count bats emerging after dark when they can no longer be observed directly. Data from roost counts is collected each night a radiotagged bat is present at the roost to assess total population size and any daily fluctuations in numbers of bats present.

Results

Sampling Effort: Capture

The net-night level of effort totaled one hundred eighty-nine (189) net-nights. The capture data for each mist net location is summarized in Tables 1 and 2, including site names, date, and level of effort. Site-specific net configurations are described on the Form P-70008-N/T data sheets reprinted in Appendix B. In the case of an adverse weather event (i.e., temperatures falling below 10°C, precipitation, and/or strong winds, persisting throughout all or most of the nightly sampling period), netting was either delayed or suspended until conditions improved, allowing a valid survey night.

Species Occupancy: Capture

A total of one hundred twenty-seven (127) individual bats of five (5) species were captured during the survey period for this project (Table 3). This included eighty-two (82) big brown bats (*Eptesicus fuscus*), forty (40) eastern red bats (*Lasiurus borealis*), two (2) eastern small-footed myotis (*Myotis leibii*), one (1) little brown myotis (*M. lucifugus*), and two (2) northern long-eared myotis (*M. septentrionalis*). A site-by-site occupancy summary is presented in Table 2 of this report.

Females represented approximately 48% (n = 61) of the captured bats. Of the sixty-one (61) female bats that were assessed for reproductive condition, forty-two (42) or 68.8% were reproductive; zero (0) were pregnant, five (5) were lactating, and thirty-seven (37) were post-lactating (Table 4). The remaining fifteen (15) female bats were non-reproductive, exhibiting no obvious characteristics indicating that they had been either pregnant or lactating this season. A summary of the site-level population dynamics is presented in Table 3 of this report. The site-specific, species-specific reproductive results are also summarized in Table 4.

Sampling Effort: Radio-tracking

With the exception of the two eastern small-footed myotis, all radio-tagged bats were tracked to their day roosts. Emergence counts were unable to be conducted on the two (2) eastern small-footed myotis due to lack of landowner permission and day roosts were estimated via triangulation. For the remaining two northern long-eared myotis, emergence counts were performed at each day roost identified. One of the northern long eared myotis was captured in MD, and tracked to two different tree roosts, The other was captured in PA and tracked to three unique tree roosts. Tracking continued as long as each transmitter functioned and was not shed by the bat. The location of all identified and estimated day roosts can be seen in Figure 2, along with the proposed project alternatives. Emergence counts were performed for a minimum of four (4)

nights at each roost. All bats observed emerging from roost were counted to obtain a roost population estimate. These data are recorded in Table 5.

Species Occupancy: Radio-tracking

A total of four bats (4) were fitted with transmitters and tracked to a total of seven (7) different day roost locations. No federally endangered or threatened species were captured, however two (2) state-threatened eastern small-footed myotis were captured including one post-lactating female at Site PA10 and one male at Site PA07 (Table 5). Both bats were outfitted with transmitters and radio tracked in order to locate their respective day roosts. However, land access was denied by both landowners and prevented accurate roost identification and follow-up emergence counts. In the event of land access restrictions where emergence counts were unable to be performed, roost locations were estimated via triangulation. The female from Site PA10 was assumed to be roosting in a large barn with a dark roof, however permission was not granted to further assess the barn to confirm presence and perform emergence counts. The male small footed myotis was tracked to a large separate barn with a metal roof, though emergence counts were unable to be performed due to restricted access by landowner.

Two (2) northern long-eared myotis, proposed for endangered species listing by the USFWS, were among the radio-tagged bats. These were identified as 2014Rt219.3 and 2014Rt219.4. Both were post-lactating females and led trackers to multiple roost locations. 2014Rt219.3 was tracked to a single roost on two consecutive days before shedding the transmitter on the third day (Table 5). 2014Rt219.4 was tracked to three (3) different roosts and emergence counts were done for a total of eight (8) days at these roosts, after which the transmitter was no longer detected.

Weather Data

Weather data was recorded each night of netting. The average high and low temperatures for the survey period was 16.8°C and 14.7°C respectively. Additional detailed information including any weather events and cloud cover is included in Appendix B on Forms P-70008-N/T and are organized by site number. Unless otherwise noted, overall weather was nominal for the entire survey period.

Discussion and Conclusions

The results of the 2014 Route 219 Meyersdale to I-68 Summer Bat Survey performed between July 16th and August 5th of 2014 indicated moderate diversity of bat species within the project area. No day roosts were found to be directly on the project impact area. However, distances from identified roosts to the project impact area ranged from 0.12 kilometers to 0.76 kilometers (Table 5). No endangered Indiana bats were found to be present, however results did confirm occupancy of the state threatened Small-footed bat (*Myotis leibii*), as well as the Northern Long-eared myotis (Myotis septentrionalis), a current species of interest and a candidate for potential listing under the Federal Endangered Species Act. Though not currently subject to formal federal listing, the USF&WS has published recommendations for the conservation and management of the Northern Long-eared myotis⁸ by restricting tree-clearing to times when bats are not utilizing forest resources for roosting or rearing young. Hibernation may begin as early as September and last until April. Therefore, tree clearing can take place any time from late fall to early spring without affecting resident long-eared bats. The Eastern small-footed bats captured and radio-tracked during this project were found to be roosting inside man-made buildings, which is not a widely reported roost preference for this species but is known to occur in two other unrelated locations in Pennsylvania.

Literature Cited

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- ⁴ Brunet-Rossinni, A.K. and G.S. Wilkinson. 2009. *Methods of age estimation and the study of senescence in bats*. <u>In</u>: Kunz, T.H. and S. Parsons (Eds.). 2009. *Ecological and Behavioral Methods for the Study of Bats*. (Second Edition) The Johns Hopkins University Press, Baltimore, 901 pages.
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- ⁶ Amelon, S.K., D.C.Dalton, J.J. Millspaugh and S. Wolf. 2009. "Radiotelemetry techniques and analysis." <u>In</u>: Kunz, T.H. (Ed.) 2009. *Ecological and Behavioral Methods for the Study of Bats.* (2nd Edition) Smithsonian Institution Press, Washington, 920 pages.
- ⁷ Kunz, T.H. (Ed.) 2009. *Ecological and Behavioral Methods for the Study of Bats*. (2nd Edition) Smithsonian Institution Press, Washington, 920 pages.
- ⁸ U.S. Fish and Wildlife Service. 2013. *Northern long-eared bat,* Myotis septentrionalis. Fact Sheet. 2 pages.

Figures

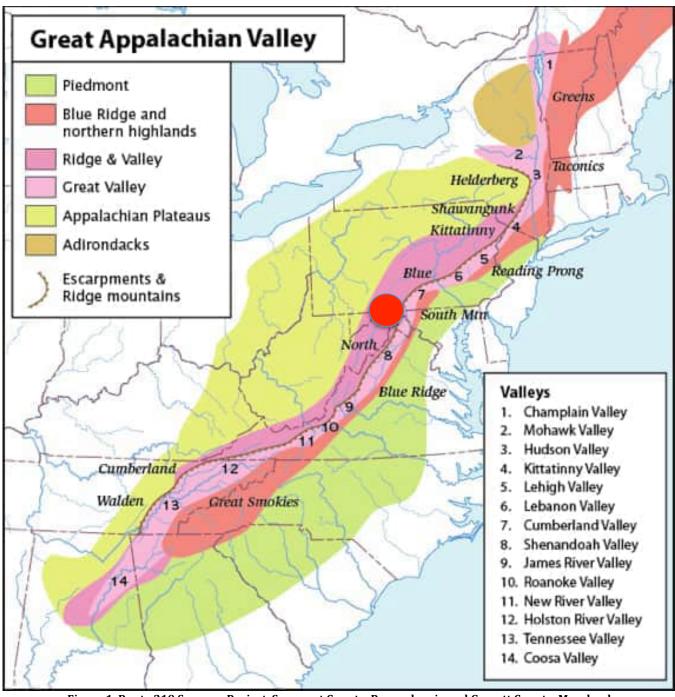


Figure 1. Route 219 Summer Project, Somerset County, Pennsylvania and Garrett County, Maryland

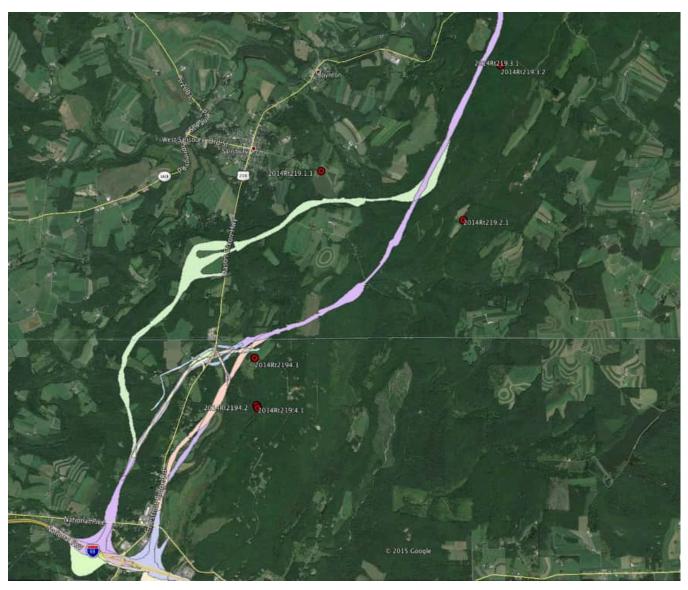


Figure 2. Roost locations with proposed project alternatives

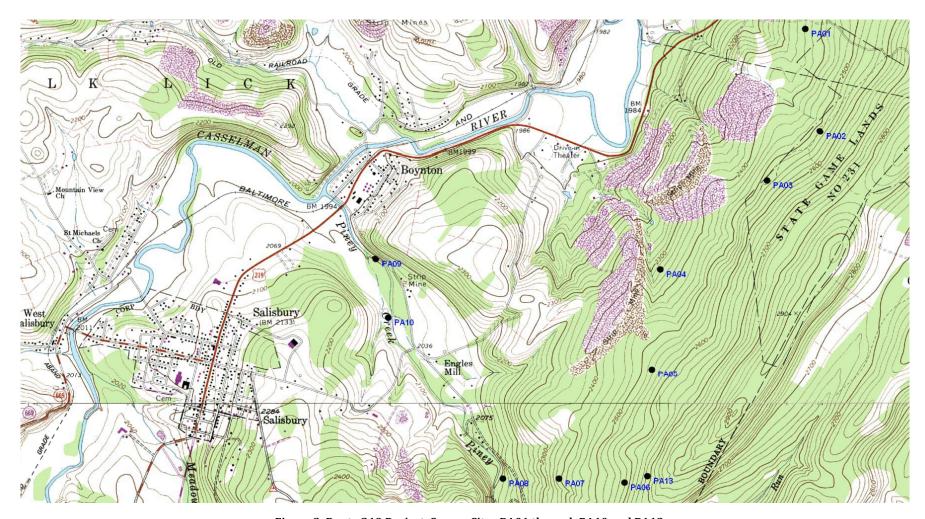


Figure 3. Route 219 Project, Survey Sites PA01 through PA10 and PA13

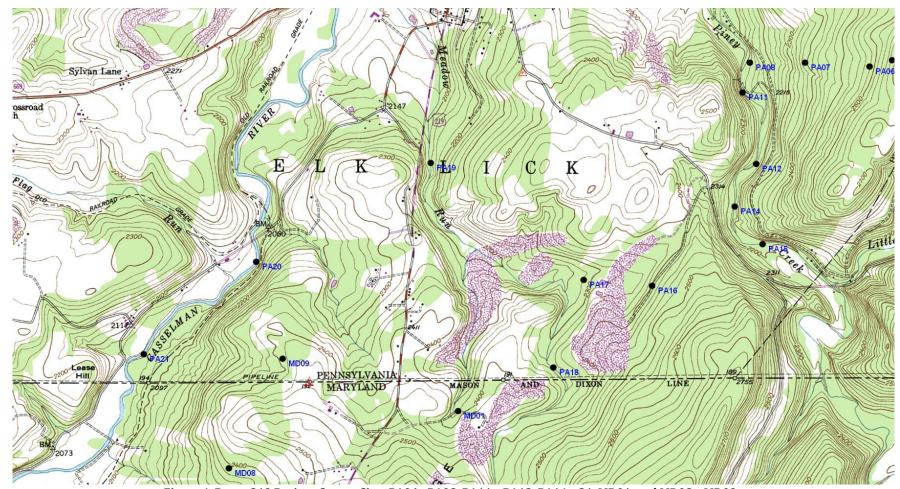
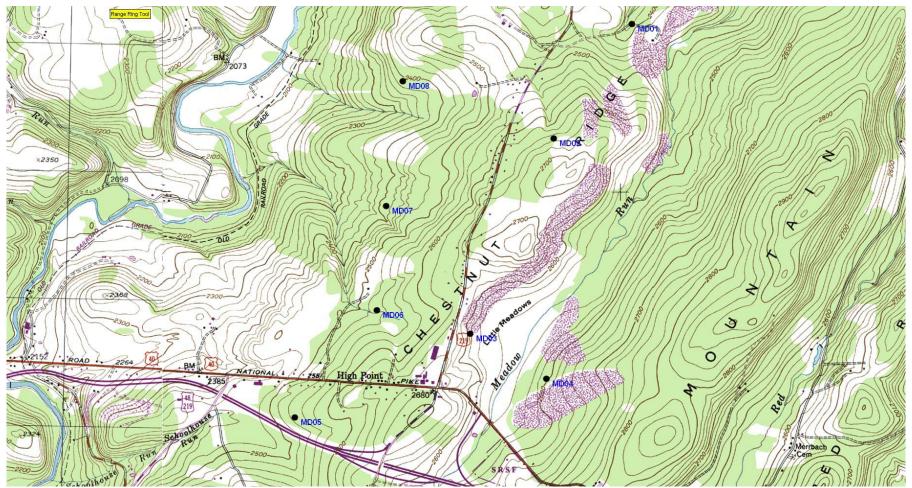


Figure 4. Route 219 Project, Survey Sites PA06 - PA08, PA11 - PA12, PA14 - 21, MD01, and MD08 - MD09



Tables

Table 1. Project Summary Table

Site ID	Survey Methods	(#)Physical Captures	Site ID	Survey Methods	(#)Physical Captures
MD01	1- 6m Triple-High Mist Net 1- 12m Triple-High Mist Net 1- 6m Single-High Mist Net	(4) EPFU (1) LABO	PA07	1- 6m Triple-High Mist Net 1- 9m Triple-High Mist Net 1- 6m Single-High Mist Net	(3) EPFU (3) LABO (1) MYLE
MD02	2- 12m Triple-High Mist Net 1- 9m Single-High Mist Net	(1) EPFU (1) MYSE	PA08	1- 9m Triple-High Mist Net 1- 12m Triple-High Mist Net 1- 6m Single-High Mist Net	(0)
MD03	1- 6m Triple-High Mist Net 1- 18m Triple-High Mist Net 1- 2.6m Single-High Mist Net	(1) EPFU (3) LABO	PA09	2- 12m Triple-High Mist Net 1- 9m Single-High Mist Net	(1) EPFU
MD04	1- 6m Triple-High Mist Net 1- 9m Triple-High Mist Net 1- 9m Single-High Mist Net	(0)	PA10	2- 12m Triple-High Mist Net 1- 6m Single-High Mist Net	(1) MYLE
MD05	1- 6m Triple-High Mist Net 1- 9m Triple-High Mist Net 1- 9m Single-High Mist Net	(5) EPFU (7) LABO	PA11	1- 9m Triple-High Mist Net 1- 12m Triple-High Mist Net 1- 12m Single-High Mist Net	(2) LABO
MD06	2- 6m Triple-High Mist Net 1- 6m Single-High Mist Net	(1) LABO	PA12	1- 9m Triple-High Mist Net 1- 18m Triple-High Mist Net 1- 6m Single-High Mist Net	(4) EPFU (1) LABO
MD07	2- 9m Triple-High Mist Net 1- 9m Single-High Mist Net	(1) EPFU (6) LABO	PA13	2- 6m Triple-High Mist Net 1- 6m Single-High Mist Net	(12) EPFU (1) LABO
MD08	1- 9m Triple-High Mist Net 1- 12m Triple-High Mist Net 1- 6m Single-High Mist Net	(2) EPFU (1) LABO	PA14	2- 12m Triple-High Mist Net 1- 6m Single-High Mist Net	(1) LABO (1) MYLU
MD09	2- 18m Triple-High Mist Net 1- 6m Single-High Mist Net	(14) EPFU (2) LABO	PA15	2- 12m Triple-High Mist Net 1- 6m Single-High Mist Net	(0)
PA01	2- 6m Triple-High Mist Net 1- 6m Single-High Mist Net	(0)	PA16	1- 6m Triple-High Mist Net 1- 9m Triple-High Mist Net 1- 6m Single-High Mist Net	(0)
PA02	2- 6m Triple-High Mist Net 1- 6m Single-High Mist Net	(12) EPFU (2) LABO	PA17	2- 9m Triple-High Mist Net 1- 6m Single-High Mist Net	(3) LABO
PA03	2- 6m Triple-High Mist Net 1- 6m Single-High Mist Net	(1) MYSE	PA18	1- 6m Triple-High Mist Net 1- 9m Triple-High Mist Net 1- 6m Single-High Mist Net	(0)
PA04	2- 6m Triple-High Mist Net 1- 12m Single-High Mist Net	(0)	PA19	2- 6m Triple-High Mist Net 1- 9m Single-High Mist Net	(1) LABO
PA05	2- 6m Triple-High Mist Net 1- 6m Single-High Mist Net	(5) EPFU	PA20	1- 12m Triple-High Mist Net 1- 18m Triple-High Mist Net 1- 12m Single-High Mist Net	(8) EPFU (5) LABO
PA06	2- 6m Triple-High Mist Net 1- 2.6m Single-High Mist Net	(6) EPFU	PA21	1- 6m Triple-High Mist Net 1- 12m Triple-High Mist Net 1- 12m Single-High Mist Net	(3) EPFU

Abbreviations used in this table: EPFU = Eptesicus fuscus (big brown bat), LABO = Lasiurus borealis (eastern red bat), MYLE = Myotis leibii (eastern small-footed myotis), MYLU = M. lucifugus (little brown myotis), MYSE = M. septentrionalis (northern long-eared myotis).

Table 2. Site-by-site Level of Effort

Survey Site ID	Survey Site Lat / Long (dms)	Survey Dates	Survey Method	Capture Effort*	TOTALS
MD01	39° 43' 12.63" / 79° 04' 56.00"	31 July- 1 Aug	CAPTURE	3	6
MD02	39° 42' 43.50" / 79° 05' 21.70"	4-5 Aug	CAPTURE	3	6
MD03	39° 41' 53.70" / 79° 05' 49.30"	4-5 Aug	CAPTURE	3	6
MD04	39° 41' 42.30" / 79° 05' 24.10"	4-5 Aug	CAPTURE	3	6
MD05	39° 41' 32.50" / 79° 06' 46.80"	2-3 Aug	CAPTURE	3	6
MD06	39° 41' 59.90" / 79° 06' 20.00"	2-3 Aug	CAPTURE	3	6
MD07	39° 42' 26.33" / 79° 06' 16.90"	2-3 Aug	CAPTURE	3	6
MD08	39° 42' 58.08" / 79° 06' 11.47"	31 July- 1 Aug	CAPTURE	3	6
MD09	39° 43' 25.95" / 79° 05' 53.55"	31 July- 1 Aug	CAPTURE	3	6
PA01	39° 46' 33.64" / 79° 01' 42.84"	25-26 & 28 Jul	CAPTURE	3	9
PA02	39° 46' 08.08" / 79° 01' 38.17"	25-26 & 28 Jul	CAPTURE	3	9
PA03	39° 45′ 55.76" / 79° 01′ 55.27"	25-26 & 28 Jul	CAPTURE	.3	9
PA04	39° 45′ 33.50″ / 79° 02′ 29.70″	23-24 July	CAPTURE	3	6
PA05	39° 45' 08.49" / 79° 02' 32.38"	23-24 July	CAPTURE	3	6
PA06	39° 44' 40.05" / 79° 02' 41.19"	23-24 July	CAPTURE	3	6
PA07	39° 44′ 41.00″ / 79° 03′ 02.30″	21-22 July	CAPTURE	3	6
PA08	39° 44' 41.00" / 79° 03' 20.50"	19-20 July	CAPTURE	3	6
PA09	39° 45′ 36.15″ / 79° 04′ 01.70″	21-22 July	CAPTURE	3	6
PA10	39° 45′ 21.50″ / 79° 03′ 57.50″	21-22 July	CAPTURE	3	6
PA11	39° 44' 33.50" / 79° 03' 22.80"	19-20 July	CAPTURE	3	6
PA12	39° 44′ 15.30" / 79° 03′ 18.40"	21-22 July	CAPTURE	3	6
PA13	39° 44' 41.70" / 79° 02' 33.90"	23-24 July	CAPTURE	3	6
PA14	39° 44' 04.57" / 79° 03' 25.44"	19-20 July	CAPTURE	3	6
PA15	39° 43' 54.90" / 79° 03' 16.30"	19-20 July	CAPTURE	3	6
PA16	39° 43' 44.44" / 79° 03' 52.51"	29-30 July	CAPTURE	3	6
PA17	39° 43' 45.90" / 79° 04' 14.92"	29-30 July	CAPTURE	3	6
PA18	39° 43' 23.70" / 79° 04' 24.90"	29-30 July	CAPTURE	3	6
PA19	39° 44' 15.55" / 79° 05' 05.01"	16 & 18 July	CAPTURE	.3,	6
PA20	39° 43' 50.48" / 79° 06' 02.42"	17-18 July	CAPTURE	3	6
PA21	39° 43' 26.98" / 79° 06' 39.23"	17-18 July	CAPTURE	3	6
30	TOTALS	63	1	90	189

^{**} Capture Effort is presented by Net-night where one net night is one net deployed for one night; minimum acceptable capture effort is three nets deployed each night for two nights or 6 Net-nights per survey site. Totals represent number of net-nights deployed for number of survey dates deployed, i.e., 4 net-nights for two survey-dates = total survey effort of 8 nights.

 Table 3. Site-level Population Dynamics of Captured Bats

Species/		MD	PA		Tot	tals																													
Sex		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	М	F	U	тот
	М	3	1	-	-	1	-	-	1	6	-	7	-	-	3	-	1	-	1	-	-	1	1	-		-	•	-	-	3	1	30			
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TOTALS		5	2	4	0	12	1	7	3	16	0	14	1	0	5	6	7	0	1	1	2	5	13	2	0	0	3	0	1	13	3	50	61	16	127

Abbreviations used in this table: EPFU = Eptesicus fuscus (big brown bat), LABO = Lasiurus borealis (eastern red bat), MYLE = Myotis leibii (eastern small-footed myotis), MYLU = M. lucifugus (little brown myotis), MYSE = M. septentrionalis (northern long-eared myotis), M = male, F = female, U = unknowns, and TOT = totals.

Table 4. Reproductive condition of captured female bats

Species	1	MD	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	To	otals								
Reprod. Con	dition	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	R	% R
	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		
EPFU	L	-	-	-	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	35	71%
EFFO	PL	1	-	-	-	4	-	1	1	4	-	4	-	-	1	2	2	-	-	-	-	2	3	-		-	-	-	-	5	-	33	/1/6
	NR	-	-	1	-	-	•	-	-	1	-	1	-	-	1	-	-	-	-	-	-	1	7	-	•	-	-	-	-	-	2		
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TOTALS	3	1	1	2	0	7	0	2	1	7	0	5	1	0	2	5	4	0	0	1	0	3	10	0	0	0	1	0	0	6	2	42	86%

Abbreviations used in this table: P = pregnant, L = lactating, PL = post-lactating, NR = non-reproductive, and R = Reproductive

Table 5. Radio-tracking summary

BAT ID (species)	Capture Site	Sex (M/F)	Day Roost ID ¹	Location (Lat /Long, dms)	Roost Description	Days Used (Date roost used)	Distance from Impact Area (ROW)	Emergence Count (Date)	Remarks
2014Rt219.1 (MYLE)	PA10	М	2014Rt219.1EST	39Y 44' 58.50" 79Y 04' 04.40"	Large wood barn with metal roof.	2 (22 and 23 July)	0.5 km	No Count ²	Bat captured at site PA10 on 21 July 2014. Land owner denied access to land and barn. Roost location estimated using telemetry. No emergence counts conducted.
2014Rt219.2 (MYLE)	PA10	F	2014Rt219.2.1	39Y 44' 28.00" 79Y 02' 16.00"	Large barn with dark roof.	1 (24 July)	0.76 km	No Count ³	Bat captured at site PA10 on 22 July 2014. ³ Land owner historically hostile. Deferred to the PGC for any further interactions on the roost property. No emergence counts conducted.
2014Rt219.3	PA03	F	2014Rt219.3.1	39Y 45' 57.73" 79Y 01' 47.35"	Dying red maple	1 (27 July) ⁴	0.28 km	1 (27 July) 0 (29 July)	Bat captured at site PA03 on 26 July 2014. ⁴ Bat shed transmitter on 28 July.
(MYSE)	PAUS	Б	2014Rt219.3.2	39Y 45' 57.50" 79Y 01' 47.50"	Dead red maple	1 (28 July) ⁵	0.28 km	1 (29 July) 1 (30 July)	⁵ Bat shed transmitter on 28 July.
2014Rt219.4		22	2014Rt219.4.1	39Y 42' 43.10" 79Y 04' 44.50"	Live honey locust	4 (5 – 8 Aug)	0.6 km	1 (5 Aug) 4 (6 Aug) 4 (7 Aug) 3 (8 Aug)	Bat captured at site MD02 on 4 August 2014.
(MYSE)	MD02	М	2014Rt219.4.2	39Y 42' 44.50" 79Y 04' 45.30"	Dying honey locust	1 (9 Aug)	0.57 km	4 (9 Aug) 0 (16 Aug)	Transmitter may have failed or was shed. Bat last detected on 10 August 2014.
			2014Rt219.4.3	39Y 43' 10.60" 79Y 04' 47.50"	Large wood barn with metal roof.	1 (10 Aug)	0.12 km	0 (16 Aug)	Transmitter not detected after 10 August 2014.

Roost ID is composed of the project name (Rt219 = Route 219), bat species, unique letter indicating individual bat being tracked, and distinct day roost number.

Appendix A

Representative Survey Site Photographs



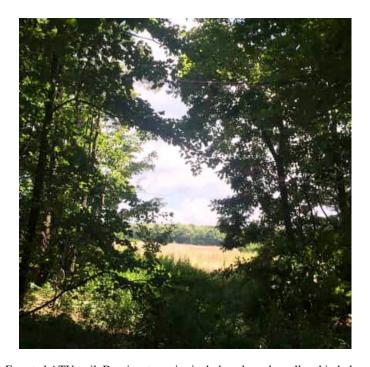
Figure 1. Site MD01. Forested un-improved road. Dominant species include sugar maple and beech.



Figure 2. Site MD02. Forested jeep trail. Dominant species include sugar maple and red oak.



Figure 3. Site MD03. Hedged trail. Dominant species include ash, sugar maple, and yellow birch.



 $Figure\ 4.\ Site\ MD04.\ Forested\ ATV\ trail.\ Dominant\ species\ include\ red\ maple,\ yellow\ birch,\ honey\ locust,\ and\ hickory.$



Figure 5. Site MD05. Forested jeep trail. Dominant species include red maple and white oak.



Figure 6. Site MD06. Forested jeep trail. Dominant species include sugar maple, oak, and yellow birch.



Figure 7. Site MD07. Forested dirt road. Dominant species include red maple, striped maple, and chestnut oak.



Figure 8. Site MD08. Forested driveway. Dominant species include red maple and red oak.



Figure 9. Site MD09. Forested grass road. Dominant species American beech and red maple.



Figure 10. Site PA01. Forested stream. Dominant species include white pine, red maple, and green ash.



Figure 11. Site PA02. Forested road. Dominant species include chestnut oak, red oak, yellow birch, and cherry.



Figure 12. Site PA03. Forested jeep trail. Dominant species include mixed red maple, yellow birch, and sassafras.



Figure 13. Site PA04. Forested jeep trail. Dominant species include red maple and chestnut oak.



Figure 14. Site PA05. Forested trail. Dominant species include cherry, red maple and chestnut oak.



Figure 15. Site PA06. Forested ATV trail. Dominant species include cherry and birch.



Figure 16. Site PA07. Forested trail. Dominant species include hemlock, red maple, and cherry.



Figure 17. Site PA08. Forested trail. Dominant species include red maple, hemlock, and yellow birch.



Figure 18. Site PA09. Forested stream. Dominant species include hemlock and sugar maple.



Figure 19. Site PA10. Forested jeep trail. Dominant species include hemlock, red maple, sugar maple, and red oak.



Figure 20. Site PA11. Forested stream. Dominant species include hemlock and red maple.

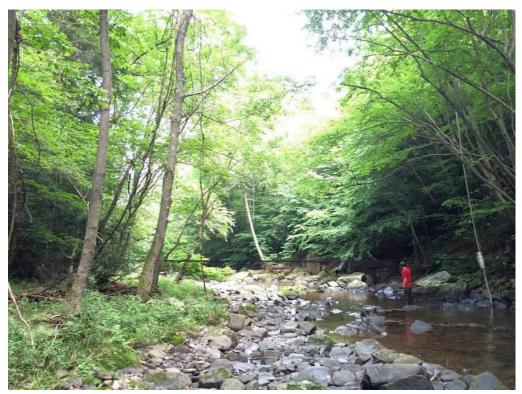


Figure 21. Site PA12. Forested stream. Dominant species include hemlock and birch.



Figure 22. Site PA13. Forested jeep trail. Dominant species include yellow birch and sassafras.

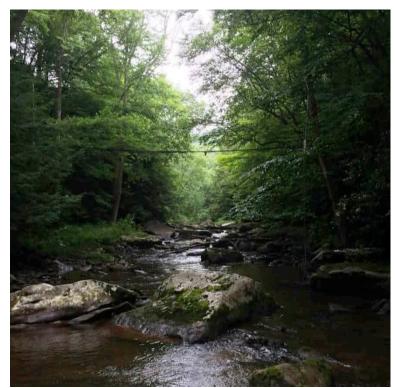


Figure 23. Site PA14. Forested stream. Dominant species include yellow birch and ash.



Figure 24. Site PA15. Forested stream. Dominant species include hemlock, yellow birch, American beech, red maple, and sugar maple.



Figure 25. Site PA16. Forested dirt road. Dominant species include red maple, red oak, hemlock, and yellow birch.



Figure 26. Site PA17. Forested jeep trail. Dominant species include sugar maple, red maple, oak, hemlock, and yellow birch.

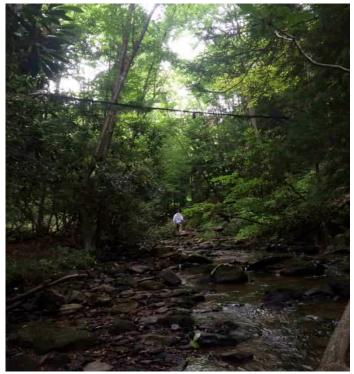


Figure 27. Site PA18. Forested stream. Dominant species include eastern hemlock and yellow birch.

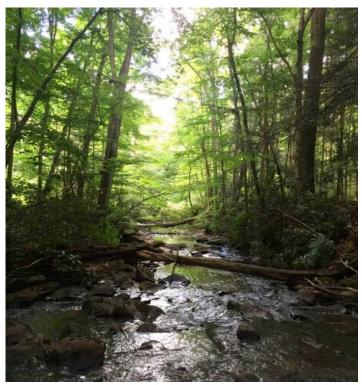


Figure 28. Site PA19. Forested stream. Dominant species include hemlock, red maple, yellow birch and American beech.



Figure 29. Site PA20. Forested stream. Dominant species include sugar maple, red maple, American beech, and hemlock.



Figure 30. Site PA21. Forested stream. Dominant species include sugar maple, hemlock, beech, and birch.

Appendix B Survey Site Data Sheets

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1	of	2

나는 그는 그는 그는 그는 그는 그는 그는 그들은
1. Survey Date: 1 Aug 2014 2. Company Name: Bat Gases votion and Hanagement
3. Bat Identifier: Todd Sinander 4. Assistants: Dorcan Ehanz
5. Site Name and/or Number: 2014 R+219 Soms - 4D01
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested unimproved road and stream
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 29 °- 43 '-1263 "N, Longitude: 79 °- 04 '-5620 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCora: de Taylor, SCapital Drive, Suite 400 Harriston, PA 17110 (717) 540-6040
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0/50 h Total Minutes: 700
Start Temp. / C End Temp. / C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	6mx2.6m	Stacked overfail	46.8 Sp. m
2	Nets	3	12m x 2.6m	Stackedover tail	93.6 sq. m
3	Net	1	6m x 2.6m	over stream	15.65g.m
					in

Total Capture Area: 156 sq. m

(Site Survey Record - Continued) Site Name/No.: 2014 R+219 Somer - MDOI Date: 1 Aug 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Tripple highs are set over an unimproved road within a sugar maple, and beach dominated forest. The single high is set over a stream.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

		Numl Adult F	ber of Female	s	No. Juv. Fem.	Total No.	Numb Adult		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	12.03	1	Salary S	lie with	3	2	1	1	4	7
Myotis lucifugus									1 /		
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis		-									
Eptesicus fuscus				o l		1	. ,		. =	1	2
Perimyotis subflavus											
Lasiurus borealis								P			
Lasiurus cinereus						u .		14 15 18			
Lasionycteris noctivagans											
Other - specify:											
Other - specify:									The state of the s		- = =
Reproductive	Status:			ductive, P							Grand <u>Total</u>
	lyotis so	ete <u>Mea</u>	Myot	ment an is leibii, (s and (5)	d Capt 3) bats y	ure Da	ta Forn	n for a	recaptur	es,	2

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY REC

Page 1 of 2

1. Survey Date: 31 Jul 2014 2. Company Name: Bat Conservation and Hanagement
3. Bat Identifier: Todd Sinander 4. Assistants: Duncan Schanz
5. Site Name and/or Number: 2014 R+219 Some -MDO1
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested unimproved road and stream
8. County: Garret 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-43 '-263 "N, Longitude: 79 °-4 '-5600 "W
Datum (circle one): NAD27 (Preferreti), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) That Control
Deborah Hoover, McCornick Taylor, 5 Capital Drive, Suite 400 Harrisby, PA 17110
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0/50 h Total Minutes: 300
Start Temp. 16.1 °C End Temp. 25 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

et #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	6mx2.6m	Stacked over trail	46.859.m
	Nets	3	12mx26m	Stacked over trail	93.69.m
	Net	1	6mx2.6m	over stream	15.69.m
-					
				,	

Total Capture Area:__

Site Name/No.: 2014 R+219 Smer-MDO1 Date: 31 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Tripple highs are set over an unimproved road within a sugar maple and beach dominated forest. The single high is set over a stream.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. Juv.	Juv. No. Adult Males			uv. No. Adult Males Juv.	Juv. No.	No. Adult Males Juv.	W 1 27 37 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>		
Eptesicus fuscus	2	AUCK, ASS	1	100	September 1	3	2	1	1	4	7		
Myotis lucifugus					4								
Myotis septentrionalis													
Myotis leibii				1-									
Myotis sodalis				-							. 4 s d = - s		
Eptesicus fuscus						10	** 2			2	2		
Perimyotis subflavus													
Lasiurus borealis											1 ,		
Lasiurus cinereus						i,	1				1 / .		
Lasionycteris noctivagans													
Other - specify:							1						
Other - specify:	2121												
Reproductive		PL= po	st lactat	ing, SCF	R= scrotal	l/epididy	nis swoll	en.			Grand Total		
							ta Forn						

(1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA.

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies;	Tallies:	Tallies:

* Lasivius borealis escaped from not

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 8-04-2014 2. Company Name: Bat Conservation & Management, Inc.
3. Bat Identifier: Risa Wright 4. Assistants:
5. Site Name and/or Number: 2014 Rt 219 Summer MD02
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested jeep trail
8. County: Garrett 9. 7.5' Quad .: Abilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 42 '-43.5"N, Longitude: 79 °- 5 '-21.7"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contoct
Deborah Hoover, McCormick Taylor, 5 Capital Orive, Suite 400
13. Time (military) & Temperature: Start Time 2045 h Stop Time 0140 h Total Minutes: 300
Start Temp. 18.3 °C End Temp. 16.3 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	1	9m x 2.6m	stacked over trail	23.4
2	Nets	3	12m × 2.6m	Stacked over trail	93.6
3	Nets	3	12 mx 7.6 m	stacked over trail	93.6
					4

Total Capture Area: 210,6 sq. m

Site Name/No .: 2014 R+219 Summer MDOZ

Date: 8-04-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Deciduous forest close to residential homes. Dominant tree species are sugar maple and redoak. Shellbork hickory and black cherry also present. Understory is open and covered with ferns.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

				*	CAPTU	RE RES	ULTS				
Fe a	Number of Adult Females			No. Juv.	Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	one hos	1		4.5	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis				.		ì			. #		1
Myotis leibii				-4							
Myotis sodalis										7	
Eptesicus fuscus											
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans										1 2 2	
Other - specify:											
Other - specify:											
Reproductive		PL= pos	st lacta	ting, SCR	t= scrotal	/epididyn	nis swolle	en.			Grand Total
*((1) M	yotis soc	lalis, (2)	Myoti	ment an is leibii, (3 and (5)	3) bats ye	ou are ba	nding or	band 1	ecapture	es,	Ĵ

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 8-05-2014 2. Company Name: Bat Conservation& Management, Inc.
3. Bat Identifier: R:5 a Wright 4. Assistants:
5. Site Name and/or Number: 2014 Rt 219 Summer MO02
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep trail
8. County: Garrett 9. 75' Quad .: Abilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 42 '-43.5"N, Longitude: 29 °- 5 '-21.7"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Taylor, S capital Drive, Suite 400, Harrisburg, PA
13. Time (military) & Temperature: Start Time 2040 h Stop Time 0140 h Total Minutes: 300
Start Temp. 18,5 °C End Temp. 15.5 °C (must stay ≥10 °C for summer netting,
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nels		9m×2.6m	stacked over trail	23.4
2	Nets	3	12mx2.6m	stacked over trail	93.6
3	Nets	3	12 m×2.6m	stacked over trail	93.6
			1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
					1 1423 - 1

Total Capture Area: 210.6 sq. m

Site Name/No .: 2014 R + 219 Summer MOO2

Date: 8-05-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Deciduous forest close to residential homes. Dominunt tree species are sugar maple and red oak. Shellbank hickory and blank cherry are also present. Understory is open and covered with ferns.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. Juv.	Juv. No.	2000	Number of Adult Males		Total No.	Species	
Species	NR	PG	L PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>	
Eptesicus fuscus	2		1	C CORNE		3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis										-	
Myotis Ieihii						ii					
Myotis sodalis							1.				
Eptesicus fuscus							. 1			1	-
Perimyotis subflavus									Y		
Lasiurus borealis											
Lasiurus cinereus							;				
Lasionycteris noctivagans											
Other - specify:											
Other - specify:							==				
Reproductive		PL= po	st lactat	ing, SCI	R= scrota	l/epididy	mis swoll	len.			Grand <u>Total</u>
*(1) N	Iyotis so	dalis, (2	Myoti	s leibii,	nd Capt (3) bats y bat spec	ou are b	anding o	r band	recaptur	es,	1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time;	Start Time:	Start Time:
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 4 Aug 2014 2. Company Name: Box Conservation and Management
3. Bat Identifier: Todd Smander 4. Assistants: Duncan Schanz, Brandon McClung (Responsible Recorder)
5. Site Name and/or Number: 2014 Rt 219 Symmer - MD 03
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-4// '-53.7"N, Longitude: 79 °-05 '-49.3"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Prime: Cortact
Deborah Hoover, McGrack Taylor, Scapital Drive, Suite 400 Harristing, PA 17110, (717)540 6040
13. Time (military) & Temperature: Start Time 2/05 h Stop Time 0205 h Total Minutes: 300
Start Temp. 14.7 °C End Temp. 11.7 °C (must stay ≥10 °C for summer netting.
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set#	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	18mx2.6m	Stacked overtrail	140.4g.m
2	Net	1	2.5mx2.6m	over trail	6.55p.m
3	Nets	3	6mx26m	Stacked over trail	46.85r.m
			li I		

Total Capture Area: 193.7 sq. m

Site Name/No.: 2014/219 Summy - MD03 Date: 4 400 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a jeep trail with forested outcrops deminated by as h. Jugar maple, and yellow birch. Trails open up into haufields.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus						Ĭ.					
Myotis septentrionalis				13(1							
Myotis leibii			1								
Myotis sodalis				37							
Eptesicus fuscus						100					
Perimyotis subflavus									,	1242	
Lasiurus borealis			3						1	1	1
Lasiurus cinereus									-		
Lasionycteris noctivagans											
Other - specify:					1						
Other - specify:											
Reproductiv	Compl	PL≔ po lete Me	ost lacta	iting, SC ment a	R= scrota nd Cap	al/epididy ture Da	mis swo	m for	all:		Grand Total
(1) N	Avatic co	dalis (7	2) Myot	is leibii.	(3) bats ;) bat spec	vou are b	oanding (or band	recaptu	res,	,

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

2 130 Per 3 1 130 Per 3 13
1. Survey Date: 5 Ang 2014 2. Company Name: Bot Conservation and Horogenent
3. Bat Identifier: Todd Sinander 4. Assistants: Duncan Schanz, Brandon McClung (Responsible Recorder)
5. Site Name and/or Number: 2014 Rt 219 Summel_ MD03
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
hedged tail
8. County: Garret 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-41 -53.7"N, Longitude: 79 °-65 -493 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private Control Debook
HOUSER, McCormick Taylor, 5 Capital Drive, Site 400 Harrisburg, PA 17110 (717) 540-6040
13. Time (military) & Temperature: Start Time 2055 h Stop Time 0155 h Total Minutes: 300
Start Temp. 16.2 °C End Temp. 12.8 °C (must stay ≥10 °C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:
Set # Type Count Dimensions Description TOTAL AREA

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
l	Nets	3 .	18m x 2.6m	Stacked over trail	140.45g.m
2	Net	1	2.5mx2.6m	over trail	6.5 sq.m
3	Nets	3	6mx2.6m	Stacked over trail	46.85g.m
				1 2	
		1.7			
2-2-3-					

Total Capture Area: 193.7 sq. m

Site Name/No .: 2014 Rt 219 Summer - 4 DO3 Date: 5 Aug 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed ones a reeptrail with forested outcrops dominated by ash sugar maple, and yellow birch. Trails open up into hay telds.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. <u>Total</u> Juv. No.		Number of Adult Males		Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	20/20/ESP		3	2	1	1	4	7
Myotis lucifugus								*			
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis		- 1							H#		
Eptesicus fuscus					•	1		2			1
Perimyotis subflavus											
Lasiurus borealis					•						2
Lasiurus cinereus				* * * * * * * * * * * * * * * * * * *						I.	P
Lasionycteris noctivagans											
Other - specify:			1	i							
Other - specify:											
Reproductive	Status:	NR= no PL= po	nreprod st lactat	luctive, I ing, SCI	G= pregr	nant, L= 1 /epididyr	lactating nis swol	len.			Grand Total
*(1) M	lyotis so	ete Mea	Myoti	nent ar s leibii, (nd Capt (3) bats ye bat speci	ure Da	ta Fori	n for a	recaptur	es,	3

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes I hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

DATE	NETTING/TRAPPING	CITE CHOX	EV DECODD
BAI	NETTING/TRAPPING	SHESUKY	EY KECOKD

Page 1 of 2

BAT NETTING/TRAFFING SITE SURVET RECORD Tage 1012
1. Survey Date: 8/4/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / MD04
6. Site is (circle one): hibernation site summer habitaty
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested ATV trail
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-41 '-423"N, Longitude: 79 °-05 '-24.1 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCormick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110 O: 717-540-6040 13. Time (military) & Temperature: Start Time 2045 h Stop Time 0145 h Total Minutes: 300
Start Temp. 16.8 °C End Temp. 13.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clean Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one):
16. Capture Setup at Site:

Set # Type		Count	Dimensions	sions Description			
1,000	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m		
	Nets	3	9 x 2.6	Stacked over ATV trail	70.2		
2	Nets	3	6×2.6	Stacked over ATV trail	46.8		
3	Nets	1	9 x 2.6	Over ATV trail	23.4		
	-						
-	9 1	10					
			2 2 2 2 -				

Total Capture Area: 140.4 sq. m

Date: 8/4/14 Site Name/No.: MDO4 (Site Survey Record - Continued)

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over ATV trails running through a mature mix deciduous forest. The forest is surrounded by reclaimed by Tirlds, Dominant tree species include Red Maple, Yellow Birch, Honey locust and Hickory.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females			No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	***************************************	1	SHEW 10 1775		3	2	1	1	4	7
Myotis lucifugus										/	
Myotis septentrionalis									/		
Myotis leibii								/			
Myotis sodalis							/				
Eptesicus fuscus					1	7					
Perimyotis subflavus				2	1		i.				
Lasiurus borealis			1	\ `						10	1 -
Lasiurus cinereus			1,								
Lasionycteris noctivagans											
Other - specify:		/									
Other - specify:			-								
Reproductive	e Status:	NR= no	onreproc	luctive, I	PG= preg	nant, L= l/epididy	lactating mis swol	len.			Grand <u>Total</u>
(1) N	Ivotis so	ete <u>Me</u>	asure	ment ai	nd Cap	ture Da	anding o	m for a or band	recaptui	res,	0

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trappedinetted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour	
Start Time:					
End Time:					
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:	

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA

Section 2

Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page !	of 2

1. Survey Date: 8/5/14 2. Company Name: Bot Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / MD04
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested ATV trail
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 -41 ,-423"N, Longitude: 79 - 05 ,-241 "W
Datum (circle one): (NAD27) (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private; Contact
Deborah Hoover, McCormick Taylor, 5 Copital Drive, Suite 400, Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2045 h Stop Time 0\45 h Total Minutes: 300
Start Temp. 17.6 °C End Temp. 13.1 °C (must stay >10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA (m)
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
)	Nefs	3	9x2.6	Stacked over ATV+rail	70.2
2	Nets	3	le x 2.6	Stucked over ATV trail	46.8
3	Nets	1	9x2.6	Over ATV trail	23.4
			4		

Total Capture Area: 140.4 sq. m

(Site Survey Record - Continued)	Site Name/No.:	Date: 8/5/14
17. Describe habitat 150 m around	site: (topography and vegetation including a	lominant tree species.)
Nets are placed over	ATV trails running through a	mature mix deciduous torest.
The forest is surrou	nded by reclaimed hay fields	. Dominant tree species
18. Was reproductive status check	ATV trails running through anded by reclaimed hay fields fellow Birch, Hong Locus, an ked? YES / NO (if "NO" only enter its contraction of the con	Hickory. numbers in <mark>Total</mark> columns)
	*CAPTURE DESILTS	

Number of Adult Females			No. Juv.	Juv. No.	Number of Adult Males		0.00	Total No.	Species	
NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
2		1		MORE POR	3	2	1	1	4	7
						3	1			
										2.2
					1	5_		/		. 1
				/		/	/			
				Š					-	
			3	$)^{X}$	/					
						4.1				
		4	/							
		/								
e Status:	NR= ne	onreproc	luctive, I	PG= preg	nant, L=	lactating	len			Grand <u>Total</u>
Avotis so	ete Me	easurei 2) Myoti	nent ar	nd Cap (3) bats y	ture Da	anding o	m for a or band	recaptur	es,	0
	e Status:	e Status: NR= nPL= pr Complete Me	e Status: NR= nonreproce PL= post lactar (Votis sodalis, (2) Myoti	Adult Females NR PG L PL 2 I PL=post lactating, SCI Complete Measurement and Myotis sodalis, (2) Myotis leibii,	Adult Females NR PG L PL Fem. 2 I PL PE PG PL= post lactating, SCR= scrote Complete Measurement and Cap (Votis sodalis, (2) Myotis leibii, (3) bats y	Adult Females NR PG L PL Fem. Fem. 3 Status: NR= nonreproductive, PG= pregnant, L= PL= post lactating, SCR= scrotal/epididy Complete Measurement and Capture Da Veotis sodalis, (2) Myotis leibii, (3) bats you are b	Adult Females NR PG L PL Fem. Fem. No. Fem. SCR 2 1 3 2 1 3 2 SCR 2 1 3 2 Estatus: NR= nonreproductive, PG= pregnant, L= lactating PL= post lactating, SCR= scrotal/epididymis swol Complete Measurement and Capture Data Form (Notice sodalis, (2) Myotis leibii, (3) bats you are banding of the scrotal o	Adult Females NR PG L PL Fem. Fem. SCR NR 2 1 3 2 1 e Status: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen. Complete Measurement and Capture Data Form for a Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band	Adult Females NR PG L PL Fem. Fem. SCR NR Adult Males SCR NR Male 2 1 3 2 1 SCR NR Male Estatus: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen. Complete Measurement and Capture Data Form for all:	Adult Females Juv. No. Fem. SCR NR Male Males

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 8-02-2014 2. Company Name: Bat Conservation & Management Inc
3. Bat Identifier: Risa Wright 4. Assistants: Brandon McCling
5. Site Name and/or Number: ZolyR+Z19 Summer MO05
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested jeep trail
8. County: Garett 9. 7.5' Quad .: Abilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39°-41 '-32.5"N, Longitude: 79°-6 '- 46.8"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Taylor, 5 Capital Drive, Suite 400, Harrisburg, PA 1710 13. Time (military) & Temperature: Start Time 2025 h Stop Time 0135 h Total Minutes: 310
Start Temp. 19.5 °C End Temp. 16.9 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Nets	3	9 m × 2.6 m	stacked over trail	70.2
Nets	3	6m×2.6m	Stacked over trail	46.8
Nets	١	9 m + 2.6 m	stacked over trail	23.4
				1 - 1 (# FL -
	_ ====			
			7	
	Nets Nets Nets	Nets 4 Nets 3 Nets 3	Nets 4 12mx2.6m Nets 3 9mx2.6m Nets 3 6mx2.6m	Nets 4 12mx2.6m Stacked over trail Nets 3 9mx2.6m stacked over trail Nets 3 6mx2.6m Stacked over trail

Total Capture Area: | 4 0. 4 sq. m

Site Name/No .: 2014 R+219 Summer MD05

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Decidnous forest adjacent to busy highway. Dominant tree species are red mople and white oak. Secondary species are American Beech and Mockernet Hickory.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

NR 2	PG	<u>L</u>	PL	Fem.	Fem.			No. Juv.	No.	Species <u>Totals</u>	1
2	VES/01	1	Line Street			SCR	NR	Male	Males		
			Total Control	E SHA	3	2	1	1	4	7	1
			-	Ela E							
								,			
			°°2		2			1	1	3	
			• \		1	2			2	5	(2 esco
tatus:	NR= nor	nreproc	luctive, I	G= pregr	nant, L= l	lactating,	en.			Grand <u>Total</u>	
omple	te Mea	Myoti	ment ar	nd Capt (3) bats y	ou are ba	ta Forn	n for a	recaptur	es,	8	
)	mple	PL= po mplete Mea tis sodalis, (2)	atus: NR= nonreproc PL= post lacta mplete Measurer tis sodalis, (2) Myoti	atus: NR= nonreproductive, F PL= post lactating, SCF mplete Measurement ar tis sodalis, (2) Myotis leibii, (atus: NR= nonreproductive, PG= pregregation PL= post lactating, SCR= scrotal mplete Measurement and Capt tis sodalis, (2) Myotis leibii, (3) bats y	atus: NR= nonreproductive, PG= pregnant, L= PL= post lactating, SCR= scrotal/epididyn mplete Measurement and Capture Da tis sodalis, (2) Myotis leibii, (3) bats you are ba	atus: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swoll mplete Measurement and Capture Data Forntis sodalis, (2) Myotis leibii, (3) bats you are banding o	atus: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen. mplete Measurement and Capture Data Form for a	atus: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen. mplete Measurement and Capture Data Form for all: tis sodalis, (2) Myotis leibii, (3) bats you are banding or band recapture.	atus: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen. mplete Measurement and Capture Data Form for all: tis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures,	atus: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen. mplete Measurement and Capture Data Form for all: tis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures,

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour		
Start Time:						
End Time:						
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:		

20. REMARKS:

* Nets opened at 2025 because bots observed flying and it was dark under the dense tree canopy. * 2 red buts escaped while net was being lowered.

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1	 ~

1. Survey Date: 8-03-2014 2. Company Name: Bat Conservation & Management, Inc.
3. Bat Identifier: Risa Wright 4. Assistants: Brandon McClung
5. Site Name and/or Number: 2014 R+219 Summer MOOS
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested jeep trail
8. County: Garrett 9. 7.5' Quad .: Abilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-41 '-32.5"N, Longitude: 79 °-6 '-46.8 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private Control
Deborah Hoover McCornick Taylor 5 Capital Drive Suite 400, Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2035 h Stop Time 0135 h Total Minutes: 300
Start Temp. 17. 4 °C End Temp. 15. 7 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA	
1	Nets	ets 4 12m x 2.6m		Stacked over trail	124.8 sq.m	
1	Nets	3	9mx2.6m	stacked over trail	70.2	
2	Nets	3	6 m × 2.6 m	Stacked over trail	46.8	
3	Nets	١	9m×2.6m	stacked over trail	23.4	
10						

Total Capture Area: 140.4 sq. m

Site Name/No.: 2014 R+219 Summer 1005 Date: 8-03-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Decidnous forest adjacent to busy highway. Dominant tree species are red maple and white oak. Secondary species are American Beech and Mockernut hickory.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females		No. Juv.	Juv. No.	Numl Adult		No. Juv.	Total No.	Species		
Species	Species NR 1	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	100	1	The State of		3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis		,									
Eptesicus fuscus				2		2					2
Perimyotis subflavus											
Lasiurus borealis					" 2	2					2
Lasiurus cinereus											
Lasionycteris noctivagans								 			
Other - specify:											
Other – specify:			,								
Reproductive	Status:				PG= pregr R= scrotal						Grand <u>Total</u>
		te Mea	asurei	ment ar	3) bats ye	ure Da	ta Forn	n for a		es,	4

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

* First but observed flying at 2035; first but captured at 2037

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

Tage 1 of 2
1. Survey Date: 2 Aug 2014 2. Company Name: Bot Conservation and Management
3. Bat Identifier: Todd Strander 4. Assistants: Dancan Schanz
5. Site Name and/or Number: 2014 Rt 219 Somes _ MD 06
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep trail
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-41 '599 "N, Longitude: 79 °-06 '-20.0"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Proble Contact
Deborah Hoger, McCornet Taylor, 5 Copital Dr. Re, Svile 400 Horrisburg, PA 17110, (717) 540-6040
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0/50 h Total Minutes: 300
Start Temp. 18.2 °C End Temp. 16.9 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Net	1	6m x 2.6m	5/s hed along stream	15.65g.m
Nets	- 3	6m x2.6m	Stacked over trail	46.859.m
Nets	3	6mx26m	Stacked over tail	46.8 sg.m
		-	T	
				7
	Nets Net Nets	Nets 4 Net 1 Nets 3	Nets 4 12mx2.6m Net 1 6m x2.6m Nets 3 6m x2.6m	Nets 4 12mx2.6m Stacked over trail Net 1 6mx2.6m Stacked over trail Nets 3 6mx2.6m Stacked over trail

Total Capture Area: 109,2 sq. m

Site Name/No.: 2014R1 219 Somes _ MD 06

Date: 2 Aug 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Single high net is placed along a stream. All nets are placed over a jeop trail with a
Single maple, oak, and yellow birch dominated forest.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

S. 2000	Adult Females Juv. No	Total No.	Numb Adult		No. Juv.	Juv. No.	Species				
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	Billian II	1	- TENSO		3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis						-					
Myotis leibii											
Myotis sodalis							1				
Eptesicus fuscus		,,		1							
Perimyotis subflavus										C.	
Lasiurus borealis							1				1 ×
Lasiurus cinereus											
Lasionycteris noctivagans						, , ,					
Other - specify:	ü										
Other - specify:											
Reproductive	Status:				G= pregi S= scrotal						Grand <u>Total</u>
	yotis soc	ete Mea	Myotis	nent ar s leibii, (d Capt 3) bats ye bat speci	ure Dat	ta Forn	n for a	ecapture	es,	1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:
	Start Time: End Time:	Start Time: Start Time: End Time: End Time:	Start Time: Start Time: Start Time: End Time: End Time: End Time:

20. REMARKS:

2055-2110 possing sprinkle 0055-0105 passing intermittent min

* Lasiurus borea la escaped from net

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page	l of

1. Survey Date: 3 Aug 2014 2. Company Name: But Consecration and Hanagement
3. Bat Identifier: Todd Sinandes 4. Assistants: Dunan Schanz
5. Site Name and/or Number: 2014 Rt 219 Somes - MD 06
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep fail
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-41 '.59.9 "N, Longitude: 79 °-06 '.20.0 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Fri the Contact Debook
Hoves Helesmick Taylor, 5 Capital Drive, Svik 400 Harrishing, DA 17110 (717) 540-6040
13. Time (military) & Temperature: Start Time OSO h Stop Time O150 h Total Minutes: 300
Start Temp. 16.5 °C End Temp. 15.5 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm., Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Net	1	6mx2.6m	along stream	15.65g.m
Nets	3	6mx2.6m	Stacked over tail	46.85g.m
Nets	3	6m×2.6m	1	46.89.m
			19	
	Nets Nets Nets	Nets 4 Nets 1 Nets 3	Nets 4 12m x 2.6m Net 1 6m x 2.6m Nets 3 6m x 2.6m	Nets 4 12mx2.6m Stacked over trail Net 1 6mx2.6m along stream Nets 3 6mx2.6m stacked over tail

Total Capture Area: 109.2 sq. m

Site Name/No.: 2014 Rt 219 Somer - HD06

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Single high net is placed along a stream. All nets are placed over a jeop trail within a sugar maple, oak and jellow birth dominated forest.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE DESILITS

Species	Number of Adult Females			No. Juv.	Total No.	No. Adult Males			Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	THE REAL PROPERTY.	1	SISHIP	A BURN	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis						/					
Myotis leibii							5				
Myotis sodalis					2	XI	//				
Eptesicus fuscus					1						
Perimyotis subflavus			11		-/						11 (1)
Lasiurus borealis			11) /							
Lasiurus cinereus			1 4						3		
Lasionycteris noctivagans	1	/									
Other - specify:	_			1							
Other - specify:		-									
Reproductive	Status:	NR= no PL= po	nreprodu st lactati	uctive, Pong, SCR	G= pregn = scrotal	ant, L = l /epididvn	actating, nis swolle	en.		- 2 - 1 - 1	Grand Total
	Comple	te Mea	asuren	ent an	d Capt	ure Dat	a Forn	for al		es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:
	Start Time: End Time:	Start Time: Start Time: End Time: End Time:	Start Time: Start Time: Start Time: End Time: End Time: End Time:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page	1	of	2
I unc		v.	-

Bal Cana at a god Mana
1. Survey Date: 8/2/14 2. Company Name: Bot Conservation and Management
3. Bat Identifier: Todd Sunander 4. Assistants: Scon Eshdman (Responsible Recorder)
5. Site Name and/or Number: 2014 RT. 219 SUMMER/MDD7
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested dirt mad
8. County: Garrett 9. 7.5' Quad.: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 42 '- 263"N, Longitude: 79 °- 06 '- 169"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Awate: contact
Deborah Hower, McCormick Taylor, 5 CopHol Drive, Harrisburg, PA 171
13. Time (military) & Temperature: Start Time 2045 h Stop Time 0145 h Total Minutes: 300
Start Temp. 17.7 °C End Temp. 16. 7 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16 Conture Setup at Site:

Set #	t# Type Count Dimensions		Dimensions	Description	TOTAL AREA (m)
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Ne-15	3	9x2.6	S-locked over dirt road	70.2
2	Nets	-3	9x2.6	stacked over dist road	70.2
3	Nets	1	9x2.6	over dirt road	23.4
			8 8 2 5 7 7 7		

Total Capture Area: 163.8 sq. m

(Site Survey Record - Continued) Site Name/No.: MDD7

Date: 8/2/2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets were placed over a diff road running through a mature deciduous forest.

Dominant tree species were Red Maple, Stripped Maple, and Chestrut Oak, Subdominant tree species were thekory, Red Oak, white Oak, and Vellaw-Birch.

18. Was reproductive status checked? YES // NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females			No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	ELA TERO	1	n ministra	Cura Nice	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii						,					
Myotis sodalis											
Eptesicus fuscus				9		1					1
Perimyotis subflavus				4							7"
Lasiurus borealis					0	1	Þ	0 0		100	XXXX
Lasiurus cinereus											
Lasionycteris noctivagans	i.i										
Other - specify:											
Other – specify:						,					
Reproductive		PL= po	st lacta	ting, SCI	R= scrotal	/epididyr	nis swoll	en.			Grand <u>Total</u>
	votis so	dalis, (2)	Myot	is leibii, (d Capt 3) bats ye bat speci	ou are ba	anding o	r band i	ecaptur	es,	· 7.

9. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

* 2140 bot escaped net * 2235 bat escaped net * 2235 bat escaped net * 2240 bat escaped net

Charles and

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

RAT	NETTING/TD	APPING	SITE SURVEY	RECORT
DAL	TATE I THANK IN	DILLIN	DILLUURITLE	Trucour.

Page 1 of 2

1. Survey Date: 8/3/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / MD07
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested dirt road
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 42 '-26.33"N, Longitude: 79 °- 06 '- 16.9 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hower, McCormich Taylor, 5 Capital Drive, Suite 400, Harrisburg, PA 17110
0.717-540-6048 13. Time (military) & Temperature: Start Time 2045 h Stop Time 0145 h Total Minutes: 308
Start Temp. 15.7 °C End Temp. 4.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Set # Type Count D		Dimensions	Description	TOTAL AREA (m)		
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m		
1	Nets	3	9x2.6	Stacked over distroad	70.2		
2	Nets	3	9×2.6	Stacked over dirt road	70.2		
3	Nets	1	9x2.6	Over dirt road	23.4		
	1			447 44			
					: === ==		

Total Capture Area: 163.8 sq. m

(Site Survey Record - Continued)	Site Name/No.:	MDOT	Date: 8/3	/14
17. Describe habitat 150 m around				
Nets were placed over Domunt tree species				
18. Was reproductive status check	Ked? (YES) / NO	(if "NO" only enter n	ellow Birch numbers in Total columns))

*CAPTURE RESULTS

Species	Number of Adult Females			No. <u>Total</u> Juv. No.		Number of Adult Males		Total No.	Species		
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii						1					
Myotis sodalis						\bigcirc					
Eptesicus fuscus				1	K		: 1				
Perimyotis subflavus				~)^/						
Lasiurus borealis			1								
Lasiurus cinereus	ĺ	6	1								
Lasionycteris noctivagans	i i	-	1	100							
Other - specify:		/							= .		
Other - specify:	/										
Reproductive						nant, L=				-	Grand <u>Total</u>
	Comple Lyotis soc	te Mea	asuren Myotis	nent an leibii, (d Capt 3) bats y	ure Da ou are ba	ta Forn	n for a	recaptur	es,	0

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:
		- 0		

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/31/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman, Brandon McClung
5. Site Name and/or Number: 2014 Rt, 219 Surgner / MD08
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested driveway
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-42 '-58.08"N, Longitude: 79 °-06 '-1147"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Controls
Dehorch Hover, McCormick Toylor, 5 Capital Drive, Suite 400, Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2045 h Stop Time 0145 h Total Minutes: 300
Start Temp. 16.0 °C End Temp. 13.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA (m) 124.8 sq. m	
Nets	4	12m x 2.6m	Stacked over trail		
Nets	3	9x2.Le	Stacked over driveway	70.2	
Nets	3	12 x 2.6	Stacked over driveway	93.6	
Nets	1	6 x 2.6	Over driveway	15.6	
			J		
	Nets Nets Nets	Nets 3 Nets 3	Nets 4 12mx2.6m Nets 3 9x2.Le Nets 3 12x2.Le	Nets 4 12mx2.6m Stacked over trail Nets 3 9x2.Le Stacked over driveway Nets 3 12x2.Le Stacked over driveway	

Total Capture Area: 179.4 sq. m

Site Name/No.: MD 09

Date: 7/31/14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a stone driveway within a mature mix deciduous forest. Dominant tree species are Red Mapte and Red Oak. The subdominant species in the area are white Oak, Hickory, Cherry, and Chestaut Oak

18. Was reproductive status checked? YES NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species	n	Number of Adult Females			No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	100	1	2515		3	2	1	1	4	7
Myotis lucifugus): -					
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus		ľ					. 1			1	
Perimyotis subflavus) i	š =									
Lasiurus borealis								. 1		1	1
Lasiurus cinereus											
Lasionycteris noctivagans		, , , , , , , , , , , , , , , , , , ,							II.		
Other – specify:		- 5					-				
Other – specify:									 	8 1-2	
Reproductive		PL= pos	st lactat	ing, SCF	R= scrotal	/epididyn	nis swoll	en.			Grand <u>Total</u>
					d Capt 3) bats ye					es,	2

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 8/1/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Smander 4. Assistants: Jacob Eshelman, Brandon McClung
5. Site Name and/or Number: 2014 Rt. 219 Summer / MDO8
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested driveway
8. County: Garrett 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-42 '-58.08"N, Longitude: 79 °- 06 '-11.47"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
2. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Con tect
Deborah Hoover, McCornick Toylor, 5 Capital Drive, Suite 400, Harrisburg, PA 17110
0: 7/7-540-6045 3. Time (military) & Temperature: Start Time 2/45 h Stop Time 0/45 h Total Minutes: 300
Start Temp. 17.6 °C End Temp. 15.3 °C (must stay ≥10 °C for summer netting
4. General Weather (circle one): Clear Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:

15. General Wind Conditions (circle one): (Calm.)	Breezy (Leaves Rustling),	Windy (Trees Swaying).

16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
\$6 1 100	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq.m
)	Nets	3	9×2.6	Stacked over driveway	70.2
2	Nets	3	12 x 2.6	Stacked over driveway	93.6
3	Nets	1	6x2.6	Over driveway	15.6
				E	
-					

Total Capture Area: 179.4 sq. m

	i cinisji.	and Came Commission	
(Site Survey Record - Continued)	Site Name/No.:	MD08	Date: 8/1/14
17. Describe habitat 150 m around			
Nets are placed over	a stone drive	way within a	mature mix deciduous fores
2000 2000 1111 1 211	LOES WEBSE EN	a Ked Oak. In	a subdominant species in the

18. Was reproductive status checked? YES NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS Number of No. Number of **Total** No. Total **Adult Females** Juv. No. **Adult Males** Juv. No. Species Species Fem. Fem. Male Males **Totals** NR PG SCR NR L PL Eptesicus fuscus 2 Myotis lucifugus Myotis septentrionalis Myotis leibii Myotis sodalis Eptesicus fuscus Perimyotis subflavus Lasiurus borealis Lasiurus cinereus Lasionycteris noctivagans Other - specify: Other - specify: Reproductive Status: NR= nonreproductive, PG= pregnant, L= lactating, Grand Total PL= post lactating, SCR= scrotal/epididymis swollen. *Complete Measurement and Capture Data Form for all:

16. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies;	Tallies:

(1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA.

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7-31-2014 2. Company Name: Bat Conservation & Management, Inc.
3. Bat Identifier: Risa Weight 4. Assistants:
5. Site Name and/or Number: 2014 R+219 Summer_ MD09
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested grass road and troil
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43 '-25.95"N, Longitude: 79 °- 5 '-53.55"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.)
Deborah Hoover, McCornick Taylor, 5 Capital Orive Suite 400 Harrisburg, PA 17110 13. Time (military) & Temperature: Start Time 2050 h Stop Time 0150 h Total Minutes: 300
13. Time (muttary) & Temperature: Start Time 2080 h Stop Time 01550 h Total Minutes: 300
Start Temp. 15.8 °C End Temp. 13.2 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clean Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set # Type		Count	Dimensions	Description	TOTAL AREA	
1	1 Nets 4 12mx 2.0		12m x 2.6m	Stacked over trail	124.8 sq. m	
1	Nets	3	18m × 2,6 m	stacked over road	140.4	
2	Nets	3	18m * 2,6 m	Stacked over road	140.4	
3	Nets	1	6 m × 2,6 m	stacked over trail	15.6	
		-	2			
				- 111		

Total Capture Area: 296, 4 sq. m

Site Name/No.: 2014R+2195 mmer MD09 Date: 7-31-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

The habitut consists of croplands and forests. The dominant tree species are American beech and red maple. Understory is

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females				No. Juv.	No. <u>Total</u> Juv. No.	Numb Adult		No. Juv.	Total No.	Species
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	11878		3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii	10					i					
Myotis sodalis											
Eptesicus fuscus			. 1	. 1	1	3	3		2	5	8
Perimyotis subflavus											
Lasiurus borealis							•			1 -	2
Lasiurus cinereus										-	
Lasionycteris noctivagans											
Other - specify:		1								3	2 9 2-
Other - specify:											-
Reproductive	Status:				G= pregr R= scrotal						Grand <u>Total</u>
	votis so	dalis, (2	Myoti	s leibii, (d Capt 3) bats ye bat speci	ou are ba	anding o	r band i	recapture	es,	10

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

- Bats observed flying high in the sky at 2050 - 1 Lasiurus borealis escaped while net being lowered

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 8-01-2014 2. Company Name: But Conservation & Management, Inc.
3. Bat Identifier: Risa Worth 4. Assistants:
5. Site Name and/or Number: 2014 R+219 Summer MD09
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested grass road and trail
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43 '-76.95"N, Longitude: 79 °- 5 '-53.55"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hooser, McCornick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA: 17110
13. Time (military) & Temperature: Start Time 2045 h Stop Time 0145 h Total Minutes: 300
Start Temp. 16,9 °C End Temp. 14.3 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	l Nets 4		12m x 2.6m	Stacked over trail	124.8 sq. m
)	Nets	3	18mx 2.6m	stacked over road	140,4
2	Nets	3	18m×2,6m	Stacked over road	140.4
3	Nets	1	6m × 2.6m	stucked over trail	15.6
				4:	

Total Capture Area: 2 9 6, 4 sq. m

Site Name/No .: 2014 R+219 Summer _ MD 09 Date: 8-01-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

The habitat consists of croplands and forests. The dominant tree species are American Beech and Red Maple. Understory is sparse.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

a. v	Number of Adult Females			No. <u>Total</u> Juv. No.				No. <u>Total</u> Juv. No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	ASSESSED.	1	NE PRO	district in	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis					. > 2 . = 1 .	12110					
Myotis leibii)	2 = 1 =									
Myotis sodalis					1						31 1
Eptesicus fuscus			' 1	: 3		4			. 1	1	° 6
Perimyotis subflavus											
Lasiurus borealis										15 16	k'
Lasiurus cinereus											
Lasionycteris noctivagans	i e	1.0									
Other - specify:							T.				
Other - specify:					12		-				
Reproductive		PL= po	st lacta	ting, SCR	t= scrotal	/epididyi	nis swoll	en.	<u></u>		Grand <u>Total</u>
	lyotis so	dalis, (2) Myoti	ment an is leibii, (3 s and (5)	3) bats y	ou are ba	anding o	r band	recaptur	es,	le

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

escapetan 610

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Section 2

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/25/2014 2. Company Name: Bat Conservation & Management, Inc.
3. Bat Identifier: Risa Wright 4. Assistants: Brandon McClung
5. Site Name and/or Number: 2014 ROUTE 219 Summer PAI
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
foresteljeep trail leading to pond
8. County: Somerset 9. 7.5' Quad .: Meyers dale
10. Was site GPS'd (required)? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 46 '-33.64"N, Longitude: 79 °- 01 '-42.84"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover McCormick Taylor, 5 Capital Orive, Suite 400 Harrisburg, PA 1910
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0150 h Total Minutes: 300
Start Temp. 17. O °C End Temp. 16. O °C (must stay >10 °C for summer netting)
 General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set#	Set# Type		Dimensions	Description	TOTAL AREA	
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m	
1	Nets	3	6m×2.6m	stacked over trail	46.8	
2	Nets	3	6mx2.6m	stacked over trail	46.8	
3	Nets	1	6 m × 2.6 m	stacked over trail	15.6	
			, 4)		

Total Capture Area: 109.2 sq. m

(Site Survey Record - Continued) Site Name/No.: 2014 Route 219 Summer PA1 Date: 7-25-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Habitat consists of a mixed decidnous forest. Dominant tree species road to a forest clearing with pond.

18. Was reproductive status checked? (VES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Marine and the	Number of Adult Females			No. Juv.	Juv. No.		Number of Adult Males		Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	THE STREET	js bu p	3	2	1	1	A	7
Myotis lucifugus				-				E			
Myotis septentrionalis								/			
Myotis leibii								11			
Myotis sodalis			lí ,			/					
Eptesicus fuscus				0	213			\$5 <u>_</u>			
Perimyotis subflavus				R							
Lasiurus borealis	u etr.	A	0	/							
Lasiurus cinereus	id.	10	/		in in					п	
Lasionycteris noctivagans		/									
Other - specify:											
Other – specify:											
Reproductive	Status:					nant, L= l/epididyi					Grand <u>Total</u>
	lyotis so	ete Mea	asuren Myoti:	nent ar s leibii, (d Capt 3) bats y	ure Da ou are ba es not us	ta Forn	n for a	recaptur	es,	\bigcirc

16. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/26/2014 2. Company Name: But Conservation and Management, Inc
3. Bat Identifier: Risa Wright 4. Assistants:
5. Site Name and/or Number: 2014 Route 2195 ammer PAI 37
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep trail leading to pend
8. County: Somerset 9. 7.5' Quad .: Meyers dale
10. Was site GPS'd (required)? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 46 '-3264"N, Longitude: 79 °- 01 '-428"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Taylor, 5 Capital Drive, Suite 400 Hurri (burg, PA 17110 13. Time (military) & Temperature: Start Time 2130 h Stop Time 0000 h Total Minutes: 150
Start Temp. 17.3 °C End Temp. 16.4 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set#	Type	Count	Dimensions	Description	TOTAL AREA	
1	1 Nets		12m x 2.6m	Stacked over trail	124.8 sq. m	
T;	Nets	3	6m × 2.6m	Stacked over trail	46.8	
2	Nets	3	6m × 2.6m	Stucked over trail	46.8	
3	Nets	1	6m × 2,6m	stacked over trail	15.6	
+					i a	

Total Capture Area: 109.2 sq. m

Site Name/No.: 2014 R+219 Summer_ PA1 Date: 7-26-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Habital consider of a mixed deciduous forest. Dominant tree species include while pine, red maple, and green ash. The jeep trail connects a pared road to a forest clearing with pond.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

NA

*CAPTURE RESULTS

	Number of Adult Females			No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male Males	Males	<u>Totals</u>
Eptesicus fuscus	2		1	THE REAL PROPERTY.		3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii	is i								/		
Myotis sodalis						1					
Eptesicus fuscus	i e e e		=	J- 61 = 51	1	red					
Perimyotis subflavus					208			ļ			5 · 6 -
Lasiurus borealis	1		0	45						1 1 1	
Lasiurus cinereus		10	120								
Lasionycteris noctivagans	-	10		/							
Other - specify:	65					112 12					
Other – specify:	/										1 1 2
Reproductive		PL= po	st lactat	ing, SCF	G= pregr R= scrotal d Capt	/epididyr	nis swoll	en.	11:		Grand <u>Total</u>
	votis so	dalis, (2)	Myotis	s leibii, (3) bats ye bat speci	ou are ba	anding o	r band	recaptur	es,	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

2 nd hour	3 rd hour	4th hour	5 th hour	
Start Time:	Start Time:	Start Time:	Start Time:	
End Time: End Time:		End Time:	End Time:	
Tallies:	Tallies:	Tallies:	Tallies:	
	Start Time: End Time:	Start Time: Start Time: End Time: End Time:	Start Time: Start Time: Start Time: End Time: End Time: End Time:	

20. REMARKS:

* Nets opened late because of storm
- Storm hit and nets closed at 0000 hrs (rain out)

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7-28-2014 2. Company Name: Bat Conservation & Management, Inc.
3. Bat Identifier: Risa Wright 4. Assistants:
5. Site Name and/or Number: 2 014 RT 2 19 Summer PA 1
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep trail leading to pond
8. County: Somerset 9. 7.5' Quad .: Meyersdale
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 46 '-33.44"N, Longitude: 79 °- 01 '-42.84"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover Mc Kormick Taylor, S Capital Drive, Suite 400
13. Time (military) & Temperature: Start Time 2125 h Stop Time 0225 h Total Minutes: 300
Start Temp. 13.1 °C End Temp. 10.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

				TOTAL AREA		
Nets	4	12m x 2.6m	Stacked over trail	124,8 sq. m		
Nets	3	6n×2,6m	stacked over trail	46.8		
Nets	3	6 m x 2, 6 m	Stacked over trail	46.8		
Nets	Ţ	6 m × 2,6 m	stucked over trail	15.6		
			:			
				(4)		
	Nets Nets Nets	Nets 3 Nets 3	Nets 4 12mx2.6m Nets 3 6mx2.6m Nets 3 6mx2.6m	Nets 3 6n×2.6n Stacked over trail Nets 3 6n×2.6n Stacked over trail Nets 3 6n×2.6n Stacked over trail		

Total Capture Area: 109.2 sq. m

Site Name/No.: 2014 R+219 Summer_ PAOI Date: 7-28-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.) Habitat consists of a mixed deciduous forest. Dominant tree species include white pine, red maple, green ash. The jeep trail connects a paved road to a forest clearing with pond.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

Species	2	Number of Adult Females			No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1	No.		3	2	1	- 1		
Myotis lucifugus							-	B. 483 1000	energe con	4	7
Myotis septentrionalis										-	7
Myotis leibii											
Myotis sodalis) = -					-		i I		/	
Eptesicus fuscus									$\overline{}$		
Perimyotis subflavus	1 1 2 -					12.0	120				
Lasiurus borealis						opt					
Lasiurus cinereus					15					-	
Lasionycteris noctivagans	-		,	89						2 1 2 2	
Other - specify:			4								
Other – specify:							- 1	, h		_	
Reproductive	Status: N	R= non	reproduc	ctive. PC	= pregna	nt L= la	ctating				
	T I	L= post	lactatin	g. SCR=	= scrotal/e	nididymi	e ewalle	1.			Grand Total
(I) My	otis soda (4) radi	HIS, (2)	vivotis l	eibii, (3)	Captu bats you	are bon	ding or	hand		.	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2"d hour	3rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:		- Time.
		End Time;	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

Opening delayed due to rain

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

remisyrvama Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 7/25/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Lacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / PAO2
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Road
8. County: Somerset 9. 7.5' Quad .: Meyersdate
10. Was site GPS'd (required) ? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-46 '-8.00"N, Longitude: 79 °-01 '-38.17"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Public:
PA State Game Lands, 231 Southwest Regional Office, 4820 Route 711, Bolivar, PA
(724) 238-9523 13. Time (military) & Temperature: Start Time 2100 h Stop Time 0200 h Total Minutes: 300
Start Temp. 16.7 °C End Temp. 15.5 °C (must stay ≥10 °C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:

- 15. General Wind Conditions (circle one): Calm.) Breezy (Leaves Rustling), Windy (Trees Swaying).
- 16. Capture Setup at Site:

Set #	Type Count Nets 4		Dimensions 12m x 2.6m	Description Stacked over trail	TOTAL AREA (m) 124.8 sq. m
1	Nets	3	Le x 2.6	Stacked over road	46.8
2	Nets	3	6×2.6	Stacked over road	46.8
3	Nets	1	6 x 2.6	Over trail	15.6
				*	
					-
	5				

Total Capture Area: 109.2 sq. m

(Site Survey Record - Continued) Site Name/No.: PA 02 Date: 7/25/14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets were placed over a stone road and over an atv trail. Roads van through a mixed young forest. Dominant species include Chestaut Oak, Red Oak, Yellow Birch,

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

4 		Number of Adult Females				No. <u>Total</u> Juv. No.		ber of Males	No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis		-	_				_				
Myotis leibii			al al								
Myotis sodalis											
Eptesicus fuscus	•			* 3		4	* 3	° 3		6	10
Perimyotis subflavus											
Lasiurus borealis							•			1	1
Lasiurus cinereus			i t	(1)							
Lasionycteris noctivagans											
Other - specify:											
Other - specify:											
Reproductiv	e Status:			ductive, P							Grand <u>Total</u>
	Ayotis so	dalis, (2)	Myot	ment an is leibii, (s and (5)	3) bats y	ou are b	anding o	r band i	recaptur	es,	11

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted): Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies;	Tallies:	Tallies:
19				

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

lage 1 of 2
1. Survey Date: 7/26/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Swander 4. Assistants: Jacob Eshelman, Brandon McClung
5. Site Name and/or Number: 2014 Rt. 219 Summer/PA02
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Road
8. County: Somerset 9. 7.5' Quad .: Meyersdale
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 46 '-808'N, Longitude: 79 °- 01 '-38.17'W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Rublic:
PA State Game Lands, 231 Southwest Regional Office, 4820 Route 711, Bolivar, PA (724) 238 - 9523
13. Time (military) & Temperature: Start Time 2130 h Stop Time OOO h Total Minutes: 150
Start Temp. 16.4 °C End Temp. 15.9 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Set # Type Count 1 Nets 4		Dimensions	Description	TOTAL AREA (m) 124.8 sq. m	
1			12m x 2.6m	Stacked over trail		
1	Nets	3	lex 2.6	Stacked over road	46.8	
2	Nets	3	Lex 2.6	Stacked over road	46.8	
3	Nets	1	le x2.6	over trail	15.6	

Total Capture Area: 109.2 sq. m

Site Name/No.: PA 02

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets were placed over a Stone road and over an atv trail. Roads van through a mixed young firest. Dominant species include Chestnut Oak, Red Oak, Yellow Birch, and Cherry. VES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

0.4		Number of Adult Females			No. Juv.	Total No.		iber of No t Males Juv		Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis					, ,						
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus				0		1	-			1	2
Perimyotis subflavus											
Lasiurus borealis							_				
Lasiurus cinereus									-		
Lasionycteris noctivagans											
Other - specify:											
Other - specify:											
Reproductive	Status:			ductive, F							Grand Total
	Lyotis so	ete <u>Me</u> dalis, (2	asure Myot	ment ar is leibii, (d Capt 3) bats y	ure Da	ta Forn	n for a	recaptur	es,	2
	(4) ra	dio-tagg	ed bat	s and (5)	bat speci	ies not us	sually for	ınd in F	PA.		

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:
	_1			

20. REMARKS:

* Nets opened at 2130 after rainstorm. Nets closed at 0000 due to rain

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/28/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman, Brandon McClung (Responsible Recorder)
5. Site Name and/or Number: 2014 Rt. 219 Summer/PA 02
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Road
8. County: Somerset 9. 7.5' Quad .: Meyersdate
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-46 '-808"N, Longitude: 79 °-01 '-38.1 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Public.
PA State Game Lands, 231 Southwest Regional Office, 4820 Route 711, Bolivar, PA
13. Time (military) & Temperature: Start Time 2130 h Stop Time 0230 h Total Minutes: 300
Start Temp. 12. Le °C End Temp. 10.3 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA (m)
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	le x 2.6	Stacked over trail	46.8
2	Nets	3	le x 2.6	Stacked over trail	46.8
3	Nets	1	le x 2. Le	Over trail	15.6
				=	T.F.C.
	,				

Total Capture Area: 109. 2 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

17. Describe habi Nets were through a Red Oak 18. Was reprodu	itat 150	m aroun	d site:	(topogra	phy and	vegetatio	over	an a	nant tree	il. Ro	ads ra
				非	CAPTU No.	RE RES			31	Tr. s. l	
Species	Number of Adult Females				No. Fem.	Number of Adult Males		Juv.	s Juv.	Total No. Males	Species Totals
Species	NR	PG	L	PL	Fem.		SCR	NR	Manc	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Eptesicus fuscus	2	PATE IN	1		July 8	3	2	1	1	4	7
Myotis lucifugus		,									
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus									-		
Perimyotis subflavus											
Lasiurus						1					1

Reproductive Status: NR= nonreproductive, PG= pregnant, L= lactating,
PL= post lactating, SCR= scrotal/epididymis swollen.

Grand
Total

*Complete Measurement and Capture Data Form for all:

(1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA.

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

Lasiurus cinereus Lasionycteris noctivagans Other - specify:

Other - specify:

* Nets opened at 2130 after rain.

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1	nf?
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25.12-11
1. Survey Date: 25 Jul 2014 2. Company Name: Bat Consecretion and Manage ment
3. Bat Identifier: Todd Sinandes 4. Assistants: Duncan Shanz
5. Site Name and/or Number: 2014 Rt 219 Somes - PAO3
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep trail
8. County: Somesset 9. 7.5' Quad .: Mexesdale
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 o- 45 '-55.76 "N, Longitude: 79 o- 01 '-55.27 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Public . PA Stoke Gome
Lands 231. Southwest Regional Office, 4820 Roste 711, Bolivar PA. (724) 238-9523.
13. Time (military) & Temperature: Start Time 2055 h Stop Time 0/55 h Total Minutes: 300
Start Temp. 17.6 °C End Temp. 16.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

TOTAL AREA	Description	Dimensions	Count	Type	Set #
124.8 sq. m	Stacked over trail	12m x 2.6m	4	Nets	1
46.85g.m	Stacked out trail	6mx2.6m	3	Nets	/
46.85g.m	Stocked over trail	6m×2.6m	3	Nets	2
15,65g.m	overtrail	6mx2.6m	1	Net	3
C					

Total Capture Area: 109, 2 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 Rt 219 Somer_PA 03 Date: 25 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.) Nets are placed over a jeep trail - ithin a mixed red maple, yello-birch, and sassafras dominated decidious forest.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

				*	CAPTU	RE RES	ULTS				
SE 10			ber of Temales		Juv. No.	- 13-3	Number of Adult Males		No. Juv.	Total No.	Species
Species ·	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1	W D	YES ALL	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii		1				/	16				
Myotis sodalis				71			/	/			=
Eptesicus fuscus					4						
Perimyotis subflavus			(-		V						
Lasiurus borealis		,			/					+	
Lasiurus cinereus			11	/							
Lasionycteris noctivagans			/								
Other - specify:											
Other - specify:	/										
Reproductive	Status:					nant, L= 1 /epididyr					Grand <u>Total</u>
		ete Me	asuren	nent an	d Capt	ure Da	ta Forn	n for a			()
(1) M	votis so	dalis, (2	Myotis	s leibii, (3) bats y	ou are ba	anding o	r band i	recaptur	es,	
	(4) rac	uio-tagg	ed bats	and (5)	oat speci	es not us	uany for	ma in P	A.		

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

in the second	
Page	of 2

1. Survey Date: 26 Jul 2014 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinonder 4. Assistants: Dyncan Schanz
5. Site Name and/or Number: 2014 Rt 219 Somes - PA 03
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
foresta jeap trail
8. County: Somesset 9. 7.5' Quad .: Meyessda e
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-45 '-55.76 "N, Longitude: 79 °-01 '-55.27" W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Poble: PA Stake
Game Londs 231. Forth-out regional office, 4820 Rote 711, Bolivas, PA. (724) 238-9523
13. Time (military) & Temperature: Start Time 130 h Stop Time 000 h Total Minutes: 150
Start Temp. 17.2 °C End Temp. 16.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	6m x 2.6m	Stacked over trail	46.85g.m
2	Nets	3	6mx2.6m	Stacked over tail	46.859.m
3	Ket	(6m 2.6m	over tail	15.69.m
			ata . aga t		

Total Capture Area: 109, 2 sq. m

(Site Survey Record - Continued)

Site Name/No.: 2014 R+219 Somes - PAO3 Date: 26 Tul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a jeep trail -ithina mixed red maple, yello-birch, and sissefras dominated decidious forest.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females				Juv. N	Total No.	No. Adult Males		No. Juv.	Total No.	Species
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	100	I		120 8 8	3	2	1	1	4	7
Myotis lucifugus											2 27
Myotis septentrionalis	1				;	1				Sh.	1
Myotis leibii										4	37-11111
Myotis sodalis	ï					. 1913	F				
Eptesicus fuscus											
Perimyotis subflavus				/				-			
Lasiurus borealis											
Lasiurus cinereus	ľ										
Lasionycteris noctivagans	Y Y										
Other - specify:											
Other - specify:	_			4		alret et			1		
Reproductive	Status:			ductive, P							Grand <u>Total</u>
		ete Mea	asure	ment an	d Capt	ure Da	ta Forn	n for a		es,	1
	(4) rac	dio-tagg	ed bats	and (5)	bat speci	es not us	ually for	ınd in P	A.	7	-

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with but detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

2nd hour 3rd hour 4th hour 1st hour 5th hour Start Time: Start Time: Start Time: Start Time: Start Time: End Time: End Time: End Time: End Time: End Time: Tallies: Tallies: Tallies: Tallies: Tallies:

20. REMARKS:

Nets opened at 2000 after a rainstorm. Nets closed at 0000 de to train,

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page	l of	7
Page	1 01	4

1. Survey Date: 28 2014 2. Company Name: But Conservation and Management
3. Bat Identifier: Todd Sinandes 4. Assistants: Durcan Schanz
5. Site Name and/or Number: 2014 Rt 219 Somes PA 03
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - WA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep trail
8. County: Somerset 9. 7.5' Quad.: Mexasta 2
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-45 '-55.76"N, Longitude: 79 °-0/ '-5527"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Public: PA State
Game Lands 231. South est regional office, 4820 Rove 711, Bolivar, PA. (724) 238-9523
13. Time (military) & Temperature: Start Time 2 25 h Stop Time 0225 h Total Minutes: 300
Start Temp. 2.7 °C End Temp. 10, 8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Nets	3	6mx2.6m	Stacked over trail	46.85g.m
Nets	3	6mx7.6m	Stacked our troil	46.859.m
Nets	1	6mx2.6m	over to!	15.65g.m
			18	
	Nets Nets Nets	Nets 4 Nets 3 Nets 3	Nets 4 12mx 2.6m Nets 3 6mx 2.6m Nets 3 6mx 2.6m	Nets 4 12mx2.6m Stacked over trail Nets 3 6mx2.6m Stacked over trail Nets 3 6mx2.6m Stacked over trail

Total Capture Area: 109.2 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record - Continued) Site Name/No.: 2014 Rt 219 Some PA03 Date: 28 Tol 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Note are placed over a implementation on mixed red reple, yellow birch, and
sassafras dominated decideous forest.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

a. e		Numl Adult F		;	No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1		PARES	3	2	1	1	4,	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii							ii.	/			
Myotis sodalis						15	/				
Eptesicus fuscus					nX						C
Perimyotis subflavus				4	121						
Lasiurus borealis			1								
Lasiurus cinereus		1	1	/		,	i.				
Lasionycteris noctivagans			7								
Other - specify:		/									
Other - specify:											
Reproductive	Status:					nant, L= l/epididy					Grand <u>Total</u>
		ete Me	asurei	nent ar	id Capi	ture Da	ta Forr	n for a		es.	0
(1) N	(4) ra	dio-tagg	ed bats	and (5)	bat spec	ies not us	sually for	and in I	A.	,	

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20	REM	AAD	ZC.
40.	RED		no.

Nets openned at 2125 after rain subdued light drizzle for roughly 1st hour of netting

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/23/14 2. Company Name: Bat Conservation & Management
3. Bat Identifier: Toll Smander 4. Assistants: Brandon McClung
5. Site Name and/or Number: 2014 Pt 219 Summer - PAO4
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream): Forested jee f trail.
8. County: Somerset 9. 7.5' Quad: Meyersdale
10. Was site GPS'd (required) ? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 45 '- 33. 5"N, Longitude: 79 °- 02 '- 29.7"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.)
Deborah Hoover, McCormick Taylor, Scapital Drive, Svite 400, Harrishung PA (717) 540-6040.
13. Time (military) & Temperature: Start Time 2/00 h Stop Time 0200 h Total Minutes: 300
Start Temp. 20, 8 °C End Temp. 16.7 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:
Set # Type Count Dimensions Description TOTAL AREA
1 Nets 4 12m x 2.6m Stacked over trail 124.8 sq. m
1 Note 3 6m x 2, low stacked over trail 46,855m

Set #	Type	Count 4	Dimensions	Description Stacked over trail	(m) 124.8 sq. m
l -	Nets.	3	6m x 2, Con	0 1	46,855m
2	Nets	3	Com x2,6m	stacked over trail	46,85941
3	Net	-7	9mx2.lom	over trail	23.45pm
	·				
			- Hercard Harris	= - :	
				- 3	

Total Capture Area: 117.0 sq. m

	Pennsylvania Game Co	
(Site Survey Record - Continued)	Site Name/No.: PAO 4	Date: 7/23/14
17. Describe habitat 150 m around Opland mature decided Commant tree species	d site: (topography and vegetations forest on a Month, are red maple & C	ion including dominant tree species.) acest facing slope. liestout oak.
18. Was reproductive status chec	ked? YES / NO (if "NO	O" only enter numbers in Total columns)

*CAPTURE RESULTS

				4	CAPTU	RE RES	ULTS				
	Number of Adult Females			No. Juv.	Juv. No.		Number of Adult Males		Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males To	Totals
Eptesicus fuscus	2	PER IN	1			3	2	1	1	4	7
Myotis lucifugus											/
Myotis septentrionalis								\cap			
Myotis leibii								V -			
Myotis sodalis						1	rec				
Eptesicus fuscus					_ [tu					
Perimyotis subflavus					a						
Lasiurus borealis											_
Lasiurus cinereus			nd			1					
Lasionycteris noctivagans	,	1)2	0								
Other – specify:		No									
Other - specify:		1						2			
Reproductive	Status:					l nant, L = l /epididyr					Grand <u>Total</u>
	votis so	ete Mea	asuren Myotis	nent an	d Capt 3) bats y	ure Da ou are ba es not us	ta Forn	n for a	ecaptur	es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana hat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

FORM P-70008-N/T

COMMONWEALTH OF PENNSYLVANIA

Pennsylvania Game Commission

12/09			
Section 2			

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 7/24/14 2. Company Name: But Consciuction & Management
3. Bat Identifier: John Change 4. Assistants: Dinty McClang (Responsible Recorder)
5. Site Name and/or Number: 2014 Rt 219 Summer - PAO4
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
8. County: Somerset 9. 75' Quad .: Meyershale
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 45 '- 33.5"N, Longitude: 79 °- 02 '- 29.7"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.)
Debuinh Hoose McComick Toylor, 5 copilal Drive Suite 400, Harrisbury PA (717) 540-60
13. Time (military) & Temperature: Start Time 100 h Stop Time 000 h Total Minutes:
Start Temp. 14 9 °C End Temp. 1 8 °C (must stay ≥10 °C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	7. A. A. A. A.	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	bn X Zibn	Stucked over fail	46.8 sym
2	Nels	3	6mx26m	Starled and trail	46.8 Sq m
3	Nets	1	9 m x 2-6 m	Que trail	23.4 Sqm
	,		2 1,0		6
				,	
				,	
					1 . 7

Total Capture Area: | | 7.0 sq. n

	Pennsylv	ania Game Commission	-//
(Site Survey Record - Continued)	Site Name/No.: _	PAO4	Date: 7/24/19
17. Describe habitat 150 m around			
UPland mature decid no	s forest on a	northwest for	cing Slope.
18. Was reproductive status chec	in one chartno	took and red	maple
18. Was reproductive status chec	ked? YES / N	O (if "NO" only ent	er numbers in Total columns)
	*CAP	TURE RESULTS	

7	CAPIC	JKE	KES	OLIS
_	NT.	1 7		NT

	Number of Adult Females			No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	100000	1	on the same	S Fall of	3	2	1	100	4	7
Myotis lucifugus				3554							
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis						10					
Eptesicus fuscus			ď		FL	1	/	- 1			
Perimyotis subflavus					$\langle \rangle$	11/				=	
Lasiurus borealis		1 4	1		NJ						
Lasiurus cinereus			1								
Lasionycteris noctivagans	ы		Ma	/							
Other - specify:											
Other – specify:		1									_
Reproductive	Status:				G= pregr						Grand <u>Total</u>
	Lyotis so	ete Medalis, (2	asuren) Myotis	nent an leibii, (d Capt 3) bats ye bat speci	ure Da	ta Forn	n for a	recaptur	es,	C

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/23/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinanders 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / PA 05
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Trail
8. County: Somerset 9. 7.5' Quadi: Avilton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-45 '-08.49"N, Longitude: 79 °-02 '-32.38"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCormick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 200 h Stop Time 0200 h Total Minutes: 300
Start Temp. 21.9 °C End Temp. 17.6 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1,	Nets	1	6 x 2.6	Over trail	15.6
2	Nets	3	6 x 2.6	Stacked over trail	46.8
3	Nets	3	6×2.6	Stacked over trail	46.8
-					

Total Capture Area: 109.2 sq. m

(Site Survey Record - Continued)

Site Name/No.: PA05

Date: 7/23/14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a Forested atvitail/dist road. Surrounding vegetation is mixed young forest with heavy under growth. Dominant tree species includes Cherry, Red Maple, and Chestaut OAK.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

		Numl Adult I	ber of Temales		No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	10000	1	E AVE	16949	3	2	1	1	4	7
Myotis lucifugus				4.0							
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											i i
Eptesicus fuscus	۰					1		6	0.0	3	4
Perimyotis subflavus											
Lasiurus borealis										,	
Lasiurus cinereus											
Lasionycteris noctivagans											j j
Other - specify:											ľ
Other - specify:	, .							-			
Reproductive	e Status:								1		Grand <u>Total</u>
	Iyotis so	ete Mea	PL= post lactating, SCR= scrotal/epididymis swollen. te Measurement and Capture Data Form for all: lalis, (2) Myotis leibii, (3) bats you are banding or band recaptures,		4						

M. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1	1 052	

1. Survey Date: 7/24/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: John Chenger 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / PAOS
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested trail
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 45 '-08.49"N, Longitude: 79 °- 02 '-32.38"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2100 h Stop Time 0200 h Total Minutes:
Start Temp. 13.4 °C End Temp. $ O_x $ °C (must stay ≥ 10 °C for summer netting)
14. General Weather (circle one): Clear, Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	1	6 x 2.6	Over trail	15.6
2.	Nets	3	6 x2.6	Stacked over trail	46.8
3	Nets	3	10 × 2.6	Stacked over trail	46.8

Total Capture Area: 109.2 sq. m

		mine a mine a commission of		
(Site Survey Record - Continued)	Site Name/No.:	PAO5	Date: 7/24/14	$\overline{}$
17. Describe habitat 150 m around	site: (topography a	nd vegetation including dom	inant tree species.)	
Nets are placed over a	forested atv tra	ail/dirt road. Surround	ng vegetation is mixed is includes Cherry, Red	
going forest with heavy and Chestnut Oak.	under growth.	Dominant tree specie	s includes Cherry, Red	Maple,
18. Was reproductive status check	ked? YES / NO	O (if "NO" only enter num	bers in Total columns)	

*CAPTURE RESULTS

		Numl Adult F	ber of Temale	s	No. Juv.	Total No.	Number of Adult Males	No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	PL SCR NR	Male	Males	<u>Totals</u>			
Eptesicus fuscus	2	Date Ball	1		The St	3	2	1	1	4	7
Myotis lucifugus									21 12		
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis										i"	
Eptesicus fuscus				•		1)
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans											
Other - specify:		1									
Other - specify:											
Reproductive	Status:				G= pregi						Grand <u>Total</u>
	lyotis so	ete Mea	Myot	ment ar is leibii, (nd Capt 3) bats ye bat speci	ure Dat	ta Forn	n for a	ecaptur	es,)

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat lithernacula surveys. Monitor one hour after 22:00 lirs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:
AA DENTI DEG				1 4

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT	NETTING/TR	APPING	SITE SURVEY	RECORD
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Page 1 of 2

1. Survey Date: 7/23/2014 2. Company Name: BATCONSERVATION & MAWAGIMENT
3. Bat Identifier: JOHN CHINGIA 4. Assistants: BRYAN BUTER
5. Site Name and/or Number: 2014 RT ZIG SUMMERL , PA-6
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
OVERDROWN ATV TRAIL IN DENSE DECIDOUS FOREST / + VERY NARROW
8. County: Someos FT 9. 7.5' Quad.: AVILTON
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 49 '- 40,5 N, Longitude: 79 °- 02 - 41,19 W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Taylor, 5 Capital Drive, Suite 400 Harristong, PA 17110
13. Time (military) & Temperature: Start Time 2045 h Stop Time 0/45 h Total Minutes: 300
Start Temp. 18 °C End Temp. °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Orizzle: Intermittent Rain; (suspend netting during Steedy Point Thursday to the Control of P
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one); Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	NET	3	6maZ.In	STACKED OVER TRAIL	46.8 59 -
2	NETS	1	216 = Z16 m	STACRED OVER TEN	
3	N975	3	6m + Z,6m	STACKED OVER TRA	
					L.
il.					
			-		ki i

Total Capture Area: 100.36 sq. m

(Site Survey Record – Continued)	Site Name/No.: _	Pn-6	Date: 7/23/2014
17 Describe habitat 150 m around	d site: (tonogranhy	and vegetation including dominant	tree snecies)

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

NAREOW ATV PATH / CORRIDOR ON MOUNTAINSIDE SOMEOWDED BY DENSE FOREST ON BOTH

SIDES DOMINANT SPECIES INCLUDE BIRCH & CHERRY

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

2_ 0.00	Number of Adult Females				No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus		ii .									=
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus			0.0	**		4					4
Perimyotis subflavus											,
Lasiurus borealis											
Lasiurus cinereus	*	l'									
Lasionycteris noctivagans								i,			-
Other – specify:				.a							
Other - specify:											
Reproductive	Status:			ductive, P					1		Grand <u>Total</u>
		ete Me	asure	ment ar is leibii, (d Capt	ure Da	ta Forn	n for a		es,	4

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA

Pennsylvania Game Commission

Section	2

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 7/24/2014 2. Company Name: BAT CONSERVATION & MANAGEMENT
3. Bat Identifier: TGDD SIMAMORA 4. Assistants: BAYAN BUTLER
5. Site Name and/or Number: 2014 RT. 219 SUMMER / PA-6
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
OVERGENT ATV TRAIL IN DENSE DECIDIOUS FOREST & VERY NARROW
8. County: SOMERSET 9. 7.5' Quad.: AVILTEN
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '-40.05"N, Longitude: 79 °- 02 '- 41.9"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Control

Deborah Hoover, McColmick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110

13. Time (military) & Temperature: Start Time 20:45 h Stop Time 0145 h Total Minutes: 300

Start Temp. / C End Temp. / C (must stay > 10 °C for summer netting)

14. General Weather (circle one): Clear, Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain)

Steady Rain; Thunderstorms; Snow; Other:_______.

15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).

16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA (m)
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1,	NERS	3	6m= 2.6m	STRENED OUTRTILIAN	46.8
2	NETS	Į.	26 + 26 4	STACKED OVER TANK	6.76
3	NETS	3	6m+2,6u	STACHED OVERTER	46.8
	1				The state of the s

Total Capture Area: 100.36 sq. m

(Site Survey Record - Continued) Site Name/No.: PA-6

Date: 7/24/2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Narrow ATV trail/corridor on mountainside surrounded by dense forest on both sides. Dominant species include Birch and cherry

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	10/10/63/91	1		N. C. M.	3	2	1	1	4	7
Myotis lucifugus								29112			
Myotis septentrionalis											
Myotis leibii						,					
Myotis sodalis								12			
Eptesicus fuscus				. 1		١				1.00	1
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus		-									
Lasionycteris noctivagans											
Other - specify:											
Other – specify:											
Reproductive	Status:			ductive, P ting, SCR							Grand <u>Total</u>
	lyotis soc	ete <u>Mea</u>	Myoti	ment and is leibii, (as and (5)	d Capt 3) bats ye	ure Dat	a Forn	n for a	ecapture	es,	1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

DAT HELLING THE STEED ON THE STEED OF THE ST
1. Survey Date: 7/21/14 2. Company Name: Bat Conservation and Wangement
3. Bat Identifier: John Chenger 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / PAO7
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested trail
8. County: Somerset 9. 75' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-44 '-41.0"N, Longitude: 79 °-03 '-02.3"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private. Contact
Deborch Hoover, McCormick Taylor, 5 Capital Drive, Saite 400, Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2100 h Stop Time 0200 h Total Minutes: 300
Start Temp. 20-3 °C End Temp. \\ \frac{\dagger}{2}\. \tag{\chi}\. \tan\chi}\. \tag{\chi}\. \tag{\chi}\. \tag{\chi}\. \tag{\chi}\. \tag
14. General Weather (circle one): Clear: Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
	Nets	3	lomx 2.lom	Stacked over trail	46.8
2	Nets	1	lom x 2 lem	Over trail	15.6
3	Nets	3	gm x 2.6m	Stacked over trail	70.2
	_ =				14 ~~ 21

Total Capture Area: 132.6 sq. m

(Site Survey Record - Continued)

		DA
ite	Name/No.:	YA!

Date: 7/21/14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed on a forested trail which is located on a steep incline. The forest consist of mix mature species. The dominant tree species include Hemlock, Red Maple,

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

2 2	Number of Adult Females				No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR NR	NR	Male M	Males	<u>Totals</u>
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis - lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus				2		2					2
Perimyotis subflavus			13.								
Lasiurus borealis				•		1					
Lasiurus cinereus			1								
Lasionycteris noctivagans											
Other - specify:											
Other - specify:			1								
Reproductive											Grand Total
PL= post lactating, SCR= scrotal/epididymis swollen. *Complete Measurement and Capture Data Form for all: (1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures,						es.	3				
A STATE OF THE PARTY OF THE PAR				and (5)							

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page	of.	2

1. Survey Date: 7/22/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: John Changer 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer/PA 07
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream): Forested +rail
8. County: Somerset 9. 7.5' Quad .: Avitton
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-44 '410 "N, Longitude: 79 °-03 '-023"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.)
Deborah Hoover, McCormick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110 0: 717-540-6040 13. Time (military) & Temperature: Start Time 2050 h Stop Time 0150 h Total Minutes: 300
Start Temp. 20.6 °C End Temp. 18.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear, Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
J	Nets	3	lomx 2.6m	Stacked over trail	46.8
2	Nets	1	lomx 2.6m	Over trail	15.6
3	Nets	3	9m x 2.lom	Stacked over trail	70.2
		, ** AT			

Total Capture Area: 132.6 sq. m

(Site Survey Record – Continued)	Site Name/No.:	PA07	Date: 7/22/14
----------------------------------	----------------	------	---------------

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed on a forested trail which is located on a steep incline. The forested consist of mix major species. The dominant tree species include Hemlock, Red Maple, and cherry

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis	ļ. 1										
Myotis leibii								. 1			- 1
Myotis sodalis											
Eptesicus fuscus							• 1				1
Perimyotis subflavus		j L									
Lasiurus borealis				• 1							2
Lasiurus cinereus		-									
Lasionycteris noctivagans			,								_
Other - specify:					-						
Other - specify:											
Reproductive		PL= po	st lacta	ting, SCI	R= scrota	l/epididy	mis swol	len.	.11.		Grand Total
(1) N	Ivotis so	dalis, (2) Myot	is leibii,	nd Capt (3) bats y bat spec	ou are b	anding o	or band	recaptur	es,	4

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Section 2

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
. Survey Date: 7/19/14 2. Company Name: Bat Conservation and Management
Bat Identifier: John Chenger 4. Assistants: Jacob Eshelman (Responsible Recorder)
i. Site Name and/or Number: 2014 Rt. 219 Summer / Pa 08
. Site is (circle one): hibernation site summer habitat
a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested trail
8. County: Somerset 9. 7.5' Quad .: Avilton
0. Was site GPS'd (required)? YES - NO
1. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '-41.0 "N, Longitude: 79 °- 03 '-20.5"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
2. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Touglor, 5 Capital Drive, Suite 400 Harrisburg, PA 1-0:717-540-6040 3. Time (military) & Temperature: Start Time 2100 h Stop Time 0200 h Total Minutes: 300
Start Temp. 17.2 °C End Temp. \S.O °C (must stay ≥10 °C for summer netting
4. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend neuting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:

15. General Wind Conditions (circle one):	Calm.	Breezy (Leaves Rustling),	Windy (Trees Swaying).
---	-------	---------------------------	------------------------

16. Capture Setup at Site:

Set#	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	12m x 2.6m	Stacked over trail	93.6
2	Nets	3	9m x 2.lem	Stacked over trail	70.2
3	Nets	1	Lom x 2.6m	Over froil	15.6
				* +	

Total Capture Area: 179.4 sq. m

*CAPTURE RESULTS

Grand

Total

(Site Survey Record - Continued)	Site Name/No.:PAO8	Date: 7/19/14
17. Describe habitat 150 m around	site: (topography and vegetation include	ding dominant tree species)
Nets are placed over	a trail running through a	and the Total Day 1
is running perpendicul	Hemlock, and Yellow Birch. Tro	il ends at Piney Run which
18. Was reproductive status check	ced? YES / NO (if "NO" only e	nter numbers in Total columns)

Species	Number of Adult Females			No. Total Juv. No.		Number of Adult Males		No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus											/
Myotis septentrionalis											
Myotis leibii				14	2 2 ,	, ,	r				
Myotis sodalis						Z					
Eptesicus fuscus			a 5-2	\bigcirc	D						
Perimyotis subflavus	al			1	7						
Lasiurus borealis					1			1			
Lasiurus cinereus		/ (
Lasionycteris noctivagans		1	9							r = 1	
other - specify:	li .		/								

*Complete Measurement and Capture Data Form for all:

(1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures,

(4) radio-tagged bats and (5) bat species not usually found in PA.

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat Inbernacula surveys. Monitor one hour after 22:00 hrs when trappting/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

PL= post lactating, SCR= scrotal/epididymis swollen.

Reproductive Status: NR= nonreproductive, PG= pregnant, L= lactating,

20. REMARKS:

Other - specify:

FORM P-70008-N/T

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

12/09 Section 2

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 7/20/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: John Chenger 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / PAO8
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describeN/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested trail
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required)? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '-41.0"N, Longitude: 9 °-03 '-205"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCormick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110 0: 717-540-6040 13. Time (military) & Temperature: Start Time 2050 h Stop Time 0150 h Total Minutes: 300
Start Temp. 18.6 °C End Temp. 17. \ °C (must stay \ge 10 °C for summer net)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling), Windy (Trees Swaying).

16.	Capture	Setup	at Site:

Set#	1. T. C.		Dimensions	Description	TOTAL AREA		
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m		
1	Nets	3	12m x 2.6m	Stacked over trail	93.6		
2	Nets	3	9mx2.lem	Stacked over trail	70.2		
3	Nets	1	lom x 2.6 m	Over trail	15.6		

Total Capture Area: 179. 4 sq. m

(Site Survey Record - Continued)	Site Name/No.:	PA08	Date: 7/20/14
17. Describe habitat 150 m around	site: (topography a	nd vegetation including domina	ant tree species.)
Nets are placed over			
species are Red Maple	, Hemlock, and	Yellow Birch. Trail	ends at Piney Ru
18. Was reproductive status check	pendicular to to	he rets (if "NO" only enter numbe	rs in Total columns)

*CAPTURE RESULTS

				. "	CAPTU	RE RES	ULIS				
Sancton	Number of Adult Females			No. <u>Total</u> Juv. No.		Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii		A			-	1	7				
Myotis sodalis	,				1						
Eptesicus fuscus		F			LV	/				χ.	
Perimyotis subflavus				. =	1)						
Lasiurus borealis		1 24	11)/							
Lasiurus cinereus			1						,		
Lasionycteris noctivagans		Ĭ,									
Other - specify:		/									1921
Other – specify:	/										
Reproductive	Status:	NR= no PL= po	nreprodu st lactati	ng, SCR	G= pregr = scrotal	ant, L= I /epididyn	actating,	en.			Grand Total
*(<u>(1) M</u>	yotis soc	ete Mea	Myotis	ient an leibii, (3	d Capt	ure Dat	a Forn	of for a	ecapture	es,	\bigcirc

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	- Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 21 Jul 2014 2. Company Name: But Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Dincan Schont
5. Site Name and/or Number: 2014 Rt 219 Somes - PAO9 Night 1
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel, other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested Stream
8. County: Somesset 9. 7.5' Quad .: Meyessdale
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-45 '-36.15 "N, Longitude: 79 °-4 '-1.70 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Airele Contact Debota h
Hower, McCormick Taylor, S Capital Drive, Site 400 Hourishurg, PA 17110 717 540 6040
13. Time (military) & Temperature: Start Time 2/05 h Stop Time 6205 h Total Minutes: 300
Start Temp. 20,9 °C End Temp. 20, 2 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear, Partly Cloudy: Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set#	Set # Type Coun 1 Nets 4		Dimensions	Description	TOTAL AREA (m) 124.8 sq. m		
1			12m x 2.6m	Stacked over trail			
1	Nets	3	12m x2,6m	Stacked over stream	93,65q.m		
2	Nets	3	12mx2.6m	Stacked over stream	93.65p.m		
3	Net		9mx 2.6m	over stream	23.4g.m		
					L L		

Total Capture Area: 2006 sq. m

(Site Survey Record - Continued)

Site Name/No .: 2014 Rt 219 Sones - PAO9 Natt

Date 21 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Nets are placed over a stream within a mixed forest dominated by herical and sugar maple. Riotoderaron dominates the understory

18. Was reproductive status checked?

=	-	٠.	
		w.)	
ъ.		u	
	T	FS	FS

/ NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females				No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	10210	1			3	2	1	I	4	7
Myotis lucifugus											
Myotis septentrionalis											5
Myotis leibii											
Myotis sodalis	- ===										
Eptesicus fuscus							٠,	. [1	
Perimyotis subflavus											,
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans											
Other - specify:											
Other - specify:			. :								
Reproductive	Status:	NR= no PL= po	nreprod st lactat	luctive, P	G= pregi	nant, L= l /epididyr	lactating nis swoll	en.			Grand Total
	votis so	ete Mea	Myoti:	nent ar s leibii, (nd Capt 3) bats ye bat speci	ure Da	ta Forn	n for a	recapture	es,	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT	NETTING/TRAPPING	SITE S	SURVEY	RECORD

-	
Page	of 2

02 7.12 214
1. Survey Date: 22 Jul 2014 2. Company Name: But Consecustion and Hanagement
3. Bat Identifier: Todd Sinandes 4. Assistants: Doman Schon Z
5. Site Name and/or Number: 2014 At 219 Somer - PA 09 Night 2
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested stream
8. County: Somesset 9. 7.5' Quad .: Meyers dale
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 37 °- 45 '-365 "N, Longitude: 79 °- 64 '-1.76 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Privote: Contact Deborah
HOOMES, McCornick Toylor, 5 Capital Drive, Six 400 Heariburg, DA 17110 717 540 6040
13. Time (military) & Temperature: Start Time 1/00 h Stop Time 200 h Total Minutes:
Start Temp. 22, 1 °C End Temp. 18, 6 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	Panx2.6m	Stacked over stream	93.6 sp.m 93.6 sp.m
2	Nets	3	12 ax 2.6m	Stacked overstream	93.65g.m
3	Net	1	9mx2.6m	over stream	23.45q.m
-1217					

Total Capture Area: 210.6 sq. m

(Site Survey Record - Continued) Site Name/No.: 2014 Rt 219 Sones - PAO9 Naht 2

Date: 22 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Nets are placed out a stream within a mixed forest dominated by hemlack and Sugar maple. Rhododendron dominates the understory.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

	Number of Adult Females				Juv. No.	Total No.	. Adult Males		No. Juv.	Total No.	Species
Species	NR PG L PL Fem. Fem.	SCR	NR	Male	Males	<u>Totals</u>					
Eptesicus fuscus	2	ELECTION IN	1		Maase.	3	2	1	1	4/	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii						16					
Myotis sodalis				l	1						
Eptesicus fuscus					X	/					
Perimyotis subflavus				9							
Lasiurus borealis		1	F	/							
Lasiurus cinereus		11									
Lasionycteris noctivagans			/								
Other - specify:		/									
Other - specify:	/										
Reproductive	Status:					nant, L= l /epididyr					Grand Total
	yotis so	ete <u>Me</u> dalis, (2	asuren Myotis	nent an	d Capt 3) bats y	ure Da	ta Forn	<u>n</u> for a r band i	ecapture	es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1.	Survey l	Date: <u>7/21/</u>	14	2. Company Na	ame: Bot Conservation +	Managoment
3.1	Bat Iden	tifier: Todo	& Sina	der 4. Assista	ants: Brandon McClong	
5.	Site Nar	ne and/or Nur	nber: 2	014 Rt2195	Summer-PA10	
6.	Site is (circle one):	hibernati	on site	ummer habitat	
7a.	If hiber	nation site cir	cle one: li	mestone mine, coa	I mine, limestone cave, sandstone ca	ve, RR tunnel,
			ot	her structure, descr	ribe - 10/A	**************************************
2 -		sted 1	ecp 7	trail runo	(e.g. forested stream or forest clearing 1 ins parallel to 5 7.5' Quad.: Meyers dale	tream.
10	Was sit	e GPS'd (requ		YES NO	/-	
11	Geogra	phic Coordin	ates (D-M-	S): Latitude: 39	o- 45 '-215 "N, Longitude: _7	190-03 'S7.5 "W
		Datum (circ	cle one): 🐧	AD27 (Preferred),	NAD83, WGS84, Other:	
12	Owner	ship and Acce	ess: (Who d	wns site or control	ls access? Give name and address.)	Private: Confact
L	ebora	h Hoover.	McCon	mick Taylor	,5 Capital Dr. Suite 400, Hon	1,56015 PA 17110.
13	Time (military) & Te	mperature	: Start Time 20	50 h Stop Time 0150 h	Total Minutes: 300
				Start Temp. 2	1, 2 °C End Temp. 18.1 °C	(must stay \geq 10 °C for summer netting)
14		netting during			dy; Mostly Cloudy; Cloudy; Drizz	
15	Genera	al Wind Cond	itions (circ	le one); Calm, E	Breezy (Leaves Rustling), Windy (T	rees Swaying).
16	Captu	re Setup at Si	ite:			
	Set #	Туре	Count	Dimensions	Description	TOTAL AREA (m)

Type	Count	Dimensions	Description	TOTAL AREA (m)
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Net	_7_	6m x2,6m	over trail	15,659 m
Nets	3	12m x 2.6m	stacked over trail	93.6/ sylm
Nets	3	12m×2.6m	stacked over trail	93.6 spin
				; - [
	Nets Net Nets	Nets 4 Net 1 Nets 3	Nets 4 12mx2.6m Net 1 6m x2.6m Nets 3 12m x2.6m	Nets 4 12mx2.6m Stacked over trail Net 1 6m x2.6m Over trail Nets 3 12m x2.6m stacked over trail

Total Capture Area: 202.8 sq. m

(Site Survey Record - Continued)	Site Name/No.: 2014R621950mmer - PA10	Date: 7/21/14
17. Describe habitat 150 m around	d site: (topography and vegetation including dominant tree mixed forest patch following a stre	e species.)
Dominant tree spe	mixed forest patal following a stre 2 land one then sile of the forest cies are hemlock, red & spage, map	pately oak.
18. Was reproductive status chec	ked? YES / NO (if "NO" only enter numbers in I	otal columns)

*CAPTURE RESULTS

0 - 1	Number of Adult Females			Juv. N	Total No.	No. Adult Mal		les Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1	AU LES	HERRICK ST	3	2	1	1	4	7
Myotis lucifugus Myotis			= .							1 - 1 - 2 - 3 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4	7 - 11
septentrionalis											
Myotis leibii	-		-	-							1
Myotis sodalis											
Eptesicus fuscus					*			-			= -
Perimyotis subflavus						i i					
Lasiurus borealis									,		H =
Lasiurus cinereus											
Lasionycteris noctivagans							1				
Other - specify:											
Other – specify:	1									1 1 2 2 2 1	
Reproductive	Status:	NR= no	nreproc	ductive, Po	G= pregr	nant, L= l	actating,	an.			Grand Total
	Comple	te Mea	surei	ment and is leibii, (3	d Capt	ure Dat	ta Forn	n for a		es.	[
				and (5) b						7.6	2.0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA

Pennsylvania Game Commission

12/09	
Section	2

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/22/14 2. Company Name: Bat Conservation & Manage ment
3. Bat Identifier: Toold Smander 4. Assistants: Brandon Mc Clong
5. Site Name and/or Number: 2014R + 219 Summer - PA10
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - AAA .
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forcetal jeep trail running parallel to stream.
8. County: Somerset 9. 7.5' Quad .: Meyers dale
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 45 '- 21.5 "N, Longitude: 79 °- 03 '-57.5 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) for vate: Contact
Deborah Hoover, McCormick Taylor, 5 Capital Dr. Suite 700, Harris Sura PA 17110
13. Time (military) & Temperature: Start Time 2100 h Stop Time 0200 h Total Minutes: 300
Start Temp. 2// C End Temp. /8, 2 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Net	1	6mx 2.6m	Ovastrail	15.6 ssa
Nets	3	12m X216m	stackel over trail.	93.6 59 4
Nets	3	12mx2,6m	stacked over trail	93.6 sy m
				6
4 4 5-1				,
			-	
	Nets Net Nets	Nets 4 Net 1 Nets 3	Nets 4 12mx26m Net 1 6mx 2.6m Net 3 12m x2.6m	Nets 4 12mx26m Stacked over trail Net 1 6mx 2.6m Over trail Nets 3 12m x2.6m stacked over trail Nets 3 12mx2.6m stacked over trail

Total Capture Area: 202.8 sq. m

(Site Survey Record - Continued)

PAID Date: 7/22/14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree s	pecies.)
Low land motore mixed fact potal to llowing a stream wi	19
agricultural/pasture land on either side of the forest As	
Commant tree species are hem lock, red a sugar maple, red	
18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Tol	al columns

	Number of Adult Females			No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1		Part	3	2	1	1	4	7
Myotis lucifugus							п ,				
Myotis septentrionalis	ľ										
Myotis leibii											
Myotis sodalis	11					1	5_				
Eptesicus fuscus						1/		2			
Perimyotis subflavus			1		1						
Lasiurus borealis											
Lasiurus cinereus		\setminus	1)/							
Lasionycteris noctivagans										ř	
Other - specify:		1/									
Other - specify:	/										
Reproductive		PL= po	st lactat	ing, SCI	R= scrota	l/epididy	mis swoll	en.			Grand <u>Total</u>
*(1) N	Ivotis so	dalis, (2	Myoti.	s leibii, ((3) bats y bat speci	ou are b	anding o	r band	recaptur	es,	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT	NETTING/TRAPPING	SITE	SURVEY	RECORD

Page 1 of 2

AA
1. Survey Date: 7/19/14 2. Company Name: BAT CONSERVATION & MANAGEMENT
3. Bat Identifier: JOHN CHENGER 4. Assistants: BRYAN BYLER
5. Site Name and/or Number: 2014 RT. 219 SUMMSO PA-11
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
FONESTED STREAM
8. County: Sommerset 9. 7.5' Quad.: AVI'LTOW
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '- 335N, Longitude: 79 °- 03 '- 22.8"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborals Hoover, Mc Camich Taylor, 5 Capital Dr. Suite 400, Harrisburg PA 17110 (517) 540-6040
13. Time (military) & Temperature: Start Time Z100 h Stop Time 520 h Total Minutes: 300
Start Temp. 17.2 °C End Temp. 5 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:
Set # Type Count Dimensions Description TOTAL AREA

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1 -	NETS	3	12m+2.6m	STACKED OUER STREAM	93.6
2	NETS	3	9m + 2.6m	STACKED OVER TRAIL	70.2
3	NETS	1	12m x 2,6m	SIN 11 OUER TRAIL	31.2
		į.			
	-				

Total Capture Area: 195

	r commy a comm	cuine commission		
(Site Survey Record - Continued)	Site Name/No.:	PA-11	Date	e: 7/19/14
17. Describe habitat 150 m around MODERATELY FORESTED ARSA (INCLUDE HEMLOCK AND RED	OFF OF UNDEUELORED			
18. Was reproductive status check	sed? YES / NO	(if "NO" only en	ter numbers in Total c	columns)

*CAPTURE RESULTS

	Number of Adult Females		No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species			
Species	NR	PG	L	PL	Fem.	Fem.	m. SCR NF	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	W. A.	1	UDS 14	P6 112	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii	F										
Myotis sodalis											
Eptesicus fuscus											i
Perimyotis subflavus											
Lasiurus borealis											1 *
Lasiurus cinereus											
Lasionycteris noctivagans											
Other - specify:											
Other – specify:											
Reproductive		PL= pos	st lactat	ing, SCR	t= scrotal	/epididyn	nis swoll	en.	l		Grand <u>Total</u>
	yotis soc	lalis, (2)	Myotis	s leibii, (d Capt 3) bats yo bat speci	ou are ba	nding o	r band r	ecapture	es,	1

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start-Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	- Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

*ONE REDBET; ISCAPSID NET BEFORE LOWERING

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/20/14 2. Company Name: BAT CONSERMENT & MANAGEMENT
3. Bat Identifier: JOHN CHENGER 4. Assistants: BRYAN BUTGER
5. Site Name and/or Number: Zory NT, 2/9 Summs 1 / PA-11
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
FORSTED STREAM
8. County: SommenssT 9. 7.5' Quad.: AVILTON
10. Was site GPS'd (required)? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '- 33.5"N, Longitude: 79 °- 03 '- 22.8"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.)
Deborah Hoover, McCanick Taylor, 5 Copital Drive, Suite 400, Horrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2045 h Stop Time 0145 h Total Minutes: 300
Start Temp. 18.6 °C End Temp. 17.\ °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy: Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one). Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA (m)
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	NSTS	3	12m *2.6m	STACHED OVER STREAM	93.6
2	NETS	3	9 m + 2.6m	STACKSD OUER TRAIL	70.2
3	17815	1	12m x 2.6m	GUSY STREAM	31.2
				-	
	a I				

Total Capture Area: 195.0 sq. m

(Site Survey Record - Continued)	Site Name/No.:	PA-11	Date: 7/20/19
			,

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.) MODERATELY FORESTED AREA OFF OF UNDEVELOPED ROAD ALONG STREAM. DOMINANT TREE SPP. INCLUDE HEMLOCIL AND RED MAPLE

18. Was reproductive status checked?

	1	١.
1	YES)/
١	_	

NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. Juv.	Total No.			No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	A ST	1	nvs miles		3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis								_			
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus											
Perimyotis subflavus				* 22							
Lasiurus borealis							•				1
Lasiurus cinereus						_				. = .	
Lasionycteris noctivagans											
Other - specify:											
Other - specify:											
Reproductive	Status:				G= pregr						Grand <u>Total</u>
		ete Mea	asurer	nent ar	d Capt 3) bats y	ure Da	ta Forn	ı for a		es,	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page	1	of 2	
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1. Survey Date: 7/21/2014 2. Company Name: BAT CONSERVATION & MANAGEMENT
3. Bat Identifier: JOHN CHENGER 4. Assistants: BRYAN BUTLER (Responsible Recorder)
5. Site Name and/or Number: 2014 RT 219 SUMMER - PA-12
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
FORESTED STREAM . PARNISH TO ATV TRAIL
8. County: Someaset 9. 7.5' Quad.: AVILTON
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '- 15.3"N, Longitude: 79 °- 03 '- 18,4 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.)
HOOVER, McCaemick Taylor, 5 CAPITAL DAINE, SUITE 400, HARRISBURG PA 17110: 717,540.604
13. Time (military) & Temperature: Start Time 2/00 h Stop Time 2200 h Total Minutes: 300
Start Temp. 22 °C End Temp. 8.7 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Canture Setun at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1-	NETS	3	9m+2.6m	STACKED OVER TRAIL	70.2
2	NETS	3	18m = 2.6m	STACHED OVER STREAM	140.4
3	NETS	1	6m. 2.6	STACKED OVER TRAIL	15.6
				==-	·
-					i
	1221111	1 1 1			

Total Capture Area: 226.2 sq. m

BIRCH

Site Name/No.:	PA-12	Date: 7/21/7014
d site: (topography and v	egetation including domin	ant tree species.)
ALONG STREAM THAT	RUNS PARALSIL TO	OLD ATV TRAIL.
	ad site: (topography and v	Site Name/No.: PA-12 Ind site: (topography and vegetation including dominal ALONG STREAM THAT KLUWS PARALSK TO STREAM, DOMINANT TREE S

18. Was reproductive status checked?

6	٦,
YES	//
(- 23.0	

NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

		Number of Adult Females			No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Male Males To	<u>Totals</u>
Eptesicus fuscus	2	i de la company	1		PESTON I	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii						4					
Myotis sodalis							L.				
Eptesicus fuscus	*			*		2	· -				2
Perimyotis subflavus											
Lasiurus borealis				344			P				1
Lasiurus cinereus											
Lasionycteris noctivagans											
Other - specify:											
Other - specify:					_					-	
Reproductiv	e Status:	NR= no	nrepro	ductive, I	PG= preg	nant, L=	lactating mis swoll	en.			Grand <u>Total</u>
(1) !	Comple Myotis so	ete Me	asure Myot	ment ai	nd Capt	ou are b	ta Forn	n for a	recaptur	es,	3

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trappedinetted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

DAT	NETTING/TR	APPING	SITE	SURVEY	RECORD
DAI	NEITINGIE	AFFING	SILE	SURVEI	KECOKD

Page 1 of 2

1. Survey Date: 7/22 2014 2. Company Name: BAT CONSERVATION & MANAGEMENT
3. Bat Identifier: JOHN CHENGER 4. Assistants: BRYAN BOTLER
5. Site Name and/or Number: 2014 RT 219 - SOMMER - PA-12
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
FERESTED STREAM PARASIL TO ATV TRAIL
8. County: Somesset 9. 7.5' Quad.: AVILTON
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '- 15.3"N, Longitude: 79 °- 03 '- 8.4"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) DEBORAT! THOUSER_
MCCORMICK TAYLOR, 5 CAPITAL Daive, SuiTE 400, HARRESBURG PA 17110; 717.540.6040
13. Time (military) & Temperature: Start Time 2050 h Stop Time of h Total Minutes: 300
Start Temp. 23 °C End Temp. 19 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear: Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA	
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m	
3 .	NETS	3	9m22,6m	STACHED OVER TAKIL	70.2	
2	NETS	3	18m×2,6m	STACKED OWN STERM	140.4	
3	NETS	1	6m x 2.6	STACHED OVER TRAIL	15.6	
				. Colon and Colo		

Total Capture Area: 226.2

		1 chiloy	vania Onnie Comi	11331011			
(Site Survey R	ecord – Continued)	Site Name/No.: _	PA-12			Date:_	7/21/201
17. Describe l	nabitat 150 m arour	d site: (topography	and vegetation	including dor	minant tree s	pecies.)
DENSELY	FORESTED ANEA	ALONG STREAM	THAT RUNS	PARALEIL	TO OLD	ATV	TRAIL.

STEEP EMBANKMENT LEADING DOWN TO STREAM. DOMINANT TREE SPP. INCLUDE

HEWLOCK + BIRCH

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	TANK!	1			3	2	1	1	4	7
Myotis lucifugus								, ,4			
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis				SI C							
Eptesicus fuscus				•		1	k.			1	2
Perimyotis subflavus						14					
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans											
Other - specify:											fr.
Other - specify:	1417.										
Reproductive	Status:			ductive, F ting, SCF							Grand <u>Total</u>
	lyotis so	ete Mea	Myot	ment ar is leibii, (s and (5)	d Capt 3) bats y	ure Da	ta Forn	n for a	recaptur	es,	72

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 23 Jul 2014 2. Company Name: But Conservation and Management
3. Bat Identifier: John Chenger 4. Assistants: Doncon Shanz
5. Site Name and/or Number: 2014 Rt 219 Somes - PAIB Wight 1
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
foregled Jeep trail
8. County: Somerset 9. 7.5' Quad .: Avil ton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 37 °-44'-41.7"N, Longitude: 79 °-62'33.9"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Privale: Contact Dabon h
Hoover, McCormick Taylor, 5 Capital Drive, Suite 400 Harrisburg, PA 17110 717540 6040
13. Time (military) & Temperature: Start Time 2//O h Stop Time 02/0 h Total Minutes: 300
Start Temp. 19.2 °C End Temp. 15.8 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Type	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Kets	3	6mx2.6m	Stockedover trail	15.65g.m
Nets	3	6mx2.6m	Stacked over tail	46.85g.m
Net	1 :	6mx 26m	over trail	46.85p.m
	Nets Nets Nets	Nets 4 Nets 3 Nets 3	Nets 4 12mx2.6m Nets 3 6mx2.6m Nets 3 6mx2.6m	Nets 3 6mx2.6m Stacked over trail Nets 3 6mx2.6m Stacked over trail Nets 3 6mx2.6m Stacked over trail

Total Capture Area: 109.2 sq. m

Pennsylvania Game Commission

Site Name/No.: 2014 R+219 Some PA 13 Wyl+ Date: 23 Tx 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed across a jeeptrail within a young mixed forest dominated by sello-birch, and sossafras. Less dominant trees include red mapk, oak and hemlock.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

		Numb Adult F		s	No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	10000		3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis	3 4 -										
Eptesicus fuscus		6		2		8				1	10
Perimyotis subflavus											
Lasiurus borealis											1 *
Lasiurus cinereus											
Lasionycteris noctivagans			=			-					
Other - specify:				ı.							
Other - specify:											
Reproductive	Status:			ductive, Po					1	1	Grand <u>Total</u>
	yotis so	ete <u>Mea</u> dalis, (2)	Myot	ment an is leibii, (3 s and (5) l	d Capt	ure Dat	ta Forn	n for a	recapture	es,	11

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks,

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

Intermittent rain from 2140-2200
Intermittent rain from 2215-2220
Light drizzle 2250-2300
* Eplesius Oscus escapel from net
* Losiurus borenlis escaped from net

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

D	۸Т	NETTING/TD	ADDING	SITE SURVEY	DECODD
D.	1	NETTINGIE	AFFING	SHESUKYEL	KECUKD

Page 1 of 2

BAT NETHING/IRATING SITE SURVET RECORD
1. Survey Date: 24 Jul 2014 2. Company Name: But Consessation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Duncan Schanz
5. Site Name and/or Number: 2014 Rt 219 Somes PA13 Night 2
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested ; eap tail
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '-41.7 "N, Longitude: 79 °- 02 '-33.9 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private Contact
Deborah Hoores, McKormek Taxlor, 5 Capital Drive, Site 400 Harrisburg, PA 17110 717540 6040
13. Time (military) & Temperature: Start Time 200 h Stop Time 0200 h Total Minutes: 300
Start Temp. 3 °C End Temp. 1. 6 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear, Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:
Control of the contro

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	6mx2.6m	Stacked over trail	15.65g.m
2	Nets	3	6mx2.6m	Sacked over to!	46.85g.m
3	Net	t	6mx2.6m	Over trail	46.B.q.m
	4111				
				6 17 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 12
					1

Total Capture Area: 109. 2 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record - Continued)

Site Name/No.	2014	Rt21950mer.	-PAB

Night 2 Date: 24 Jul 2014

7.	Describe habitat 15	50 m around site:	(topograph	y and vegetat	ion including	dominant t	ree species.)	7.7
N	ate - co alaco-	120056	1000 Jal	14610	A second	and ward	Parent dominate	0 04 1
10	llow birch and	sassafrosa	Less	dominant	trees inc	luck Rei	d maple, onle an	d hen lock

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

20 CO	Number of Adult Females					Adult Females Juv. No. Adult Male			ales Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	Ne SI	1	-	Stylet Com	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											-
Myotis sodalis	-									al .	
Eptesicus fuscus		Ü		0 1	1	2	***				2
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus										7	
Lasionycteris noctivagans											
Other - specify:		= 4					-			-	
Other - specify:							7.				
Reproductive	Status:			ductive, P							Grand <u>Total</u>
	votis so	ete Mea	Myot	ment an is leibii, (3 s and (5)	d Capt 3) bats ye	ure Da	ta Forn	<u>n</u> for a r band i	recaptur	es,	2

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Dogo	1 of 2
ranc.	1 01 2

1. Survey Date: 19Jul 2014 2. Company Name: Bot Conservation and Hanagement
3. Bat Identifier: Todd Sinander 4. Assistants: Durcan Schanz
5. Site Name and/or Number: 2014 Rt 219 Sammer - PA14
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested Stream
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 o-44 '-4.57"N, Longitude: 79 o-3 '-25.44"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Drivate: Contact Deborah Hoover, McCormen Taylor, 5 Capital Drive, Swite 400 Hosrobburg, PA 17110, 717 540 6040
13. Time (military) & Temperature: Start Time 200 h Stop Time 0200 h Total Minutes: 300
Start Temp. 15.9°C End Temp. 15.4 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm. Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
BAUL BOIL	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	12mx2.6m	Stacked overstream	93.65g.m
2	Nets	3	12mx2.6m	Stacked overstram	93.65g.m
3	Net		6m×2.6m	over trail	15.65g.m
		11.7.77		the same of the sa	į
-		-			

Total Capture Area: 202.8 sq. m

Site Name/No .: 2014 R+219 Sammer_

Date: 19 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Trieple highs are solower a forested stream. Single high is set over an ATV trail running Pasallel to stream. The forest is chamaked by hemlock followed by yellow birth and ash.

18. Was reproductive status checked? (YES) / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females		No. Total Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species			
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2		1		DEFENS.	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis	14. 212										
Myotis leibii											
Myotis sodalis						_					
Eptesicus fuscus											
Perimyotis subflavus					2						
Lasiurus borealis											1 %
Lasiurus cinereus											
Lasionycteris noctivagans											
Other - specify:								-			
Other - specify:											
Reproductive		PL= pos	st lactat	ing, SCR	l= scrotal	/epididyn	nis swoll	en.			Grand Total
*((1) M	yotis soc	lalis, (2)	Myotis	leibii, (3) bats yo	ure Dat ou are ba es not us	nding or	band r	ecapture	es,	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

* Losiurus borealis escaped from net

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1	of	2
uge		-

1. Survey	Date: 20 Jul	2014	2. Company N	Name: Bot Consesvation and	Management		
3. Bat Identifier: Told Sinandes 4. Assistants: Donan Schanz							
5. Site No	ame and/or Nu	mber: <u>20</u>	14 At 219	Summer_ PA 14			
6. Site is	(circle one):	hiberna	tion site	summer habitat			
7a. If hibe	ernation site ci			al mine, limestone cave, sandste	one cave, RR tunnel,		
		C	ther structure, desc	cribe			
7b. If sur	nmer habitat,			(e.g. forested stream or forest cle	earing with stream):		
fore	sted str	eam	*	-			
8. Count	y: Somesse	+	9.	. 7.5' Quad.: Avilton			
10. Was s	ite GPS'd (req	uired) ?	YES - NO				
11. Geogr	aphic Coordin	ates (D-M	-S): Latitude: <u>39</u>	°- <u>44</u> '- <u>4.57</u> "N, Longitud	le: <u>79 °- 3 </u>	v	
	Datum (cir	cle one): 1	NAD27 (Preferred)), NAD83, WGS84, Other:			
12. Owne	ership and Acc	ess: (Who	owns site or contro	ols access? Give name and addre	ess.)	-	
Privade	· Contact Debor	wh Hoover,	McCornick Taylor	. 5 Capital Drive, Suite 400 Har	risburg, PA 17110, 7175	40 6040	
				h Stop Time 0200			
			Start Temp/	8,3 °C End Temp. 17.5	°C (must stay ≥10 °C for sum	mer netting)	
14. Gene	ral Weather (c	ircle one):	Clear; Partly Clou	udy; Mostly Cloudy; Cloudy,	Drizzle; Intermittent Rain;	2	
(susper	nd netting during ls of rain)			inderstorms; Snow; Other:			
15. Gene	ral Wind Cond	litions (circ	cle one): Calm,	Breezy (Leaves Rustling), Win	dy (Trees Swaying).		
16. Capt	ure Setup at S	ite:					
Set #	Type	Count	Dimensions	Description	TOTAL AREA		
1	Nets	4	12m x 2.6m	Stacked over trail	(m) 124.8 sq. m		
	Nets	3	12mx2.6m	Stacked over stream	93.6 sp.m		
2	Nets	3	12mx2.6m	stacked overstram			
. 3	Net	1	6m×2.6m	over trail	15.65f.m		
					1		

Total Capture Area: 202.8 sq. m

Site Name/No.: 2014 Rt 219 Summer - PA 14 Date: 20 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Site is in a mixed forest dominated by herolock, followed by yellow birth and ash. Tripple highs are set over a stream of Single high is set on an ATV trail which runs pasallel to the stream.

18. Was reproductive status checked?

,	VES	Y
	1	2

NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

		Numl Adult F	per of Females		No. Juv.	Total No.	Numb Adult		No. Juv. Male	Total No. Males	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR			Totals
Eptesicus fuscus	2	SI TABLE	1		The sale	3	2	1	1	4	7
Myotis lucifugus	1							+	- 1		
Myotis septentrionalis											
Myotis leibii		7									
Myotis sodalis			/							_,	
Eptesicus fuscus											16
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus											E
Lasionycteris noctivagans											
Other - specify:											
Other – specify:						_					
Reproductive	Status:	NR= no PL= po	nreprod st lactat	uctive, P ing, SCF	G= pregr	nant, L = 1 /epididyr	l actating, nis swoll	en.			Grand Total
	lyotis so	dalis, (2)	Myotis	s leibii, (ou are ba	anding or	r band	recapture	25,	
	(4) ra	dio-tagg	ed bats	and (5)	bat speci	es not us	ually fou	ınd in I	A.		

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

FORM P-70008-N/T 12/09

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

12/09 Section 2

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/19/14 2. Company Name: Bat Conservation & Management								
3. Bat Identifier: Toold Sinander 4. Assistants: Broundon Mc Clung (Responsible Recorder)								
5. Site Name and/or Number: 2014 Rt 219 Summer _ PA 15								
6. Site is (circle one): hibernation site summer habitat								
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,								
other structure, describe								
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):								
Forested Stream								
8. County: Somerset 9. 7.5' Quad .: Avilton								
10. Was site GPS'd (required) ? YES - NO								
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43 '-549"N, Longitude: 29 °- 3 '-16.3 "W								
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:								
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private:								
Contact Deborah Houver, McCormick laylo, Scapital Vr., Suite 100, Harrissoci 11								
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0/50 h Total Minutes: 300								
Start Temp. 17,2 °C End Temp. 15, 4 °C (must stay ≥10 °C for summer netting)								
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;								
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:								
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling), Windy (Trees Swaying).								
16. Capture Setup at Site:								

Nets Nets Nets	3		stacked over trail	124.8 sq.m
	3		stacked over stream	93.6m
Nets	3			
	_	12mx2,6m	stacked over stream	93.6m
Vets	1	6m x2,6m	stacked over stream	15.6m
	-			
		-	7	

Total Capture Area: 202.8 sq. m

Site Name/No .: 2014 RE219 Summer-PAIS Date: 7/19/14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Stream Walley with motore mixed Forest consisting of hemilode,
yellow birch, American beach, red a sugar maple.

18. Was reproductive status checked? YES NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

PG	L	PL	Fem.	Fem.	SCR 2	NR 1	Male 1	Males 4	Totals 7
	1		HEEFE	3	2	1	1	4	7
		- F							
								Į!	
					21	~ N-			
		7.5		SIDT	0,				
7.	7	\	1	W.					
		0		٠,				***	
	/								
/									
		1							
: NR= n	onreproc	ductive, P	G= preg	nant, L=	lactating, nis swoll	en.			Grand <u>Total</u>
lete Me	easurei	ment ar	id Cap	ture Da	ta Forn	n for a	ll: recaptur	es,	\bigcirc
	PL= p lete <u>Mo</u> odalis, (2	PL= post lacta lete <u>Measurer</u> odalis, (2) Myoti	PL= post lactating, SCI lete <u>Measurement ar</u> odalis, (2) Myotis leibii, (PL= post lactating, SCR= scrota lete <u>Measurement and Cap</u> odalis, (2) Myotis leibii, (3) bats y	PL= post lactating, SCR= scrotal/epididyr lete Measurement and Capture Da odalis, (2) Myotis leibii, (3) bats you are ba	PL= post lactating, SCR= scrotal/epididymis swoll lete Measurement and Capture Data Form odalis, (2) Myotis leibii, (3) bats you are banding o	odalis, (2) Myotis leibii, (3) bats you are banding or band	PL= post lactating, SCR= scrotal/epididymis swollen. lete <u>Measurement and Capture Data Form</u> for all: odalis, (2) Myotis leibii, (3) bats you are banding or band recapture	PL= post lactating, SCR= scrotal/epididymis swollen.

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat

hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks. 5th hour 3rd hour 4th hour 2nd hour 1st hour Start Time: Start Time: Start Time: Start Time: Start Time: End Time: End Time: End Time: End Time: End Time: Tallies: Tallies: Tallies: Tallies: Tallies:

FORM P-70008-N/T

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

12/09 Section 2

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/20/14 2. Company Name: Bat Conservation & Management									
3. Bat Identifier: Todd Sinander 4. Assistants: Brandon McClung (Responsible Recorder)									
5. Site Name and/or Number: 2014Rt219 Summer - PAIS									
6. Site is (circle one): hibernation site summer habitat									
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,									
other structure, describe									
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream): Forested Stream Stream									
	1.000.000				7.5' Quad.: 1'0)///001				
10. Was site GPS'd (required) ? YES - NO									
11. Geographic Coordinates (D-M-S): Latitude: 39 °-43 '-54.9 "N, Longitude: 79 °-3 '-16.3 "W									
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:									
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Confact									
	Debora 4 Hover, Mc Comick Taylor, Scapital Dr. Soite 400, Harristong PA, 17110, (17) 540-6040								
13.	Time (military) & Te	mperature	e: Start Time 20	50 h Stop Time 0/50 h	Total Minutes: 300			
				Start Temp/8	3,2 °C End Temp. 16,9 °C	(must stay ≥10 °C for summer netting			
14.			rcle one):	Clear; Partly Cloud	dy; Mostly Cloudy Cloudy Drizz	zle; Intermittent Rain;			
	periods	netting during of rain)		Steady Rain; Thun	derstorms; Snow; Other:				
15.	Genera	al Wind Cond	itions (circ	le one); Calm B	Breezy (Leaves Rustling), Windy (T	rees Swaying).			
		re Setup at Si			ovins av s reserv	S SA			
10.	Cuptu	e setup at se	•••						
	Set #	Type	Count	Dimensions	Description	TOTAL AREA (m)			
	1	Nets	4	12m x 2.6m	Stacked over trail	124 8 sq. m			
-	1	Nets	3	12mx2.6m	stocked over stream	93.6m			
	2	Nets	3	12mx 216m	stocked over stream	93.6m			
	3	Nets	1	lomx 2.6m	Jover stream	15.6 m			
Ī									
1									

Total Capture Area: 202,8 sq. m

Site Name/No.: 2014 Rt 219 Summer PAIS Date: 7/20/14

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)
Stream valley with moture mixed forest consisting of hemlock,
yellow birch, American beech, red a sugar maple.

18. Was reproductive status checked?

VES \/
110)

NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

			ber of Females		No. Juv.	Total No.	Numi Adult		No. Juv.	Total No.	No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>	
Eptesicus fuscus	2		1	25.5		3	2	1	1	4	7	
Myotis lucifugus												
Myotis septentrionalis												
Myotis leibii												
Myotis sodalis						.0	3/					
Eptesicus fuscus	= == == ==			1	1	0	7::-:=	1 2 1 1 2	110000			
Perimyotis subflavus)	(ap							
Lasiurus borealis			1/	0/								
Lasiurus cinereus			9									
Lasionycteris noctivagans												
Other - specify:												
Other – specify:					,					AS .	Sil .	
Reproductive	Status:					l nant, L= l /epididyr					Grand <u>Total</u>	
	lyotis so	ete <u>Me</u>	asurer Myoti	nent an s leibii, (3	d Capt 3) bats ye	ure Dar ou are ba es not us	ta Forn	n for a	ecaptur	es,		

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trappedinetted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/29/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman, Brandon McClung
5. Site Name and/or Number: 2014 Rt. 219 Summer/ PA 16
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested dirt road
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-43 '-4444"N, Longitude: 79 °-03 '-5251"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Taylor , 5 Capital Drive, Suite 400, Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2045 h Stop Time 0150 h Total Minutes: 300
Start Temp. 11.0 °C End Temp. 10.0 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	6x 2.6	Stacked over road	46.8
2	Nets	1	6x2.6	Over trail	15.6
3	Nets	3	9x2.6	Stacked over road	70.2

Total Capture Area: 132.6 sq. m

	Pennsylvania Game Commission	
(Site Survey Record - Continued)	Site Name/No.: PA 16	Date: 7/29/14
	d site: (topography and vegetation including de	
Nets are place over a	dirt road. Single high net is placed	over an ATV trail running
tree speries are Rod 1	Both roads are surrounded by a r Maple, Red Oak, Hemlock, and Kellow	Birchi
18. Was reproductive status chec	ked? YES / NO (if "NO" only enter n	umbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females			No. Juv.	Juv. No. Ad		Number of Adult Males		Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	10000	1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii			r						/		
Myotis sodalis		1			ll	16		/			
Eptesicus fuscus					M		/				
Perimyotis subflavus				(1	h!						
Lasiurus borealis					/ /						
Lasiurus cinereus		1	10	/							II ii
Lasionycteris noctivagans			M								
Other - specify:		-/									
Other - specify:											
Reproductive	Status:	NR= no PL= po	onreprod ost lactat	uctive, P	G= preg	nant, L= /epididyr	lactating, nis swoll	en.			Grand <u>Total</u>
(1) M	Ivotis so	dalis, (2) Myotis	s leibii, (3) bats y	ure Da ou are ba es not us	anding o	r band ı	recaptur	es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22,00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECO	OKD
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Page 1 of 2

21.6
1. Survey Date: 7/30/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Jacob Eshelman, Brandon McClung
5. Site Name and/or Number: 2014 Rt. 219 Summer/ PAILO
6. Site is (circle one): hibernation site
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested diet road
8. County: Some(set 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-43 '-44.44 "N, Longitude: 79 °-03 '-52.51 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contract
Deborah Hoover, McComide Taylor, 5 Capital Drive, Suite 400, Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2100 h Stop Time 0200 h Total Minutes: 300
Start Temp. 12. 4 °C End Temp. 1/, 1 °C (must stay ≥ 10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Orizzle: Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Canture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq.m
1	Nets	3	6x2.6	Stacked over road	46.8
2	Nets	1	6 x 2.6	Over trail	15.6
3	Nets	3	9-x2.6	Stacked over road	70.2
		2 7 27			

Sito	Name/No.:	PA	
nic	ranne/ivo	111	

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a dirt road. Single high net is placed over on ATV trail running parellel to dirt road. Both roads are surrounded by a mature mix forest. Dominant tree species are Red Maple Red Oak, Hemlock, and Yellow Bitch

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

					CAPIU	RE RES	ULIS				
Species	Number of Adult Females			No. <u>Total</u> Juv. No.	Number of Adult Males		No. Juv.	Total No.	Species		
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	100	1	FU DAY	a (Amar)	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis				JP							
Myotis leibii											/
Myotis sodalis											
Eptesicus fuscus						/	_				
Perimyotis subflavus					(1			i.	
Lasiurus borealis					35						
Lasiurus cinereus			10		/						
Lasionycteris noctivagans			N								
Other - specify:		li I ^g									
Other - specify:		/								= 1,25	
Reproductive	Status:	NR= no	nreprodu	ictive, Po	G= pregn = scrotal/	ant, L= la	actating,	n e			Grand Total
*((1) M	Comple yotis sod	te <u>Mea</u> lalis, (2)	Myotis	ent an leibii, (3	d Capti bats your	ure Dat ou are ba	a Form	for al	ecapture	s,	Ō

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks

1st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

FORM P-70008-N/T 12/09

16. Capture Setup at Site:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Section 2
BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 29 Jul 2014 2. Company Name: But Conservation and Management
3. Bat Identifier: Toda Sinander 4. Assistants: Duncan Schanz
5. Site Name and/or Number: 2014R1 219 Some - PA 17
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
forested jeep trail
8. County: Somesset 9. 7.5' Quad .: ANHON
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °-43 '-45.90'N, Longitude: 79 °-04 '-14.92 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) History Confact
Debook Hoover, McCornict Toylor, S Capital Drive, Suite 400 Harrisburg, PA 17110 (717) 540-6040
13. Time (military) & Temperature: Start Time 2055 h Stop Time 0155 h Total Minutes: 300
Start Temp. 10°C End Temp. 0 °C (must stay ≥10°C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15 General Wind Conditions (circle and): Calm Breezy (Leaves Puetling) Windy (Trees Swaying)

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	9nx2.6m	Stacked out trail	70,28m
2	Nets	3	9 mx2.6m	Stacked over troil	70,25g.m
3	Net	1	6mx2.6m	Bur trail	15.659.11
: 4					

Total Capture Area: 156 sq. m

Site Name/No.: 2014 R+219 Somer PA 17 Date: 29 Jul 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a jeep tail withing Sugar maple, red maple, oak, hen lock and yello-bisch dominated forest.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females			No. Juv.	Juv. No.		ber of Males	No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	219.01	Paletts	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus											
Perimyotis subflavus	Ü.										
Lasiurus borealis	Ĭ.						. 1	0		2	2
Lasiurus cinereus											
Lasionycteris noctivagans											
Other - specify:											
Other – specify:						1			1 4 9		
Reproductive	Status:	NR= nor PL= pos	nreprod st lactat	uctive, P	G= pregn c= scrotal	ant, L = l /epididyn	actating, nis swoll	en.			Grand <u>Total</u>
*((1) M	Comple yotis soc	te <u>Mea</u> lalis, (2)	Suren Myotis	nent an	d Capt	ure Dat	a Forn	n for all	l: ecapture	es,	2

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA

Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECO	В	3/	A	1	Г	٠	1	N	ŀ	ď	Г	1	Ü	П	١	(G	1	1	ľ	R	Å	١	ŀ	"	P	Ĭ	ľ	Ň	(ì	5	š	ľ	Ί	ľ	9	S	Ι	J	R	1	7]	Е	Y		R	I	Е	c	1)	ŀ	t	I	
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Page 1 of 2

1. Survey Date: 7/30/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinander 4. Assistants: Duncan Schanz
5. Site Name and/or Number: 2014 Rt. 219 Summer / PA17
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Jepp trail
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43 '-459 "N, Longitude: 79 °- 04 '-14.92 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCornick Taylor, 5 Copital Drive, Suite 400, Harrisburg, PA 17110
0. 717-540-6040 13. Time (military) & Temperature: Start Time 2055 h Stop Time 0155 h Total Minutes: 300
Start Temp. 13.1 °C End Temp. 11. °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): (Calm.) Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA		
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m		
1	Nets	3	9x2.6	Stacked over trail	70.2		
2	Nets	3	9 x 2.6	Stacked over trail	70.2		
3	Nets	1	6 x 2.6	Over trail	15.6		
-							

Total Capture Area: \\ \(\sq. \text{m} \)

	remojirama came commission	
(Site Survey Record - Continued) Site Nam	ne/No.: PA 17	Date: 7/30/14
17. Describe habitat 150 m around site: (top	ography and vegetation including dominant	tree species.)
Nets are placed overa jeep	trail within a Sugar Maple	, Red Maple, Oak, Hemlock
and Kellow Birch dominated	Forest	
18. Was reproductive status checked? YEs	NO (if "NO" only enter numbers	in Total columns)

*CAPTURE RESULTS

		Numl Adult I	ber of Temales		No. Juv.	Total No.	Numb Adult		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	10000	1	Land S		3	2	I	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus				9.							
Perimyotis subflavus											
Lasiurus borealis						1					1
Lasiurus cinereus						35					
Lasionycteris noctivagans											1
Other - specify:										,	
Other – specify:											1
Reproductive	e Status:				G= pregn = scrotal						Grand Total
		ete Mea	suren	nent an	d Capt	ure Dat	a Forn	for a		es.	
					bat specie					1	

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7-29-2014 2. Company Name: Bat Conservation & Management, Inc.
3. Bat Identifier: Risa Weight 4. Assistants:
5. Site Name and/or Number: 2014 Rt 219 Summer PA 18
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested stream
8. County: Somerset 9. 7.5' Quad .: Abilton
10. Was site GPS'd (required) ? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43 '-23.7"N, Longitude: 79 °- 4 '-24.9"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCormick Taylor, S Capital Orive Suite 400 Harrisburg, PA 17110 13. Time (military) & Temperature: Start Time 2045 h Stop Time 0145 h Total Minutes:300
Start Temp. $10, 9$ °C End Temp. $10, 0$ °C (must stay ≥ 10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Canture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	6m ×2.6m	Stacked over stream	46.8
2	Nets	3	9m ×2.6m	stacked over stream	70.2
3	Nets	1	6 n × 2.6 n	stacked over stream	15,6
					wise of the

Total Capture Area: 132.6 sq. m

Site Name/No.: 2014 R+219 Summer PA Date: 7-29-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Forested stream running through valley. Forest is a mixed deciduous forest with dominant tree species being Easlern Hemlock yellow birch. The dominant understory species are Rosebay Rhadodendron:

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns) and witch-

*CAPTURE RESULTS Number of Number of No. Total No. Total Species Adult Males No. Adult Females Juv. No. Juv. **Totals** Male Males Fem. Fem. Species NR PG L SCR NR Eptesicus fuscus Myotis lucifugus Myotis septentrionalis Myotis leibii Myotis sodalis Eptesicus fuscus Perimyotis 60 subflavus Lasiurus borealis Lasiurus cinereus Lasionycteris noctivagans Other - specify: Other - specify: Grand Reproductive Status: NR= nonreproductive, PG= pregnant, L= lactating, Total PL= post lactating, SCR= scrotal/epididymis swollen. *Complete Measurement and Capture Data Form for all: (1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA.

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:
	Start Time: End Time:	Start Time: Start Time: End Time: End Time:	Start Time: Start Time: Start Time: End Time: End Time: End Time:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7-30-2014 2. Company Name: Bat Conservation & Management
3. Bat Identifier: Risa Weight 4. Assistants:
5. Site Name and/or Number: 2014 Rt 219 Summer PA18
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Stream
8. County: Somerset 9. 7.5' Quad .: Abilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43 '-23.7"N, Longitude: 79 °- 4 '-24.9 "W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover, McCormick Taylor, 5 Capital Drive Suite 400 Harrisburg, PA 17110
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0150 h Total Minutes: 300
Start Temp. 12.7 °C End Temp. 10.1 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA		
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m		
1	Nets	3	16m = 2.6 m	stacked over stream	46.8		
2	Nets	3	9m x 2.6m	stacked over stream	70.2		
3	Nets	1	6m x 2.6 m	Stacked over stream	15.6		
				10	_ ::- ,		

Total Capture Area: 132, 6 sq. m

Site Name/No.: 2014 Rt 219 Summer PA18 Date: 7-30-2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Forested stream running through valley, Forest is a mixed deciduous forest with dominant tree species being Eastern Hemlock and Yellow Birch. The dominant understory species are Rosebay Rhododendron and withch-hail 18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

ACL PRINT PROFILE

					CAPTU	RE RES	ULTS				
Smarian		Numi Adult F			No. Juv.	Total No.	Numb Adult		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	The second	1			3	2	1	1	4	7
Myotis lucifugus	12 = 1										
Myotis septentrionalis											/
Myotis leibii										/	
Myotis sodalis									_/	/	
Eptesicus fuscus								- /		_	
Perimyotis subflavus						0.0	· /				
Lasiurus borealis					c ml	MILL					
Lasiurus cinereus				1.7							
Lasionycteris noctivagans			R	,013							
Other - specify:		No									
Other – specify:									her.		
Reproductive	Status:	NR= nor	reprod	uctive, Poing, SCR	G= pregr = scrotal	nant, L = l /epididyn	actating, nis swolle	en.			Grand <u>Total</u>
	Comple yotis soc	ete <u>Mea</u> dalis, (2)	suren Myotis	nent an leibii, (3	d Capt B) bats yo	ure Dat ou are ba es not us	a Forn	for all	ecapture	es,	0

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trappinglnetting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour	
Start Time:					
End Time: End Time:		End Time:	End Time:	End Time:	
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:	

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

CO
1. Survey Date: 7/16/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Singnder 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 20 4 Rt. 2 9 Summer - PA 9
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - NA
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Stream
8. County: Sommerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 o-44 '-15.55"N, Longitude: 79 o-5 '-5.01"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover McCormick Taylor 5 Capital Drive, Suite 400 Harrisburg, Pa 17110
13. Time (military) & Temperature: Start Time 20:50 h Stop Time 01:50 h Total Minutes: 300
Start Temp. 14.0 °C End Temp. 11. °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
(suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set # Type Count		Dimensions	Description	TOTAL AREA	
1	1 Nets 4 12mx		12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	lenx 2.len	Stacked over stream	46.8
2	Nets	3	lem x 2.lem	Stacked over stream	46.8
3	Nets		9m x 2.6m	Over stream	23.4

Total Capture Area: | | | | sq. m

		-/	$I \cdot A$	
ite	Name/No.:	M	14	

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Stream running through mix mature forest. Dominant tree species include hemlock, yellow birch, american beech, and red maple. Improved road running parallel to stream esitmated 100 meters away.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females				No. Juv.	Total No.	Numl Adult		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	THE LABOR	1			3	2	1	1	4	7
Myotis lucifugus				2							
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis			_								
Eptesicus fuscus										7	
Perimyotis subflavus											ľ
Lasiurus borealis								-			1
Lasiurus cinereus											
Lasionycteris noctivagans											
Other - specify:				100000			-	1			
Other - specify:			1 =- 1 = 1 = 1 = 1 = 1 = 1 = 1 = 1 = 1 =			7.7					**
Reproductive					G= pregn = scrotal				-		Grand Total
	Comple yotis sod	te <u>Mea</u> lalis, (2)	Suren Myotis	leibii, (3	d Capte 3) bats you	ure Dat	a Forn	of for all	ecapture	s,	

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT	NETTING/TRAPPING	SITE SURVEY	RECORD
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Page 1	1 - 5 7
Page	

1. Survey Date: 7/18/14 2. Company Name: BAT CONSERVATION & MANAGEMENT
3. Bat Identifier: John Creater 4. Assistants: Bayan Bother (Responsible Recorder)
5. Site Name and/or Number: 2014 RT. 29 Summer - PA19
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
FORSTSP STOSAM
8. County: Somerset 9. 7.5' Quad .: AVILTOW
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 44 '- 1555"N, Longitude: 79 °- 5 '-501"W
Datum (circle one): (NAD27)(Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: contact
Deborah Hoover McCornick Taylor 5 Capital Drive, Suite 400 Hacrisburg, Pa 17110
13. Time (military) & Temperature: Start Time 70:45 h Stop Time 0/45 h Total Minutes: 300
Start Temp. 18 °C End Temp. 6 (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

		Dimensions	Description	TOTAL AREA		
1	1 Nets 4 12m x 2.6m		12m x 2.6m	Stacked over trail	124.8 sq. m	
1	NETS	3	6m + 2.6m	STACKED OVER STREAM	46.8	
2	NETS	3	6m+2,6m	STACKED OVER STREAM	46.8	
3	1975	1	9m+2.Cm	OVER STREAM	23.4	

Total Capture Area: 17 sq. m

(Site Survey Record - Continued)	Site Name/No.: PA 19	Date: 7/18/4
----------------------------------	----------------------	--------------

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

STREAM RUNNING THROUGH MIXED MATURE FURST, DOMINANT TREE SP. INCLUDE HEMLOCK, VELLOW BIRCH, AMERICAN BEECH, AND RED MAPLE, IMPROVED RD. RUNNING PARALLEL TO STREAM. EST, NOOM AWAY

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females			No. Juv.	Juv. No.	Numb Adult		No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	P. S. S.	1	NEW YORK	e di Alba	3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii					_	(
Myotis sodalis					/						781 -811
Eptesicus fuscus				0	1						
Perimyotis subflavus				1) /						
Lasiurus borealis			,								
Lasiurus cinereus		1	\bigcirc	/							
Lasionycteris noctivagans	- 4	1	1								
Other - specify:		/		n							-
Other - specify:	. /										-
Reproductive	Status:					ant, L = l /epididyn					Grand Total
	yotis soc	ete Mea	Myotis	leibii, (3	d Capt bats ye	ure Dat ou are ba es not us	ta Forn inding or	of for a band r	ecapture	es,	0

BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour	
Start Time:					
End Time: End Time:		End Time: End Time:		End Time:	
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:	

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/17/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinanders 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer /PA 20
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe - N/A
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
Forested Stream
8. County: Samerset 9. 7.5' Quad .: Avitton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43 '-50.48"N, Longitude: 79 °- 06 '-2.42"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: contact
Deborah Hoover McCornick Taylor 5 Capital Drive, Suite 400 Harrisburg, Pa 17110 0:717-540-6040
13. Time (military) & Temperature: Start Time 20,50 h Stop Time 0150 h Total Minutes: 300
Start Temp. 13.4 °C End Temp. 10.5 °C (must stay ≥10 °C for summer netting
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during
periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Туре	Count	Dimensions	Description	TOTAL AREA
Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
Nets	3	12m x 2.lom	Stacked over stream	93.6
Nets	1	12mxZlom	Over stream	31.2
Nets	3	18m × 2.6m	Stacked over stream	140.4
			P	
	Nets Nets Nets	Nets 4 Nets 3 Nets 1	Nets 4 12mx2.6m Nets 3 12m × 2.lom Nets 1 12m × 2.lom	Nets 4 12mx2.6m Stacked over trail Nets 3 12mx2.6m Stacked over stream Nets 1 12mx2.6m Over stream

Total Capture Area: 265.2 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record - Continued)	Site Name/No.: Pa 20	Date: 7/17/14
	site: (topography and vegetation including don	
road and parallel to small	hrough mature forest. River runs open field. Forest contains domin	eart Sugar Maples, Red Maple
18. Was reproductive status check	ked? YES / NO (if "NO" only enter nu	mbers in Total columns)

*CAPTURE RESULTS

Species	Number of Adult Females			No. Juv.	Total No.	Number of Adult Males		No. Juv.	Total No.	Species	
	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2		1	national		3	2	1	1	4	7
Myotis lucifugus									î		
Myotis septentrionalis											
Myotis leibii	in II										
Myotis sodalis		II ib									
Eptesicus fuscus				:: 4		4		•	•	2	6
Perimyotis subflavus									i		-
Lasiurus borealis					·			* 2		2	4 *
Lasiurus cinereus									ol or		
Lasionycteris noctivagans		p'									
Other - specify:								= , -			
Other - specify:			-) = 1 , 1 = 1 1				
Reproductive	Status:	NR= no PL= po	nrepro st lacta	ductive, P	G= pregr	nant, L = 1 /epididyr	l lactating, nis swoll	en.			Grand <u>Total</u>
	Lyotis so	dalis, (2)	Myot	ment and is leibii, (s and (5)	3) bats y	ou are ba	anding o	r band	recaptur	es,	10

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:
40 DVD 1 DVG				

20. REMARKS:

* 1 Escaped From netset 1 (5m) at 2222.

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page 1 of 2

1. Survey Date: 7/18/14 2. Company Name: Bat Conservation and Management
3. Bat Identifier: Todd Sinonders 4. Assistants: Jacob Eshelman
5. Site Name and/or Number: 2014 Rt. 219 Summer / PA20
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream): Forested Stream
8. County: Somecset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES - NO
11. Geographic Coordinates (D-M-S): Latitude: 39 °- 43 '- 50-48"N, Longitude: 79 °- 06 '-2.42"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Private: Contact
Deborah Hoover McCormick Taylor 5 Capital Drive, Suite 400 Harrisburg, Pa 17110
13. Time (military) & Temperature: Start Time 2050 h Stop Time 0150 h Total Minutes: 300
Start Temp. 17.3 °C End Temp. 15.3 °C (must stay ≥10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle: Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling), Windy (Trees Swaying).
16. Capture Setup at Site:

Set #	Туре	Count	Dimensions	Description	TOTAL AREA
1	Nets	4	12m x 2.6m	Stacked over trail	124.8 sq. m
1	Nets	3	12m x 2.6m	Stacked over stream	93.6
2	Nets	1	12m x 2.6m	Over Steam	31.2
3	Nets	3	18m x 2.lem	Stacked over stream	140.4

Total Capture Area: 265. 2 sq. m

(Site Survey Rec	ord – Co	ntinued)	Site Nam	ie/No.:f	A20		Date: 7/18/14			
17. Describe ha										
Casselman	River	running	through	majure	forest.	River	8045	perpendicular	to	

improved road and parallel to small open field. Forest contens dominant maples, Red Males, American Beech, and Hemlock.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

	Number of Adult Females			No. <u>Total</u> Juv. No.	No.	Numb Adult		No. Juv.	Total No. Males	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	A NO.	1			3	2	1	I	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis					7.						
Eptesicus fuscus						1		,	•		2
Perimyotis subflavus											
Lasiurus borealis										1 :	
Lasiurus cinereus							i de segono				
Lasionycteris noctivagans											
Other - specify:											T .
Other - specify:											Ze Se si
Reproductive	Status:			ductive, P							Grand <u>Total</u>
	lyotis so	ete Mea	Myot	ment an	d Capt 3) bats y	ure Da	ta Forn	n for a	recaptur	es,	3
				s and (5)							

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

	3 rd hour	4 th hour	5 th hour
Start Time:	Start Time:	Start Time:	Start Time:
End Time:	End Time:	End Time:	End Time:
Tallies:	Tallies:	Tallies:	Tallies:
	End Time:	End Time: End Time:	End Time: End Time: End Time:

20. REMARKS:

FORM P-70008-N/T 12/09 Section 2

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

Page	of 7
rage	01.2

1. Survey Date: 17 W. 2014 2. Company Name: But Congeniotion and Management
3. Bat Identifier: Toda Sinandes 4. Assistants: Dunan Schone, Brandon McClung
5. Site Name and/or Number: 2014 R+ 219 Sunes - PA21
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe
7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):
8. County: Somerset 9. 7.5' Quad .: Avilton
10. Was site GPS'd (required) ? YES NO
11. Geographic Coordinates (D-M-S): Latitude: 39 o 43 · 2698"N, Longitude: 79 o 06 · 39.23"W
Datum (circle one): NAD27 (Preferred), NAD83, WGS84, Other:
12. Ownership and Access: (Who owns site or controls access? Give name and address.) Rivale: Contact
Deborah Hoover McCornick Taylor 5 Capital Drive, Suite 400 Harrisburg, Pa 17110
13. Time (military) & Temperature: Start Time 150 h Stop Time 0203 h Total Minutes:
Start Temp. 4.0 °C End Temp. 0.5 °C (must stay ≥ 10 °C for summer netting)
14. General Weather (circle one): Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain; (suspend netting during periods of rain) Steady Rain; Thunderstorms; Snow; Other:
15. General Wind Conditions (circle one): Calm, Breezy (Leaves Rustling). Windy (Trees Swaying).
16. Capture Setup at Site:

Type Count		Dimensions	Description	TOTAL AREA		
Nets	4	12m x 2.6m	Stacked over trail	124,8 sq. m		
Nets	3	18m x2.6m	Stacked over stream	140.459.m		
Net	1	6m× 2.6m	over stream	15.65g.m		
Nets	3	12mx2.6m	Stacked over stream	93.65q.m		
				7		
	Nets Nets Net	Nets 4 Nets 3 Net 1	Nets 4 12mx 2.6m Nets 3 18m x 2.6m Net 1 6m x 2.6m	Nets 4 12m x 2.6m Stacked over trail Nets 3 18m x 2.6m Stacked over stream Net 1 6m x 2.6m Over stream		

Total Capture Area: 2496 sq. m

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record - Continued) Site Name/No.: 2014 A 219 Sees __ PA21 Date: 17 Dol 2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are placed over a shallow wide trust stream. One site of the trust stream is forested and

the other has a ledge row of trees between the stream and a conflete. Dominant trees are sugar myle,

hender, beech, bird birch.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

24		Numl Adult F	per of Temales		No. Juv. Fem.	Total No. Fem.	Numl Adult		No. Juv.	Total No. Males	Species
Species	NR	PG	L	PL		Fem.	SCR	NR	Male	Maies	Totals
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus										-	
Myotis septentrionalis			* 4		4		/ C				
Myotis leibii			a a			/		0	/		
Myotis sodalis							\	/			
Eptesicus fuscus	1				0		/				
Perimyotis subflavus						Υ/					
Lasiurus borealis			2								
Lasiurus cinereus											
Lasionycteris noctivagans			7							,	
Other - specify:	, ,			7.							
Other – specify:	/				25						P
Reproductive	Status:	NR= no	nreprod st lactat	uctive, P	G= preg	nant, L= l/epididy:	lactating mis swoll	len.			Grand Total
*(Comple	te Me	asuren	nent an	d Capt	ture Da	ta Fori	<u>n</u> for a	II: recentur	96	$\left(\right)$
(1) W	(4) rac	dio-tagg	ed bats	and (5)	bat speci	ies not us	sually for	and in F	A.		

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20. REMARKS:

(Site Survey Record - Continued)

Site Name/No.: 2014 rt 219 Somer _

PA21 Date: 18 Jul2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.)

Nets are pixed over a stallow wide troot stream. One side of the stream is forested and the other has a hedge row of treas between the stream and a cornfield. Dominant trees ore sugar maple, hemlock, beach and birch.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

		Number of Adult Females			No. Total Juv. No.	Numl Adult		No. Juv.	Total No.	Species	
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	<u>Totals</u>
Eptesicus fuscus	2	- N. V.	1		S ANN	3	2	1	1	4	7
Myotis lucifugus							7 9				
Myotis septentrionalis					II i						
Myotis leibii				*							
Myotis sodalis											4
Eptesicus fuscus					-	2			1		3
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans				e a il							
Other - specify:				-							
Other - specify:									1 2		
Reproductive	Status: N	NR= nor	nreprod st lactat	uctive, P	G= pregn	ant, L= l epididyn	actating, nis swolle	en.		,	Grand <u>Total</u>
	Complet Lyotis sod	te Mea	suren	nent ar	d Capt	ure Dat	a Forn	for a		s.	3
	(4) rad	io-tagge	ed bats	and (5)	bat specie	es not us	ually fou	nd in P	Α.		

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

20	REM	A IV	PI	CC.

Drizz le storting at 2150 - Lich became a stendy light drizzle

(Site Survey Record - Continued)

Site Name/No.: 2014 rt 219 Somer _

PA21 Date: 18 Jul2014

17. Describe habitat 150 m around site: (topography and vegetation including dominant tree species.) Nets are pixed over a stallow wide troot stream. One side of the stream is forested and the other has a hedge row of treas between the stream and a cornfield. Dominant trees ore sugar maple, hemlock, beach and birch.

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULTS

			ber of Females		No. Juv.	Total No.	Numl Adult		No. Juv.	Total No.	Species
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	Totals
Eptesicus fuscus	2	3000	1		State Name	3	2	1	1	4	7
Myotis lucifugus							7 4				
Myotis septentrionalis					II I						
Myotis leibii				l ti							
Myotis sodalis											4
Eptesicus fuscus					-	2			-	1	3
Perimyotis subflavus											
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans				e d d							
Other - specify:											
Other - specify:									3		
Reproductive	Status: N	NR= no	nreprod st lactati	uctive, P	G= pregn = scrotal	ant, L= l epididyn	actating, nis swolle	en.			Grand <u>Total</u>
	Complet Lyotis sod									s,	3

19. BAT DETECTORS & OTHER MONITORING DEVICES: Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.

1 st hour	2 nd hour	3 rd hour	4 th hour	5 th hour
Start Time:				
End Time:				
Tallies:	Tallies:	Tallies:	Tallies:	Tallies:

Drizzle starting at 2150 - Lich become a stendy light drizzle

Appendix C Radio Tracked Bats

Bat Voucher Photographs
Bat Measurement and Capture Data Forms
Day Roost Data Sheets
Day Roost Voucher Photographs
Bat Emergence Forms



Figure 1. 2014Rt219.1. Adult, post-lactating female eastern small-footed bat (*Myotis leibii*) captured at Site PA10. Voucher photograph of face mask.



Figure 2. 2014Rt219.1. Adult, post-lactating female eastern small-footed bat (*Myotis leibii*) captured at Site PA10. Voucher photograph of keeled calcar.

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COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

of

Page#

(Complete for all (1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA)

Site Name Or VIL 2/95 Man PAID Date:	2146	2/95	mme PA10	Date:	7/21	21/14		Set No. Captured In:	Nar Ide	Name of Person Identifying the Bat: 100	n Bat: 100	Identifying the Bat: Tolk Syanol Number:	*Capture	ure /
Height in meters captured above ground surface:	s captur arface:	pa	m /		. 3	Body Measurements grams and millimeters)	suremen	ts ers)	(Band Mal	Band less on bat's	Information RIGHT fa.,	Band Information (if banded) Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)	(LEFT fa.)	Transmitter Attached? If so:
Mydrs lerbii	Sex	Age	Repro.	(E) W.t.	Ear	Tragus	Fore-	Hind	Recapture Yes/No	Band Material	Band	Band Inscription	Band on Left/Right	(mHz)
Time of	-	Photo Taken	WNS Wing Score	Score	Wing	Wing Photo ID:	2	t Name	Ret Name 301001110	1		00.030.00	1000	18.062
Capture 2240	(Sep	Yes / No	0		Remarks:	rks:))		804100	14			SO Y	
	STATE OF THE PARTY	Repro	Condition: N	R= non	reproa	factive, PC	= pregn	ant, L= lactati	ng. PL= post la	clating, SC.	R= scrotal	Repro. Condition: NR=nonreproductive, PG= pregnant, L= laciating, PL= post lactating, SCR= scrotallepididamis swollen	en -	
Site Name 2014 Rt 219 - PHO7	14RE	219-1	OMOT	Date:	7/2	122/14		Set No. Captured In:	Na /	Name of Person Identifying the Bat:	Bat: To	John Chenger	*Capture	ure /
Height in meters captured above ground surface:	s captur irface:	pa	8		3	Body Measurements grams and millimeters)	suremen	ts ers)	(Band Mal	Band les on bat's	Information RIGHT fa	Band Males on bat's RIGHT fa. Females on bat's LEFT fa.	(FFT fa)	Transmitter Attached? If so:
Species	Sex	Age	Repro. Condition	Wt.	Ear	Tragus	Fore-	Hind	Recapture Yes/No	Band	Band	Band Inscription	Band on Left/Right	Frequency (mHz)
Le16!!	£	A	NR	3.4	=	^	8	~	50	(1	((172.591
Time of Capture	Photo	Photo Taken	WNS Wing Score	Score	Wing	Wing Photo ID:	Ba	+ Namo:	Bat Name: 2014Rtd19,2	119,2				
Shlo	Çeş)	XES/ No	0		Remarks:	rks:								
		Repro.	Condition; N	R= non	reproa	Inctive, PG	= pregn	ant, L= lactati	ng, PL= post la	ctafing, SC	R= scrotal	Repro Condition; NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epidid/mis swollen	tu.	
Site Name Or Number				Date:				Set No.	Na	Name of Person	Bot-		*Capture	ure
Height in meters captured above ground surface:	s captura	po	Ε		"	Body Measurements	Suremen	ts ers)	(Band Mal	Band less on har's	Information RIGHT for	Rand Males on bat's RIGHT for Females on bat's LEFT for	I FET 60)	Transmitter Attached? If so:
Species	Sex	Age	Repro. Condition	Wt.	Ear	Tragus	Fore-	Hind Foot	Recapture Yes/No	Band Material	Band	Band	Band on Left/Right	Frequency (mHz)
Time of	Photo	Photo Taken	WNS Wing Score		Wing	Wing Photo ID:								
Capture	Yes / No	No			Remarks:	ks:								

*Capture Number = number in sequence by site.

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

1-
Landowner: Name: Saundra Banker Address: 761 Engles Mill Road
Phone:
2-BAT INFO Dates on Roost: 7/22/14 Day Roost Number: Day Roost Num
Surveyors: Bryn Britis Type: Tree - Building - Rock - Other BARN (Describe rock and other roost structures)
Bat Species: Myotic Legisia Band No.: Transmitter Frequency:172.862
Ht.(m) bat is roosting off ground: Unk Was Bat Emergence Form Completed?YES Comments: (Where is bat roosting? Under bark? If building-describe)
* Using telemetry, but was extraord to be in a large wooden barn with metal root. 3-LOCATION
County: Somerset Quadrangle: Avilton
Latitude: 39° 44′ 52 " (DMS) Elevation (ft.): 1912
Longitude: 79°04"01" (DMS) %Slope: 9% Slope Aspect (0-360): 61°
Datum: Nad27 (prefered) NAD83 / WGS84 (circle one)
4-Roost INFORMATION (If other than tree, indicate rock, rock cliff, house, barn etc. for species)
Species: V/A DBH (cm): V/A Is Tree Alive? YES - NO (CIRCLE)
Height: (%UP + %DOWN) X Dist.(m) to tree = N/A m(For Trees)
1st Branch Ht. (%UP + %DOWN) X Dist.(m) to tree = /Am(For Trees)
Estimate % Canopy Cover Around Roost: 0%
Is suitable roost area exposed to direct sunlight? YES - NO (circle one) If so - estimate # of hours of exposure to direct sun: Azimuth of Exposure (which way does exposed part of roost face): (1-360)
Exfoliating Bark? YES - NO Estimate % of tree with Exfoliating Bark: V/A %
Cavities? YES - NO If yes - Describe:
5-SURROUNDING HABITAT Distance (m) to Water: 480 m Water Type: 5 roam
Understory Species: N/A
Overstory Species: U/A 6-Comments (Comment on Overstory Species, Habitat Composition and non-tree roosts. Use back if needed)
b-Comments (Comment on Overstory Species, Habital Composition and non-tree roosts. Use back if needed)
He was not willing for let us on his Dromenty and were agree the
Talked with Dave (did not give last name) who said he owned the barn. He was not willing to let us on his property and was gamerally his file to any sorver activity. * Property owner hostile did not pass by bar on road to check it bat was said there past second day (7/32/14)

Bat: 2014Rt219.2



Figure 3. 2014Rt219.2. Adult, non-reproductive male eastern small-footed bat (*Myotis leibii*) captured at Site PA07. Voucher photograph of face mask.



Figure 4. 2014Rt219.2. Adult, non-reproductive male eastern small-footed bat (*Myotis leibii*) captured at Site PA07. Voucher photograph of keeled calcar.

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COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

of

Page#

(Complete for all (1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA)

*Capture Number = number in sequence by site.

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

1- Landowner: Name: Guy Wayne Address:			
Landowner: Name: Guy Wayne Address:			
2-BAT INFO Dates on Roost: 7/2 4 / 14 Day Roost Number: 2014 Rt 219. 2. / (Date = Date bat was on roost; Roost No.= Bat # & numbered roost, in sequence, for that bat ~ 241PGC-01)			
Surveyors: John Chenger Bryan Buttler Type: Tree Building - Rock - Other (Describe rock and other roost structures)			
Bat Species: Myotis lesbii Band No.: Transmitter Frequency: 172.591			
Ht.(m) bat is roosting off ground: Was Bat Emergence Form Completed?YES Comments: (Where is bat roosting? Under bark? If building-describe)			
In a large barn with block roof.			
County: Somerset Quadrangle: Avilton			
Latitude: $39^{\circ}44'28''$ (DMS) Elevation (ft.): 2576			
Longitude: 79° 02' 16° (DMS) %Slope: 11% Slope Aspect (0-360): 170°			
Datum: Nad27 (prefered) NAD83 / WGS84 (circle one)			
4-Roost INFORMATION (If other than tree, indicate rock, rock cliff, house, barn etc. for species)			
Species:DBH (cm): Is Tree Alive? YES -NO (CIRCLE)			
Height: (%UP + %DOWN) X Dist.(m) to tree = // m(For Trees)			
1st Branch Ht. (%UP + %DOWN) X Dist.(m) to tree =//m(For Trees)			
Estimate % Canopy Cover Around Roost:			
Is suitable roost area exposed to direct sunlight? YES - NO (circle one)			
If so - estimate # of hours of exposure to direct sun: Azimuth of Exposure (which way does exposed part of roost face): (1-360)			
For Trees: Exfoliating Bark? YES - NO Estimate % of tree with Exfoliating Bark: V/A %			
Cavities? YES - NO If yes - Describe:			
5-SURROUNDING HABITAT Distance (m) to Water: 80 m Water Type: Creck			
Understory Species:			
Overstory Species: 6-Comments (Comment on Overstory Species, Habitat Composition and non-tree roosts. Use back if needed)			
6-Comments (Comment on Overstory Species, Habital Composition and non-tree roosts. Use back if needed)			
* Land owner is also the owner of Salisbury Mine. Mr Hordesty has not allowed access to the mine to be sorveyed by PC-C in the past. This land owner is consideral to be hostile. In addition there is no Rublic access to this area.			
hostile- In addition there is no Dublic access to this area.			

Bat: 2014Rt219.3



Figure 5. 2014Rt219.3. Adult, post-lactating female northern long-eared myotis (*Myotis septentrionalis*) captured at Site PA03. Voucher photograph of face and tragus.



Figure 6. 2014Rt219.3. Adult, post-lactating female northern long-eared myotis (*Myotis septentrionalis*) captured at Site PA03. Voucher photograph of keeled calcar.

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COMMONWEALTH OF PENNSYLVANIA

Pennsylvania Game Commission

Bat Measurement and Capture Data Form

Jo

Attached? If so: Attached? If so: Attached? If so. Frequency Frequency (mHz) Frequency (mHz) (Complete for all (1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA) (mHz) 72.239 *Capture *Capture Number: Capture Number: Number: Band on Left/Right Left/Right Left/Right Band on (Band Males on bat's RIGHT fa., Females on bat's LEFT fa.) Band on (Band Males on bat's RIGHT fa., Females on bat's LEFT fa.) (Band Males on bat's RIGHT fa., Females on bat's LEFT fa.) N/A Repro Condition: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epidid/mis swollen Repro Condition: NR= nonreproductive, PG= pregnant, L= lactaing, PL= post lactaing, SCR= scrotal/epididymis swollen Inscription Inscription Sinander Inscription Band Information (if banded) Band Band Band Information (if banded) Band Information (if banded) Band NA 00 699 Color Color Band Band Color Band Identifying the Bat: Identifying the Bat: Identifying the Bat: Name of Person Name of Person Name of Person Material Material Material Band Pole Band Band N/A Recapture Yes/No Recapture Yes/No Recapture Yes/No S Remarks: BAT NAME, 2014 Rt. 219.3 Captured In: Captured In: Captured In: Set No. mma Set No. Set No. Hind Hind Hind Foot Foot Foot (grams and millimeters) grams and millimeters) grams and millimeters) Body Measurements **Body Measurements** Body Measurements 36mm Fore-Forearm Forearm Tragus WNS Wing Score Wing Photo ID: WNS Wing Score Wing Photo ID: WNS Wing Score | Wing Photo ID: Tragus Tragus 19mm 10mm Date: 7/26/14 Remarks: Remarks: Ear Ear Ear Date: Date: 6.6 (g) ₩t. ĭ, E ¥t Condition Condition Condition 0 E Repro. Repro. Repro. Or Number: 2014R4.219 Summer PA 03 Ε 7 Photo Taken Photo Taken Age Photo Taken Age Age ž Yes / No Yes / No Height in meters captured Yes/ Height in meters captured Height in meters captured Sex Sex above ground surface: Sex above ground surface: above ground surface: eotert ionalis Time of Capture Species Capture Or Number: Capture Species Time of Time of Or Number Species Site Name Site Name 2250 Myotis

*Capture Number = number in sequence by site

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

1-
Landowner: Name: PA Game Commission Address: PA State Game Lands 231 Southwest Regional Office
Phone: 724-238-9523 4820 Route 711 Bolivar, PA
2-BAT INFO
Dates on Roost: 7/27/2014 Day Roost Number: 2014 RT 219, 3.1 (Date = Date bat was on roost; Roost No.= Bat # & numbered roost, in sequence, for that bat ~ 241PGC-01)
(Date = Date but was on roost; Roost No.= But # & numbered roost, in sequence, for that but ~ 241PGC-01)
Surveyors: Risa Wright: Jacob Eshelmon Type: Tree - Building - Rock - Other
Describe rock and other roost structures)
Bat Species: Mydis septentrionals Band No.: Transmitter Frequency: 172.239
Ht (m) but in reacting off ground: \0 Flace Was But Frances Form Completed VES - NO
Ht.(m) bat is roosting off ground: Was Bat Emergence Form Completed?YES - NO Comments: (Where is bat roosting? Under bark? If building-describe)
But appears to be roosting under book or in a tree cavity. It appears
To be in the top dead portion of a red made. The bottom by of tree it alive
3-LOCATION
County: Somerset Quadrangle: Meyers dale
Sound.
Latitude: 39 45 57,73 (DMS) Elevation (ft.): 262
Longitude: 79° 01'47, 35" (DMS) %Slope: 21% Slope Aspect (0-360): 320°
Datum: Nad27 (prefered) NAD83 / WGS84 (circle one)
4-Roost INFORMATION (If other than tree, indicate rock, rock cliff, house, barn etc. for species)
Red Maple
Species: Acer rubrum DBH (cm): 8.7 Is Tree Alive? YES NO (CIRCLE)
Height: (%UP + %DOWN) X Dist.(m) to tree =21.51am(For Trees)
1st Branch Ht. (%UP + %DOWN) X Dist.(m) to tree = 4.79m(For Trees)
Estimate % Canopy Cover Around Roost: 75%
Estimate // Salispy Sever Albania 1666th
Is suitable roost area exposed to direct sunlight? YES - NO (circle one)
If so - estimate # of hours of exposure to direct sun:
Azimuth of Exposure (which way does exposed part of roost face): [9 (1-360)
Exfoliating Bark? YES NO Estimate % of tree with Exfoliating Bark:
Cavities? YES -(NO) If yes - Describe: (none visible)
5-SURROUNDING HABITAT
Distance (m) to Water: 908 m Water Type: _creek
Understory Species: Yellow Birch, Sassafras
Overstory Species: Red Made, Red Oak, Yellow Rich
Overstory Species: Red Maple Red Oak, Yellow Ricch 6-Comments (Comment on Overstory Species, Habitat Composition and non-tree roosts. Use back if needed)
Roost tree is in dense forest.





Figure 7 (Above left). Roost tree 2014Rt219.3.1. Upper portion of roost tree. Figure 8 (Above right). Roost tree 2014Rt219.3.1. Lower portion of roost tree.

PGC Form: WD-EM-05/02 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period. ROOST NO.: 2014 Rt219.3.1 ROOST TYPE: Building Other: (Tree Transmitter Frequency: 172, 239 Transmittered Bat Band No.:____ Temperature: 65,5 *F Weather Sky Condition Code: Wind Scale Code:_ **Beaufort Wind Scale Sky Conditions** Code MPH Indicators Code 0 Clear or a few clouds <1 Smoke rises vertically Smoke Drift shows wind direction 1-3 mph 1 Partly cloudy/variable sky 4 - 7 mph Wind felt on face/leaves rustle Cloudy (broken) or overcast 8 - 12 mph Leaves&sm.twigs in constant motion Fog or smoke 13 - 18 mph Raises dust & loose paper Drizzle Snow 19 - 24 mph Small trees in leave sway Showers Night Vision Equipment Used? YES - NO Bat Detector Used? YES - NO Telemety Equipment Present? YES - NO Time Surveyors arrived at Roost : 2045 (use 24 hour clock for times) Time First Bat Seen Flying: 8054 Time Transmittered Bat Emerged: ___ * And Azimuth Last Detected: Time Last Bat Seen Emerging: 2054 Total Emergence Count:____ (include other emergence observations, weather, bat behavior, etc.) Comments: *Surveyors left roost at 2230. Bet was still in roost.
At Just could clearly hear signs that bet was
moving in roost. By 2230 movement had stopped.

Comments:

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period. * ROOST NO.: 2014 RT 219.3,1 DATE: 7/29/2014 ROOST TYPE: Building - Tree - Rock - Other _____ Ramirez Transmittered Bat Band No.: N/A Transmitter Frequency: N/A Temperature: 52.2 *F Sky Condition Code: Wind Scale Code: **Sky Conditions Beaufort Wind Scale** Code Code MPH Indicators 0 Clear or a few clouds <1 Smoke rises vertically 1 1-3 mph Smoke Drift shows wind direction 1 Partly cloudy/variable sky 2 2 4 - 7 mph Wind felt on face/leaves rustle Cloudy (broken) or overcast 8 - 12 mph Leaves&sm.twigs in constant motion Fog or smoke 5 Drizzle 13 - 18 mph Raises dust & loose paper 19 - 24 mph Small trees in leave sway Snow Showers Night Vision Equipment Used? YES (NO) Bat Detector Used? YES - NO Telemety Equipment Present? YES NO Time Surveyors arrived at Roost: 20:30 (use 24 hour clock for times) Time First Bat Seen Flying: Time Transmittered Bat Emerged: And Azimuth Last Detected: ____ Total Emergence Count: Time Last Bat Seen Emerging:_____

(include other emergence observations, weather, bat behavior, etc.)

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

tion 4	Day Roost Data Sheet
1-	PA Crame PA Stole Game Lands of St
Landowner:	Name: Commission Address: Southwest Regional office
	Phone: 724-238-9523 4820 Rose 711
	Bolwan, PA
2-BAT INFO	t: 7/28/14 Day Roost Number: 2014R1.219.3.2
(Date =	t: 7/28/14 Day Roost Number: 2014 Rt. 219.3.2 Date bat was on roost; Roost No.= Bat # & numbered roost, in sequence, for that bat ~ 241PGC-01)
Surveyors:	Sinonder, Jacob Eshelma-Type: (Tree - Building - Rock - Other (Describe rock and other roost structures)
Bat Species: ₫	Lyotis Septentrional Band No.: NA Transmitter Frequency: 172.
Ht.(m) bat is ro	osting off ground: Was Bat Emergence Form Completed? YES - NO
	Where is bat roosting? Under bark? If building-describe)
Botis in a	of it a luxered map'e from the ground.
3-LOCATION	of at a wered map's from the ground.
County:	Domerset Quadrangle: Nexesdale
	S ² 45 57.5 (DMS) Elevation (ft.): 2621
_	79° o \ 47.5" (DMS) %Slope: 21% Slope Aspect (0-360): 320°
	į.
Datum:_	Nad27 (prefered) NAD83 / WGS84 (circle one)
4-Roost INFOR	MATION (If other than tree, indicate rock, rock cliff, house, barn etc. for species)
Species:	Red Maple DBH (cm): 3.3 Is Tree Alive? YES - NO (CIRCLE)
Height:	%UP <u>.38</u> + %DOWN .12) X Dist.(m) to tree <u>20</u> = <u>0</u> m(For Trees)
1st Branch Ht. (%UP + %DOWN 1/2 X Dist.(m) to tree 20 = m(For Trees)
Estimate %	Canopy Cover Around Roost: 80%
	Is suitable roost area exposed to direct sunlight? YES - NO (circle one)
i ii	so - estimate # of hours of exposure to direct sun:
	Azimuth of Exposure (which way does exposed part of roost face): (1-360)
For Trees: Exfoliati	ng Bark? YES- NO Estimate % of tree with Exfoliating Bark:
Cavities?	ES-NO If yes - Describe: Two feet long Slit facing south
5-SURROUND	ING HARITAT
1	Distance (m) to Water: 908 m Water Type: Cree
	Inderstory Species: Yelland burch Sassafres
	Overstory Species: Red Mayle, Red Oak, Yallow birds
	Comment on Overstory Species, Habitat Composition and non-tree roosts. Use back if needed)
Tree	is in Mature decidus forest.

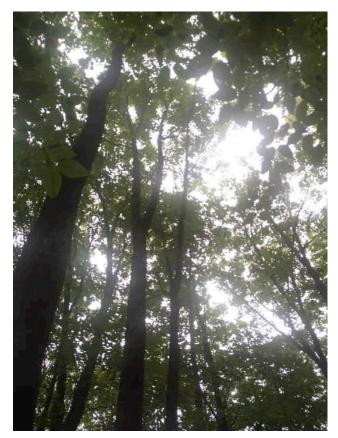




Figure 9 (Above left). Roost tree 2014Rt219.3.2. Upper portion of roost tree. Figure 10 (Above right). Roost tree 2014Rt219.3.2. Lower portion of roost tree.

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise distur	rbance to a minimum during the emergence period. *
ROOST NO .: 2014 Pt219.3.7	DATE: 29 July 2014
ROOST TYPE: Building - Tree - Rock	- Other
Surveyors: Bimbon McCong	
	4
	Transmitter Frequency:
Weather Temperature: 52,2 *	*F (1).1°C)
Sky Condition Code:	Wind Scale Code:
Sky Conditions Code Clear or a few clouds Partly cloudy/variable sky Cloudy (broken) or overcast Fog or smoke Drizzle Snow Showers Night Vision Equipment Used? YES - NO Telemety Equipment Present? YES - NO	Beaufort Wind Scale Code MPH Indicators 1 Smoke rises vertically 1 1-3 mph Smoke Drift shows wind direction 4 - 7 mph Wind felt on face/leaves rustle 8 - 12 mph Leaves&sm.twigs in constant motion 4 13 - 18 mph Raises dust & loose paper 5 19 - 24 mph Small trees in leave sway Bat Detector Used? YES
Time Surveyors arrived at Roost : 2030	(use 24 hour clock for times)
Time First Bat Seen Flying:	
Time Transmittered Bat Emerged;	And Azimuth Last Detected:
Time Last Bat Seen Emerging: \(\)\lambda \(\lambda \)\!	Total Emergence Count:
Comments: (include other emergence observed	rvations, weather, bat behavior, etc.)

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to	o a minimum during the emergence period.
ROOST NO .: 2014 Pt. 219 3:2	DATE: 07 30 14
ROOST TYPE: Building - Tree - Rock - Other	er
Surveyors: Braden McCla	
Transmittered Bat Band No.:	Transmitter Frequency:
Weather Temperature: 54, 67*F	12.6 °C
Sky Condition Code:	Wind Scale Code:
Sky Conditions Code Code 0 Clear or a few clouds 0 1 Partly cloudy/variable sky 1 2 Cloudy (broken) or overcast 2 4 Fog or smoke 3 5 Drizzle 4 7 Snow 5 8 Showers	Beaufort Wind Scale MPH Indicators <1 Smoke rises vertically 1-3 mph Smoke Drift shows wind direction 4 - 7 mph Wind felt on face/leaves rustle 8 - 12 mph Leaves&sm.twigs in constant motion 13 - 18 mph Raises dust & loose paper 19 - 24 mph Small trees in leave sway
Night Vision Equipment Used? YES NO	Bat Detector Used? YES - NO
Time Surveyors arrived at Roost: 2025 Time First Bat Seen Flying: 2704	(use 24 hour clock for times)
Time Transmittered Bat Emerged:	And Azimuth Last Detected:
Time Last Bat Seen Emerging: 3104	Total Emergence Count:
Comments: (include other emergence observations,	weather, bat behavior, etc.)
	•

* But had dispred transmitted prior to Emergence

Bat: 2014Rt219.4



Figure 11. 2014Rt219.4. Adult, post-lactating female northern long-eared myotis (*Myotis septentrionalis*) captured at Site MD02. Voucher photograph of face and tragus.



Figure 12. 2014Rt219.4. Adult, post-lactating female northern long-eared myotis (*Myotis septentrionalis*) captured at Site MD02. Voucher photograph of keeled calcar.

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COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Section 3	lete for	all (1) M	fvotis sodalis.	(2) Mv	otis lei	Bat 1	Measur s you are	ement and	Bat Measurement and Capture Data Form 3) bats you are banding or band recaptures. (4) radio-t	(4) radio-ta	gged bats a	Bat Measurement and Capture Data Form Complete for all (1) Myotis sodalis. (2) Myotis leibii, (3) bats you are banding or band recaptures. (4) radio-tagged bats and (5) bat species not usually found in PA)	not usually fo	und in PA)
Site Name 2014R+2195wmer_HD02	IHR+2	195umr	mer_MD02	Date:	8-0	4102-40-8	7	Set No. Captured In:	N 1 1	Name of Person Identifying the B	n Bat: R:s	Name of Person Identifying the Bat: Rise Wright	*Capture Number:	ure 1
Height in meters captured above ground surface:	s captur ırface:	pa.	ш —		3	Body Measurements grams and millimeters)	suremen	IS ers)	(Band M.	Band les on bat's	Information RIGHT fa.,	Band Information (if banded) Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)	LEFT fa.)	Transmitter Attached? If so:
Species	Sex	Age	Repro. Condition	Wt.	Ear	Tragus	Fore-	Hind	Recapture Yes/No	Band	Band	Band Inscription	Band on Left/Right	(mHz)
Suptenderonalis		⋖	PL	7.0	15	6	36	0	1	١	1			172.172
Time of	Photo	Photo Taken	WNS Wing	Wing Score	Wing	Wing Photo ID:				100		all J per)	pulse 0.42
2354	Yes	Yes)/ No	0		Remar	ks: No	3 6	Remarks: Name: 2014R+219.4	219.4					
	SOUND TO	Repro	Repro. Condition: N	R= non	reproa	uctive, PC	i= pregn	ant, L= lacta	ting, PL= post	lactating, SC	R= scrotal	ion: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epidid/mis swollen	in in	Salassa est
Site Name				Date:				Set No.	2 -	Name of Person	n Date		*Capture	ure
Height in meters cantured	autur a	por.				Rody Measurements	curemen	Caprial co III		Rand Infor	Information	Band Information (if handed)		Transmitter
above ground surface:	arface:	3	Ε		3	grams and millimeters)	millimet	ers)	(Band M	nles on bat's	RIGHT fa.	Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)	s LEFT fa.)	Attached? If so:
Species	Sex	Age	Repro. Condition	Wt.	Ear	Tragus	Fore- arm	Hind Foot	Recapture Yes/No	Band Material	Band	Band Inscription	Band on Left/Right	(mHz)
Time of	Photo	Photo Taken	WNS Wing	Wing Score		Wing Photo ID:								
200	Yes	Yes / No			Remarks:	ks:						1		
		Repro.	Repro. Condition: N	R= nor	reprod	uctive, PC	i= pregn	ant, L= lacta	ting, PL= post	lactating, SC	R= scrotal	ion : $NR=nonreproductive$, $PG=pregnant$, $L=lactating$, $PL=post\ lactating$, $SCR=scrotal/epididymis\ swollen$	uə.	
Site Name				Date:				Set No.		Name of Person	u.		*Capture	ure
Or Number:								Captured In:		dentifying the Bat:	: Bat:		Number	oer:
Height in meters captured above ground surface:	s captur arface:	pa	Е		3	Body Measurements grams and millimeters)	suremen	ts ers)	(Band M	Band ales on bat's	Information RIGHT fa.,	Band Information (if banded) (Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)	s LEFT fa.)	Transmitter Attached? If so:
Species	Sex	Age	Repro. Condition	Wt.	Ear	Tragus	Fore- arm	Hind Foot	Recapture Yes/No	Band Material	Band	Band Inscription	Band on Left/Right	requency (mHz)
								- 11						
Time of	Photo	Photo Taken	WNS Wing Score	Score	Wing	Wing Photo ID:	-		-					
amin a	Yes	Yes / No			Remarks:	ks:								
		1												

*Capture Number = number in sequence by site.

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

1- Landowner: Name: Sidney Markowtz Address: 10800 Pebble Brook Lone
Phone: Potomac , MD 20854
2-BAT INFO Dates on Roost: 5 Acu 2014 6 Acc 2014, 7 Apr 2014, 8 Apr 2015 Day Roost Number: 2014 A+219 • 4 • 1 (Date = Date bat-was on roost; Roost No.= Bat # & numbered roost, in sequence, for that bat - 241PGC-01)
Surveyors: Dorgan Shanz Jode Singular, Jeob Etype: Tree - Building - Rock - Other
Bat Species: Most's apportunalis Band No.: Transmitter Frequency: 172,172
Ht.(m) bat is roosting off ground: Was Bat Emergence Form Completed?YES NO Comments: (Where is bat roosting? Under bark? If building-describe)
Difficult to see possibly under bark
County: Garrett Quadrangle: Avilton
Latitude: $39^{\circ}42^{\circ}43.1^{\circ}$ (DMS) Elevation (ft.): 2495
Longitude: 70° 64' 44.5' (DMS) %Slope: 10% Slope Aspect (0-360): 72°
Datum: Nad27 (preferred) NAD83 / WGS84 (circle one)
4-Roost INFORMATION (If other than tree, indicate rock, rock cliff, house, barn etc. for species)
Species: Honey laust DBH (cm): 36 Is Tree Alive? YES - NO (CIRCLE)
Height: (%UP 138 + %DOWN -22) X Dist.(m) to tree 20 = 32 m(For Trees)
1st Branch Ht. (%UP +06 + %DOWN +22) X Dist.(m) to tree 20 = 3.2 m(For Trees)
Estimate % Canopy Cover Around Roost: 50%
Is suitable roost area exposed to direct sunlight? If so - estimate # of hours of exposure to direct sun: Azimuth of Exposure (which way does exposed part of roost face): Exfoliating Bark? YES - NO (circle one) 2 42 (1-360) For Trees: Exfoliating Bark? YES - NO Estimate % of tree with Exfoliating Bark: 15 %
Cavities? YES NO If yes - Describe:
5-SURROUNDING HABITAT Distance (m) to Water: 40 m Water Type: pond
Understory Species: yellow birth red maple
Overstory Species: Cherry Red Maple Yellow birch, honey locus
6-Comments (Comment on Overstory Species, Habitat Composition and non-free roosts. Use back if needed)
Rost is ma stream lowland between the stream and a
Dond within mature mixed and, with numerous snags





Figure 13 (Above left). Roost tree 2014Rt219.4.1. Upper portion of roost tree. Figure 14 (Above right). Roost tree 2014Rt219.4.1. Lower portion of roost tree.

PGC Form: WD-EM-05/02 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period. ROOST NO .: 2014 (+219,4.1 ROOST TYPE: Building Other: Surveyors: \(Transmitter Frequency: 172.172 Transmittered Bat Band No.: Temperature: 65.4 *F Weather Wind Scale Code: Sky Condition Code: Sky Conditions **Beaufort Wind Scale** Code Code MPH Indicators 0 Clear or a few clouds <1 Smoke rises vertically 1 Partly cloudy/variable sky 1-3 mph Smoke Drift shows wind direction 2 Cloudy (broken) or overcast 4 - 7 mph Wind felt on face/leaves rustle Fog or smoke 8 - 12 mph Leaves&sm.twigs in constant motion Drizzle 13 - 18 mph Raises dust & loose paper Snow 19 - 24 mph Small trees in leave sway Showers Night Vision Equipment Used? YES - NO Bat Detector Used? YES - NO Telemety Equipment Present? YES - NO Time Surveyors arrived at Roost : 20/5 (use 24 hour clock for times) Time First Bat Seen Flying: 2042 Time Transmittered Bat Emerged: 2048 And Azimuth Last Detected: 5 Time Last Bat Seen Emerging: 2048 Total Emergence Count: Comments: (include other emergence observations, weather, bat behavior, etc.) but seen flying above roost tree After transmittered but left roost the buts were flying above roost tree. After about a minute only one was flying above tree, and continued for 2 or 3 minutes.

PGC Form: WD-EM-05/02 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period. *

ROOST NO.: 20148+219.4.1	DATE: 6 Aug 2014				
ROOST TYPE: Building Tree Oth	er:				
Surveyors: Duncan Schanz					
Surveyors. Some Server					
V1.2	177				
Transmittered Bat Band No.:	Transmitter Frequency: 172, 172				
Weather Temperature: 60 + F					
Sky Condition Code:	Wind Scale Code:				
Sky Conditions	Beaufort Wind Scale				
Code O Clear or a few clouds O	e MPH Indicators <1 Smoke rises vertically				
o oldar or a low oldada	1-3 mph Smoke Drift shows wind direction				
1 Partly cloudy/variable sky 1 2 Cloudy (broken) or overcast 2	4 - 7 mph Wind felt on face/leaves rustle				
4 Fog or smoke 3	8 - 12 mph Leaves&sm.twigs in constant motion				
5 Drizzle 4	13 - 18 mph Raises dust & loose paper .				
7 Snow 5	19 - 24 mph Small trees in leave sway				
8 Showers					
Night Vision Equipment Used? YES NO	Bat Detector Used? YES - NO				
Telemety Equipment Present? YES - NO					
Time Surveyors arrived at Roost :	(use 24 hour clock for times)				
Time First Bat Seen Flying: 2034	, 1.1 %				
Time Transmittered Bat Emerged: 2034	And Azimuth Last Detected:				
Time Last Bat Seen Emerging: 2057	Total Emergence Count:				
Comments: (include other emergence observation	ns, weather, bat behavior, etc.)				
- Transmittered but left rout going in the arranges time					
and the signal was lost at HT was at 2040. For					
Comments: (include other emergence observations, weather, bat behavior, etc.) - Transmittered bot left roost going in the direction 310° and the signal was lost at the in about a minutes time - Second bot seen fly from roost was at 2040. For the next few minutes a bat (assuming this bot) was the next few minutes a bat roost tree. seen flying near the top of roost tree.					
the next tem mind	top of the				
seen thing her	1012 La tle top				
- 2043 third but emerged	ree about 200 for small period				
- 4 but circled	top of the to				
eventually 190	ree about 2/3 to the top top of tree for small period ovette with foreign seen clinging to h. Did not witness but				
or a monted but sil	Did not witness				
- 205/ trag ment tree crote	h.				
The tree.					

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period. *

	ROOST	NO .: 20148+219.4.1		DATE: 7/20 2014
	ROOS	T TYPE: Building -	Tree - Rock - Oth	er
	Surveyo	rs: Duncan Schanz	7	
	T	tared Bot Bond No.	NA	Transmitter Frequency: 172.172
	Transmi		4.00	Transmitter Frequency
	Weather	Temperat	ture: 6/07_*F	
	Sky Con	dition Code:	-	Wind Scale Code:
		Sky Conditions	22.12	Beaufort Wind Scale
	Code		Code	MPH Indicators
	0	Clear or a few clouds	0	<1 Smoke rises vertically
	1	Partly cloudy/variable sky	1	1-3 mph Smoke Drift shows wind direction
	2	Cloudy (broken) or overcas		4 - 7 mph Wind felt on face/leaves rustle
	4	Fog or smoke	3. 4	8 - 12 mph Leaves&sm.twigs in constant motion
	5	Drizzle	5	13 - 18 mph Raises dust & loose paper 19 - 24 mph Small trees in leave sway
	7 8	Snow	J	13 - 24 hiph Smail trees in leave sway
	۰	Showers		
	Night Vis	ion Equipment Used?	YES-NO	Bat Detector Used? YES - NO
	Telemety	Equipment Present?	YES - NO	
	Time Su	rveyors arrived at Ro	ost : 1940	(use 24 hour clock for times)
	Time Fir	st Bat Seen Flying: 🗵	2034	
	Time Tra	ansmittered Bat Emer	ged: 2034	
	Time La	st Bat Seen Emerging	1:2042	Total Emergence Count:
	Comme	Note that the second se		, weather, bat behavior, etc.)
- Firs	tod to	emerged at 203	34. About ten s	econds later transmittered but emerged.
-20:	37 thire	but emerged, f	Plew around roost the thalf a minute late	the roughly 2/3 up for 100 total a minor
- 2c	about and	20 m from a took off again	ng back and form	h. 2047 one flew to a tree ed a few times with the other Calls sounded to be that of the
	Barred	oul.		

PGC Form: WD-EM-05/02 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance	e to a minimum during the emergence period.
ROOST NO.: 2014/14 219.4.1	DATE: <u>84 vg. 14</u>
ROOST TYPE: Building (ree) Oth	ner:
Surveyors: Donan Schanz	· · · · · · · · · · · · · · · · · · ·
Transmittered Bat Band No.:	Transmitter Frequency: 172.172
Weather Temperature: 64,9 *F	
Sky Condition Code:	Wind Scale Code:
Sky Conditions Code Cod 0 Clear or a few clouds 0 1 Partly cloudy/variable sky 1 2 Cloudy (broken) or overcast 2 4 Fog or smoke 3 5 Drizzle 4 7 Snow 5 8 Showers	Beaufort Wind Scale MPH Indicators 1-3 mph Smoke Drift shows wind direction 4-7 mph Wind felt on face/leaves rustle 8-12 mph Leaves&sm.twigs in constant motion 13-18 mph Reises dust & loose paper 19-24 mph Small trees in leave sway
Night Vision Equipment Used? YES -NO	Bat Detector Used? YES - NO
Telemety Equipment Present? (ES - NO	
Time Surveyors arrived at Roost : 2005	(use 24 hour clock for times)
Time First Bat Seen Flying: 2034	
Time Transmittered Bat Emerged: 2034	And Azimuth Last Detected: 270°
Time Last Bat Seen Emerging: 2036	Total Emergence Count: 3
Comments: Visclude other americance phearvation	ns, weather, bat behavior, etc.)
-2033 notable signal fluctulation -2035 bot seen flying around near -2040 bat old a few posses be left briefly, came back - before flying off.	top of roost tree briefly (not transmittered etneen crotch of tree and surveyor, etneen crotch of tree and surveyor, to some orea for a few more passes
-Surveyor was sitting at a bear this position did not allow for from this position it was obserted the crotch of the tree and	ing of 285°, 5m away from roost tree. It the sky to backlight most but but all three buts emerged from flow off at a beating of roughly

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

ction 4	Day Roost Data Sheet
1- Landowner:	Name: Sidney Markaite Address: 10800 Pebble Brook Lane
	Phone: PHone: D 20854
2-BAT INFO Dates on Roos (Date =	t: 94og 2014, Day Roost Number: 2014 R+ 219, 4, 2 Date bat was on roost; Roost No.= Bat # & numbered roost, in sequence, for that bat ~ 241PGC-01)
	Type: Tree - Building - Rock - Other
Bat Species: 19	yoths septent on Band No.: NA Transmitter Frequency: 172.172
Comments: (V	Osting off ground: Was Bat Emergence Form Completed? YES - NO Where is bat roosting? Under bark? If building-describe) PEACS to be roosting under bark
3-LOCATION	
County:	barrest Quadrangle: Axilton
Latitude: 3	89° 42' 44.5" (DMS) Elevation (ft.): 2505'
Longitude: /	79°04′ 45.3″ (DMS) %Slope: 20 Slope Aspect (0-360): 342°
Datum:	Nad27 (prefered) NAD83 / WGS84 (circle one)
4-Roost INFOR	MATION (If other than tree, indicate rock, rock cliff, house, barn etc. for species)
Species:	oney 16cust DBH (cm): 37cm Is Tree Alive YES - NO (CIRCLE)
	%UP 35 + %DOWN • 05) X Dist.(m) to tree 20/n = 28 m(For Trees) %UP 35 + %DOWN • 05) X Dist.(m) to tree 20/n = 8 m(For Trees)
Estimate % C	Canopy Cover Around Roost: 70%
For Trees:	Is suitable roost area exposed to direct sunlight? YES - NO (circle one) so - estimate # of hours of exposure to direct sun: Azimuth of Exposure (which way does exposed part of roost face):
Cavities? Y	ES NO If yes - Describe:
5-SURROUNDI D	NG HABITAT Distance (m) to Water: 25m Water Type: pond
U	Inderstory Species: Red maple, Cherry
6-Comments (c Although	Overstory Species: Yellow birch Red Maple Honey locust green ash comment on Overstory Species, Habital Composition and non-tree roosts. Use back it needed) of there is suitable roost area exposed to direct sunlight at the top the roost tree, there is not direct sunlight on area but a roosting.





Figure 15 (Above left). Roost tree 2014Rt219.4.2. Upper portion of roost tree. Figure 16 (Above right). Roost tree 2014Rt219.4.2. Lower portion of roost tree. Figure 17 (Bottom). Roost tree 2014Rt219.4.2. Exfoliating bark.

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period. *

ROOST NO.: 2014	R+ 219.4.2		DATE	: 9 Aug 2014		
ROOST TYPE:	Building - Tree - Rock -	Other		0		
Surveyors: Duncou	1 Schanz					
	and No.: NA		smitter Fred	quency: 172.172		
Weather	Temperature: <u>69.8</u> *F					
Sky Condition Code:		Wind	d Scale Code	e:		
Sky Conditions	r.	Bea	Beaufort Wind Scale			
Code			PH	Indicators		
O Clear or a few			1 Smoke r	ises vertically		
1 Partly cloudy/v			and the same same	Drift shows wind direction		
2 Cloudy (broker 4 Fog or smoke		_		t on face/leaves rustle		
				sm.twigs in constant motion		
5 Drizzle 7 Snow				lust & loose paper		
8 Showers		J 19-2	4 mpn Small tre	ees in leave sway		
Night Vision Equipment		Bat 0	Detector Used	d? YES NO		
	ed at Roost : 1940		(use 2	4 hour clock for times)		
Time First Bat Seen F	lying: <u>2032</u>					
Time Transmittered E	Bat Emerged: 2032	And	Azimuth Las	st Detected: 290°		
Time Last Bat Seen E	merging: 2042	Tota	Emergence	Count:		
Comments:	include other emergence observa	tions, weather	, bat behavior, e	tc.)		
				had been calling a few efter a flock of crows		
seconds of	each other. Be	oth bats	headed	from roost within out of tree at about		
200° than g	evickly headed to	about "	10, one	did a Small logo		
the did a head just	few law passes before flying off	includ	ing one	seconds apart.		
All four bots e	merged from the	some s	spot unde	s bock.		

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period. *

ROOST NO .: 2014 + 219.4.2	DATE: 16 Aug 2014
ROOST TYPE: Building (Tree) Rock	- Other
Surveyors: Dincan Shanz	
	-
Transmittered Bat Band No.: NA	Transmitter Frequency: 172,172
Weather Temperature: 60.7*	F
Sky Condition Code:	Wind Scale Code:
Sky Conditions Code 0 Clear or a few clouds 1 Partly cloudy/variable sky 2 Cloudy (broken) or overcast 4 Fog or smoke 5 Drizzle 7 Snow 8 Showers Night Vision Equipment Used? YES -NO Telemety Equipment Present? YES NO Time Surveyors arrived at Roost:	Beaufort Wind Scale MPH Indicators 1 Smoke rises vertically 1 1-3 mph Smoke Drift shows wind direction 2 4-7 mph Wind felt on face/leaves rustle 3 8-12 mph Leaves&sm.twigs in constant motion 4 13-18 mph Raises dust & loose paper 19-24 mph Small trees in leave sway Bat Detector Used? YES NO
Time First Bat Seen Flying:	<u> </u>
Time Transmittered Bat Emerged:	And Azimuth Last Detected: WA
Time Last Bat Seen Emerging:	Total Emergence Count:
No bats seen emerging from the	shed. But lost detected on 8/10/14.
2028 but seen flying around a it flew to roost the	rea for about a minute;
in some director it come	

PA GAME COMMISSION Wildlife Diversity Section Day Roost Data Sheet

1-
Landowner: Name: Sidney Markowitz Address: 10800 Pebble Brook Lane
Phone: Potomac, MD 20854
2-BAT INFO Dates on Roost: \O As + Day Roost Number: \(\frac{2014 \text{R} + 219, 4, 3}{2014 \text{R} + 219, 4, 3}\) (Date = Date bat was on roost; Roost No.= Bat # & numbered roost, in sequence, for that bat ~ 241PGC-01)
Surveyors: Doncon Schon 2 Type: Tree - Building - Rock - Other
Bat Species: Myst's septentional's Band No.: NA Transmitter Frequency: 172.172
Ht.(m) bat is roosting off ground: 20 m Was Bat Emergence Form Completed (YES) - NO Comments: (Where is bat roosting? Under bark? If building-describe) Sat is in a large wood barn with metal roof.
- LOSATION C
County: Greet Quadrangle: Avilton
Latitude: 39°43' 10.6" (DMS) Elevation (ft.): 2,459
Longitude: 79° 04' 47.5" (DMS) %Slope: 6% Slope Aspect (0-360): 7°
Datum: Nad27 (prefered) NAD83 / WGS84 (circle one)
4-Roost INFORMATION (If other than tree, indicate rock, rock cliff, house, barn etc. for species)
Species: Bos DBH (cm): Is Tree Alive? YES -NO (CIRCLE
Height: (%UP/ <u>*35</u> +%DOWN <u>*00</u>) X Dist.(m) to tree <u>20m</u> = <u>27</u> m(For Trees)
1st Branch Ht. (%UP + %DOWN X Dist.(m) to tree =m(For Trees)
Estimate % Canopy Cover Around Roost: 5%
Is suitable roost area exposed to direct sunlight? YES NO (circle one) If so - estimate # of hours of exposure to direct sun: Azimuth of Exposure (which way does exposed part of roost face): For Trees: Exfoliating Bark? YES NO Estimate % of tree with Exfoliating Bark:
Cavities?-YESNO If yes - Describe:
5-SURROUNDING HABITAT Distance (m) to Water: 140 m Water Type: Stream
Understory Species: Wild apple green ash, etterberry
Overstory Species: Red more a reen ash
6-Comments (Comment on Overstory Species, Habital Composition and non-tree roosts. Use back if needed)
But seemed to be roosting at joint of horizontal support beam.



Figure 18. Roost 2014Rt219.4.3. Large wood barn with metal roof.

PGC Form: WD-EM-02/13 Section 4

PA GAME COMMISSION, Wildlife Diversity Section Bat Emergence Form

* It is important to keep lights and noise disturbance to a minimum during the emergence period, * ROOST NO .: 2014 RT 219.4.3 ROOST TYPE: (Building)- Tree - Rock - Other____ Transmittered Bat Band No.: NA Transmitter Frequency: 172.172 Temperature: 59 *F Sky Condition Code: Wind Scale Code:_ **Sky Conditions Beaufort Wind Scale** Code Code MPH 0 Clear or a few clouds Smoke rises vertically Partly cloudy/variable sky 1-3 mph Smoke Drift shows wind direction 2 Cloudy (broken) or overcast 4 - 7 mph Wind felt on face/leaves rustle Fog or smoke 8 - 12 mph Leaves&sm.twigs in constant motion Drizzle 13 - 18 mph Raises dust & loose paper 7 Snow 19 - 24 mph Small trees in leave sway Showers Night Vision Equipment Used? YES NO Bat Detector Used? YES -(NO) Telemety Equipment Present? YES (NO) Time Surveyors arrived at Roost : 20,00 (use 24 hour clock for times) Time First Bat Seen Flying: NA Time Transmittered Bat Emerged: NA And Azimuth Last Detected: NA Time Last Bat Seen Emerging: NA Total Emergence Count: Comments: (include other emergence observations, weather, bat behavior, etc.) Saw one but flying in open field at 20140. Saw one but flying near born at 2014s. Did not see any bats emerge from barn.

US 6219, SECTION 050 TRANSPORTATION IMPROVEMENT PROJECT MEYERSDALE, PA TO OLD SALISBURY ROAD, MD SUMMER BAT ACOUSTIC SURVEY

Somerset County, Pennsylvania Garrett County, Maryland June 3 - August 16, 2022



1263 Claremont Road, Carlisle, Pennsylvania 17015 Office and Fax: (717) 241-2228 Mobile: (814) 442-4246 www.batmanagement.com

> Project Principal: John Chenger

Surveyors: Todd Sinander and Kacy Lyn Kindred

> Qualitative Analysis of Calls: John Chenger

Report Prepared by: John Chenger, Todd Sinander and Kacy Lyn Kindred

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Executive Summary

The Pennsylvania Department of Transportation (PennDOT) and Maryland State Highway Administration (MDSHA) proposes to construct a new 11.3 km, limited-access section of State Route (SR) 6219, Section 050, from the Borough of Meyersdale, Somerset County, Pennsylvania, to to Old Salisbury Road in Garrett County, Maryland. Three alternatives are under consideration, which total approximately 23 km of linear Project Area (Figure 1). Bat Conservation and Management, Inc. (BCM) was contracted by KCI Technologies, Inc. to conducted an acoustic bat survey within the Project Area to determine the presence or probable absence of the federally endangered Indiana bat (Myotis sodalis) and the federally threatened Northern long-eared bat (Myotis septentrionalis). The survey was conducted following the 2022 protocols outlined within the U. S. Fish and Wildlife Service (USFWS) Range-Wide Indiana Bat Summer Survey Guidelines. The Project Area was surveyed using passive acoustic monitoring sites from June 3 - August 16, 2022. Forty-six (46) acoustic sites were deployed within potential foraging and roosting habitat in and near the Project Area. A total of 121 successful detector nights were sampled and over 6,500 recordings were analyzed by two leading commercial bat call analysis software programs and a bat call expert in order to determine bat species present at the time of the survey. From the results of this analysis and with the limitations of acoustic monitoring, the determination of probable presence of the Indiana bat and Northern long-eared bat cannot be supported, and absence of the species may be assumed. Qualitative (manual) review of all acoustic recordings classified by the USFWS accepted auto-classifier program (Kaleidoscope Pro) as a Myotis species determined that eight recordings had characteristics of both little brown (Myotis lucifugus) and Indiana bats, but the quality of these recordings did not reach the threshold where a definitive identification of either species could be distinguished from the other. No files were auto-classified or manually identified as Northern long-eared bat.

We have prepared this survey report for the use of our client's office for planning purposes in accordance with generally accepted bat acoustic monitoring practices and U.S. Fish and Wildlife Service guidelines. No other warranties, either expressed or implied, are made as to the professional services included in this report. This report may be considered void without the electronic attachments originally accompanying this document.

Methods

Acoustic Survey

An acoustic bat presence or probable absence survey was conducted in accordance with the USFWS 2020 *Range-wide Indiana Bat Summer Survey Guidelines* document (USFWS Guidelines). The minimum level of effort for the approximately 23 km of bat habitat in the linear Project Area was 92 valid monitoring nights. A valid night is one monitoring device placed at one location and activated from sundown to sunrise during a night that is within the weather parameters of the USFWS Guidelines. Each monitoring site consisted of one full-spectrum Pettersson acoustic detector, model D500x (Pettersson Elektronik; Uppsala, Sweden) with an external microphone elevated 3-6 m above ground. The detector deployment was staggered between June 3 and August 4, 2022. The deployment length at each site was at least two nights, but may have been longer depending on weather conditions, if technical problems occurred, and other logistics. Deployments ranged from two to twelve survey nights (Table 1, Appendix A). All detectors were removed from sites by August 16, 2022.

The detectors were tested prior to deployment to ensure they were functioning properly. This included testing the microphone and cable by producing ultrasound it should be able to detect. The D500x has an ultrasound decibel meter that confirmed whether or not the mic and mic cable were functioning. This test was repeated just prior to being armed during the deployment of each detector, when each detector was serviced (the batteries and memory cards were replaced), and when the detectors were removed at the end of the survey. The detectors were programmed to record an extended "Log File" that listed the settings, battery voltage, and logged any failures due to low power and/or full memory that may have occurred. Metadata from the survey site was collected, which included all pertinent details about the deployment. The site-specific data was added to each recorded file during data management post-processing (Appendix A).

Aerial photographs were used to place acoustic sites in probable bat flyways and foraging areas within or near the Project Area. Sites were adjusted in the field as needed to accommodate onsite conditions before the detectors were deployed (Table 1, Figure 2). Each detector was equipped with an extension cable and an external directional microphone mounted horizontally on a pole at least 3 m above ground. The detectors were programmed to passively record individual 4-second recordings of echolocation calls in standard .WAV audio format from sunset to sunrise each night. The individual bat recordings usually represent a single "pass" (fly by) from a single bat. However, if multiple bats were flying through the optimal volume of detection during the same 4-second interval, they were recorded in tandem and the bat call analysis software programs may only record the dominant bat present. More details about detector settings, placement, and site metadata can be found on the Acoustic Site Data Sheets (Appendix A).

Acoustic Data Analysis

All files recorded were off-loaded from the detectors and organized by site and by night for analysis. Noise recordings were removed from the dataset, and remaining files with tonal qualities similar to bats were attributed with site specific metadata using the SonoBat30 Data Wizard.

Bat recordings were analyzed using Kaleidoscope Pro (KaPRO), version 5.4.8 (Wildlife Acoustics, Inc., Maynard, MA). Signal parameters for the KaPRO "AutoID for Bats North America 5.4.0" analysis were set at -1 liberal sensitivity and considered all signals between 8 and 120 kHz in frequency, between 2-500 ms in duration, having a maximum intersyllable gap of 500 ms, and sequences with a minimum of 2 echolocation call pulses. The state classifier used was Pennsylvania and included the following species considered for analysis: big brown bat (*Eptesicus fuscus*), Eastern red bat (*Lasiurus borealis*), evening bat (*Nycticeius humeralis*), hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), Eastern small-footed bat (*Myotis leibii*), little brown bat (*Myotis lucifugus*), Northern longeared bat (*Myotis septentrionalis*), Indiana bat (*Myotis sodalis*), and tricolored bat (*Perimyotis subflavus*).

Bat echolocation call recordings are made up of discrete "pulses" of sounds. KaPRO uses analysis algorithms to weigh the pulse-level classifications and provide a sequence-level species identification. Auto-classifications can return spurious results especially in the case when multiple bats are recorded in a single call file and/or when the recording consists of any bat activity other than typical search phase calls. Low-probability AutoID results can be generated by the software program, which may lead to false-positive classifications. Low quality recordings, social calls, birds, insects, and anthropogenic sounds all contain some sound data qualities that may overlap with bats in the data space of call measurements. In addition, many bat species calls will converge on the same call types when in certain physical and/or behavioral situations, rendering species identification impossible. Software is expected to occasionally report false positives with the assumption that rare species will be manually reviewed to confirm presence. The Kaleidoscope software is inherently limited by the "zero cross" (ZC) call data it was built with. The ZC workflow intentionally downsamples recording data to a fraction of the original sound content. This downsampling leads to fewer high quality recordings, recordings which lack low amplitude characteristics necessary for critical *Myotis species* identification, more recordings too ambiguous to be classified, and incorrect classifications.

All recordings were also classified in their originally recorded full spectrum form using the software program SonoBat (version 4.4.5, Joe Szewczak, Arcata CA). Full spectrum recordings provide the most sound data available for measurement and analysis. SonoBat output provides a "file-level" species classification (e.g., suggested identification) for every recording considered in the data set. The SonoBat auto-classifier used was Northeastern North America which included the following species considered for analysis: big brown bat (*Eptesicus fuscus*), Eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), Eastern small-footed bat (*Myotis leibii*), little brown bat (*Myotis lucifugus*), Northern long-eared bat (*Myotis septentrionalis*), Indiana bat (*Myotis sodalis*), evening bat (*Nycticeius humeralis*), Rafinesque's big-eared bat (*Corynorhinus rafinesquii*), and tricolored bat (*Perimyotis subflavus*). Auto classification parameters were set to 0.80 and above for acceptable call quality and the sequence decision threshold was set to 0.90 and above for classification decisions.

All recordings auto-classified as a *Myotis* species and representative files of all other species were manually reviewed (qualitative analysis) to confirm or reject the initial software classification. The qualitative analysis was conducted by viewing the full-spectrum echolocation call sequences using the SonoBat30 spectrogram viewer. All recordings were both auto-classified and qualitatively analyzed by a qualified bat biologist (Appendix B).

Weather Data

Nightly temperature, wind, and precipitation data were compiled from the nearest weather station in Salisbury, PA (Highpoint - KPASALIS2) and are archived online (www.wunderground.com). According to USFWS Guidelines, the following weather conditions preclude a valid survey night if they occur in the first five hours of the night: (a) temperatures fall below 10°C; (b) precipitation, including rain and/or fog, that exceeds 30 minutes or continues intermittently; and (c) sustained wind speeds greater than 4 meters/second (3 on Beaufort scale) for 30 minutes or more.

Results

Level of Effort

Forty-six acoustic sites (AM01-AM46) were deployed between June 3 and August 4, 2022. Ten sites were deployed on June 3 (AM25-30, AM11-14), seven on June 8 (AM07-10, AM15-17), ten on June 12 (AM1-6, AM19-22), seven on June 13 (AM23-24, AM34-38), five on June 14 (AM20, AM31-33, AM40), and seven sites were deployed on August 4 (AM39, AM41-46). All detectors programed to start recording on the night of deployment. The sites were deployed for a total of 178 monitoring nights. A total of 48 nights were invalid due to precipitation and 10 were invalid due to technical issues. No survey nights were lost due to low temperatures. A total of 121 valid nights were completed, with all sites monitoring for at least two valid nights each. All sites were removed by August 16. Files recorded during nights determined to be invalid due to weather events or technical issues were included in the species occupancy analysis (Tables 1, Appendix A).

Species Occupancy

Software cannot classify all recordings. Bat call quality is affected by multiple factors such as distance a bat is from the microphone, insect noise, multiple bats recorded at the same time, non-search phase calls (i.e. social or feeding buzzes), and weather. Recordings that included bat calls but did not contain enough high-quality call pulses to meet the parameters for auto-classification to species were categorized as no identification (NOID) by Kaleidoscope PRO.

As per USFWS Guidelines, Kaleidoscope PRO was used to generate the Maximum Likelihood Estimate (MLE) number to determine presence on a site-by-night basis. Results of this analysis indicate five species present: big brown bat (*Eptesicus fuscus*), Eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), tricolored bat (*Perimyotis subflavus*), and little brown bat (*Myotis lucifugus*). The target species, Indiana bat (*Myotis sodalis*) and Northern long-eared bat (*Myotis septentrionalis*), were not present by the MLE analysis at any site on any night (Table 2). The MLE is a statistical probability based on the composition of species detected. Species often mis-identified with each other (i.e. all *Myotis* spp. in the Northeast US) require a higher number of samples in order to return an MLE that indicates presence. Kaleidoscope PRO did classify a low number of recordings as Indiana and Northern long-ear bats, but not enough to become a statistically significant MLE, and were ultimately downgraded to other classifications in the manual review process (below).

Kaleidoscope Pro classified 5,145 files to ten species which included the big brown bat, Eastern red bat, hoary bat, silver-haired bat, evening bat (*Nycticeius humeralis*), tricolored bat, Eastern small-footed bat (*Myotis leibii*,), Northern long-eared bat, Indiana bat, and little brown bat. SonoBat auto-classified 4,387 files to eight species which included the big brown bat, Eastern red bat, hoary bat, silver-haired bat, evening bat, tricolored bat, Indiana bat, and little brown bat. In addition, SonoBat assigned the classification of "Luso" (LUCSOD) to two recordings that were within the characteristic parameters of both the little brown bat and Indiana bat (Table 3, Appendix C: Acoustic Data: Attached Electronic Document). Indiana and little brown bat call repertoires overlap significantly in all measurable call parameters making all but the highest quality, long duration call pulses recordings demonstrably indistinguishable.

All *Myotis* species files and representative non-*Myotis* species files that Kaleidoscope Pro and SonoBat classified were manually vetted (qualitative analysis) to confirm or reject the classification at each site. A manual designation of LUCSOD referred to files that contained some characteristics of both the little brown bat and the Indiana bat but a definitive archetypal example recording of the species was not present. The big brown bat was the dominant species detected and was manually confirmed at most sites throughout the survey area.

Kaleidoscope Pro classified 185 recordings as some type of Myotis species; predominantly little brown bats, with much smaller numbers of Indiana, Northern long-ear, and a few Eastern small-footed bats. The majority of these files did not pass quality thresholds to be confidently classified by the SonoBat software, and when they did, the majority were classified as Eastern red bats (Table 4). All recordings initially classified by Kaleidoscope Pro as some type of Myotis species were manually reviewed. The classification on eight files was downgraded manually to a LUCSOD at sites AM08 (1 file), AM15 (1 file), AM16 (5 files) and AM25 (1 file). Three files were manually classified as small-footed bat at sites AM14 (2 files) and AM19 (1 file). No files were manually confirmed as Northern long-eared bat or Indiana which can be considered absent during this survey.

Figures

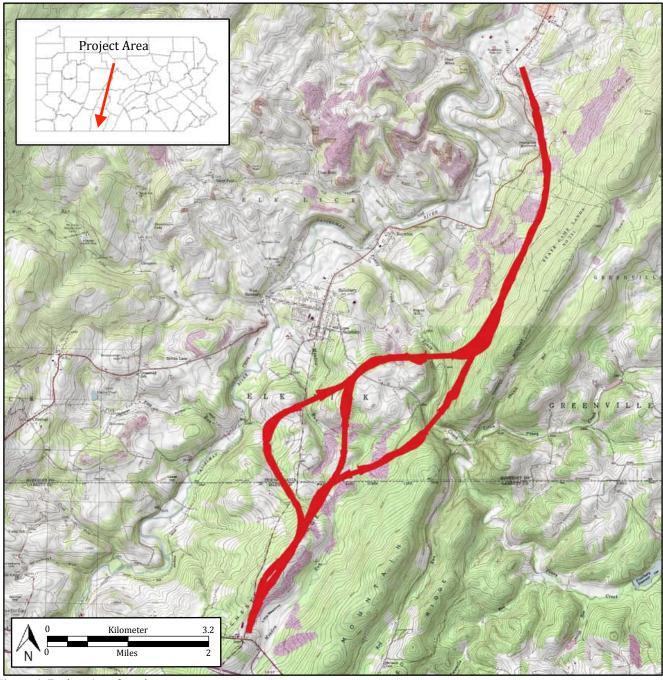


Figure 1. Project Area location

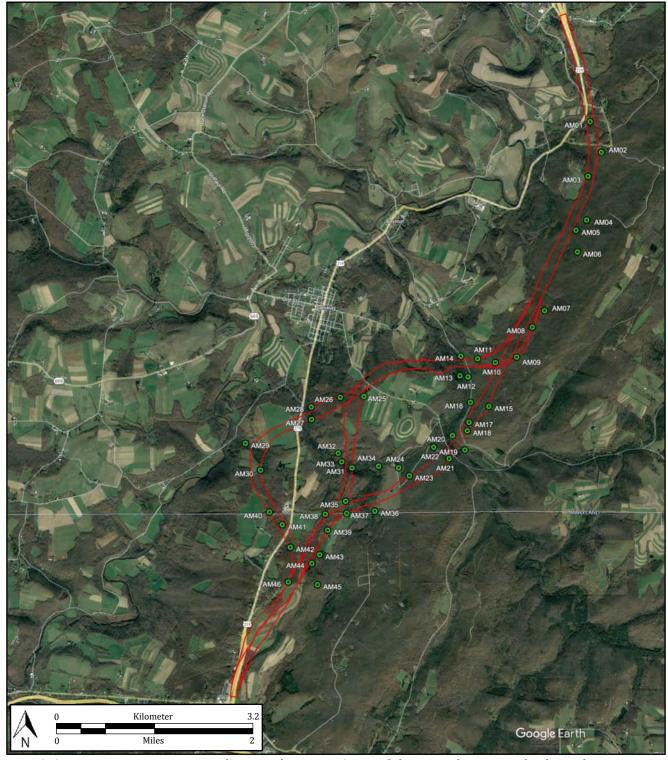


Figure 2. Acoustic monitoring sites in relation to the Project Area and the Pennsylvania-Maryland state line

Tables

Table 1. Acoustic site locations and survey level of effort

Site	Site Location (Lat, Long)	Nighte Donleyed	Invalid	d Nights	Total Valid Nights
Site	WGS84	Nights Deployed	Tech	Weather	Completed
AM01	39.780190°, -79.030486°	2	0	0	2
AM02	39.775690°, -79.028350°	2	0	0	2
AM03	39.772160°, -79.030880°	3	0	0	3
AM04	39.765740°, -79.031145°	3	0	0	3
AM05	39.764247°, -79.033191°	3	0	0	3
AM06	39.761054°, -79.032923°	3	0	0	3
AM07	39.752454°, -79.039174°	5	0	2	2
80MA	39.750022°, -79.041529°	5	0	2	3
AM09	39.745611°, -79.044514°	5	0	2	3
AM10	39.744820°, -79.048590°	5	0	2	3
AM11	39.745380°, -79.051970°	5	0	3	2
AM12	39.742715°, -79.053781°	5	0	3	2
AM13	39.742874°, -79.055329°	5	0	3	2
AM14	39.745756°, -79.055179°	5	0	3	2
AM15	39.738388°, -79.049815°	5	0	2	3
AM16	39.738978°, -79.053338°	6	4	2	2
AM17	39.736046°, -79.053600°	5	0	2	3
AM18	39.734808°, -79.053937°	5	0	2	3
AM19	39.732003°, -79.054386°	2	0	0	2
AM20	39.734110°, -79.056766°	4	0	0	4
AM21	39.730714°, -79.057418°	2	0	0	2
AM22	39.732404°, -79.060350°	2	0	0	2
AM23	39.728200°, -79.064996°	2	0	0	2
AM24	39.729384°, -79.067014°	2	0	0	2
AM25	39.739834°, -79.073646°	5	0	3	2
AM26	39.739720°, -79.078150°	5	0	3	2
AM27	39.736470°, -79.083657°	5	0	3	2
AM28	39.738297°, -79.083714°	5	0	3	2
AM29	39.732950°, -79.096261°	5	0	3	2
AM30	39.729020°, -79.093371°	5	0	3	2
AM31	39.729354°, -79.075938°	2	0	0	2
AM32	39.731518°, -79.078568°	2	0	0	2
AM33	39.730246°, -79.077884°	2	0	0	2
AM34	39.729609°, -79.070852°	2	0	0	2
AM35	39.724469°, -79.077130°	2	0	0	2
AM36	39.723019°, -79.071567°	2	0	0	2
AM37	39.722684°, -79.076944°	2	0	0	2
AM38	39.722546°, -79.081006°	2	0	0	2
AM39	39.720224°, -79.080564°	3	0	0	3
AM40	39.722861°, -79.091668°	2	0	0	2
AM41	39.721010°, -79.089220°	3	0	0	3
AM42	39.717703°, -79.087690°	12	3	1	8
AM43	39.716614°, -79.082083°	3	0	0	3
AM44	39.715343°, -79.083581°	12	3	1	8
AM45	39.712219°, -79.082489°	3	0	0	3
AM46	39.712611°, -79.088066°	3	0	0	3
	Total	178	10	48	121

Table 2. Maximum Likelihood Estimate (MLE) by site and by night from Kaleidoscope PRO

MLE <0.05 (highlighted in green) suggest presence, according to U.S. Fish and Wildlife Service Range-wide Indiana Bat Survey Guidelines (2022). Neither target species, MYOSOD or MYOSEP, pass this analysis threshold. The MLE analysis does not take any manual review of bat call recordings into account. EPTFUS = *Eptesicus fuscus* (big brown bat), LASBOR = *Lasiurus borealis* (Eastern red bat), LASCIN = *Lasiurus cinereus* (hoary bat), LASNOC = *Lasionycteris noctivagans* (silver-haired bat), MYOLEI = *Myotis leibii* (Eastern small-footed bat), MYOLUC = *Myotis lucifugus* (little brown bat), MYOSEP = *Myotis septentrionalis* (Northern long-eared bat), MYOSOD = *Myotis sodalis* (Indiana bat), NYCMHU = *Nycticeius humeralis* (evening bat), PERSUB = *Perimyotis subflavus* (tricolored bat).

Site	Site and	EPTFUS	LASBOR	LASCIN	LASNOC	MYOLEI	MYOLUC	MYOSEP	MYOSOD	NYCHUM	PERSUB
11101	Night MLE	0	0.440564		4				4	0.0040040	4
AM01	Site	0 0001276	0.412561	1	1	1	1	1	1	0.9040048	1
	20220612	0.0001376	0.4125693	1	1	1	1	1	1	0.9040234	1
A N 4 O 2	20220613	0	1	1	1	1	1	1	1	1	1
AM02	Site	0	0	1	1	1	0.9810935	1 0.7363076	1	1	0
	20220612	0	0	1	1	1	1	0.7363876	1	1	0
44400	20220613	0	0.0001184	1	1	1	1	1	1	1	0.0000853
AM03	Site	0	0.8242415	0	1	1	0.5765194	1	1	0.1732799	1
	20220612	0	1	0.0000029	1	1	1	1	1	1	1
	20220613	0	0.5942491	0	1	1	0.5802079	1	1	0.627049	1
	20220614	0.005329	1	0	1	1	1	1	1	0.1526222	1
AM04	Site	0	1	1	1	1	1	1	1	1	1
	20220612	0.0006258	1	1	1	1	1	1	1	1	1
	20220613	0	1	1	1	1	1	1	1	1	1
	20220614	0.0285092	1	1	1	1	1	1	1	1	1
AM05	Site	0.0285092	1	1	1	1	1	1	1	1	1
	20220612	1	1	1	1	1	1	1	1	1	1
	20220613	0.0285092	1	1	1	1	1	1	1	1	1
AM06	Site	0.0000232	1	1	1	1	1	1	1	1	1
	20220612	1	1	1	1	1	1	1	1	1	1
	20220613	0.0001372	1	1	1	1	1	1	1	1	1
	20220614	0.1688468	1	1	1	1	1	1	1	1	1
AM07	Site	0	0.0000003	1	1	1	1	1	0.6222013	0.9589497	1
	20220608	0.0000001	0.3020445	1	1	1	0.8848967	1	0.4409319	0.3497741	0.984422
	20220610	0.2247859	0.0001803	1	0.3763438	1	1	1	1	1	1
	20220611	1	1	1	1	1	0.1241367	1	1	1	1
	20220612	0	0.006401	1	1	1	1	1	1	0.8273742	1
AM08	Site	0.5263837	0.1180101	0.0003502	0.0442765	1	0.2308156	0.5098835	0.7433346	1	1
	20220608	1	1	1	1	1	1	1	1	1	1
	20220609	0.1688352	1	1	1	1	1	1	0.1415167	1	1
	20220610	1	1	0.0009648	0.9564403	1	0.1241367	1	1	1	1
	20220611	1	0.0464386	1	0.0101239	1	0.5920636	0.2877736	1	1	1
	20220612	0.4291918	1	0.0217563	0.3904782	1	1	1	1	0.3906534	1
AM09	Site	0.0001405	0.0318035	0.0015954	0.9998065	1	1	1	1	1	1
711103	20220608	0.0000178	1	1	1	1	1	1	1	1	1
	20220610	1	0.0318351	0.0134407	0.8400725	1	1	1	1	1	1
	20220611	1	1	1	0.2108455	1	1	1	1	1	1
	20220612	0.6690432	1	0.0003526	1	1	1	1	1	1	1
AM10	Site	0.0000001	0	1	0.9943411	1	0.4261156	1	1	1	1
AIVIIO	20220608	0.223357	1	1	0.3767133	1	1	1	1	1	1
	20220609	0.0285083	1	1	1	1	1	1	1	0.059615	1
	20220609	1	0.0815215	1	1		1		1		
						1		1		1	0.0121471
	20220611	1	0.0053631	1	1	1	0.8429965	1	1	1	0.9131471
A D 44.4	20220612	0.0000031	0.0000115	1	1	1	0.166035	1	1	1	0.9119901
AM11	Site	0	1	1	1	1	0.124203	1	1	1	1
	20220603	0	1	1	1	1	1	1	1	1	1
	20220604	0.0285092	1	1	1	1	1	1	1	1	1
	20220605	0.0000132	1	0.9348729	0.9999752	1	0.124193	1	1	1	1
	20220606	1	1	0.0774158	1	1	1	1	1	1	1
	20220607	1	1	1	1	1	1	1	1	1	1

Table 2. (cont.) Maximum Likelihood Estimate (MLE) by site and by night From Kaleidoscope PRO

Site	Site and Night MLE	EPTFUS	LASBOR	LASCIN	LASNOC	MYOLEI	MYOLUC	MYOSEP	MYOSOD	NYCHUM	PERSUB
AM12	Site	0	1	1	1	1	1	1	1	1	1
	20220603	0	1	1	1	1	1	1	1	1	1
	20220604	1	1	1	1	1	1	1	1	1	1
	20220605	0	1	1	1	1	1	1	1	1	1
	20220606	1	1	1	1	1	1	1	1	1	1
	20220607	0	1	1	1	1	1	1	1	1	1
AM13	Site	1	1	0.000464	1	1	1	1	1	1	1
	20220605	1	1	1	1	1	1	1	1	1	1
	20220606	1	1	0.0774158	1	1	1	1	1	1	1
	20220607	1	1	0.0059932	1	1	1	1	1	1	1
AM14	Site	0	0.0001062	1	1	1	0.1393445	1	1	1	1
	20220603	0.007283	0.170301	0.5614409	1	1	1	1	1	0.8175765	1
	20220604	0.1091732	1	1	0.839709	1	0.0671225	1	1	0.5387108	0.325541
	20220605	0	1	1	1	1	1	1	1	1	1
	20220606	0.0000233	0.1223059	1	1	1	0.0346018	1	1	1	1
	20220607	0.0008223	0.0145064	1	1	1	1	1	1	1	1
AM15	Site	0	0.0006233	0.9952941	0.5727476	1	0.0000059	1	1	1	1
	20220608	0.0008127	1	1	1	1	0.000296	1	0.8962554	1	1
	20220609	0	1	1	1	1	0.0377056	1	1	0.4669645	1
	20220610	1	1	1	0.0093733	1	1	1	1	1	1
	20220611	1	0.0741691	1	0.2193058	1	0.165978	1	1	1	1
	20220612	0.0042286	0.000777	0.6777974	1	1	0.2262504	1	1	1	1
AM16	Site	0	0	1	1	0.8967163	0	1	1	1	1
	20220612	0.0000005	0	1	1	1	0	1	1	1	1
	20220613	0.0001392	0.07836	1	1	0.5034928	0	0.9866348	1	1	1
AM17	Site	1	0.2724093	1	1	1	0.4075593	1	1	1	1
	20220608	1	1	1	1	1	1	1	1	1	1
	20220610	1	1	1	1	1	1	1	1	1	1
	20220612	1	0.2724093	1	1	1	0.4075593	1	1	1	1
AM18	Site	0	0.1695455	1	0.188676	1	0.0441258	1	1	0.9789037	0.9642989
	20220608	0.0014975	0.190824	1	0.1936665	1	1	1	1	1	0.5286506
	20220609	0.3486354	1	1	0.1289381	1	1	1	1	0.3906672	1
	20220610	1	1	0.3777767	0.052198	1	0.1241367	1	1	1	1
	20220611	0.0001759	1	0.6364744	0.2365472	1	0.0063977	1	1	0.4848027	1
	20220612	0	0.1783246	1	1	1	1	1	1	1	1
AM19	Site	0	0.3099609	1	1	0.135254	1	0.3283584	1	1	0
	20220612	0	1	0.7901558	1	0.1340266	1	0.2224317	1	1	0.1623596
	20220613	0	0.2851648	1	1	1	1	1	1	1	0
AM20	Site	1	1	1	1	1	1	1	1	1	1
	20220612	1	1	1	1	1	1	1	1	1	1
AM21	Site	0	1	0.0000034	1	1	1	1	1	1	1
	20220612	0	1	0.0000092	1	1	1	1	1	1	1
	20220613	0	1	0.1158827	1	1	1	1	1	1	1
AM22	Site	0.0000004	1	0	1	0.1694109	0.0000035	1	1	1	1
2	20220612	0.0001205	1	0.0000007	1	1	0.0154263	1	1	1	1
	20220613	0.0058022	1	0.0048986	0.6721297	0.1234957	0.0002299	1	1	1	1
AM23	Site	0.0000296	0.0004756	1	0.5922436	1	0.0147715	1	1	0.7021284	1
20	20220613	0.0000503	0.0090638	1	0.7968795	1	0.3499105	1	1	1	0.9149837
	20220614	0.4781868	0.0368909	1	0.6128154	1	0.021384	1	0.9952945	0.2304584	1
AM24	Site	0.0018502	0	0.0005916	0.0329293	0.2518225	0.0588652	1	1	1	1
	20220613	0.0010502	0.0000583	0.0623225	0.2786397	0.08046	0.9955624	1	1	1	1
	20220614	0.6886574	0	0.0054895	0.0905576	1	0.0306699	1	1	1	1
AM25	Site	0.0880374	0.3651684	1	1	1	1	1	0.1773703	0.963465	0.7100611
	20220603	0	1	1	1	1	1	1	1	1	1
	20220604	0	1	0.9938367	1	1	1	1	0.1546521	1	0.1621894
	20220604	0	1	1	1	1	1	1	1	1	1
	20220605	0	1	1	1	1	1	1	1	0.3906926	1
	20220607	0	0.1783257	1	1	1	1	1	1	1	1
	20220007	U	0.1/0323/	1	1	1	1	1	1	1	1

Table 2. (cont.) Maximum Likelihood Estimate (MLE) by site and by night from Kaleidoscope PRO

Site	Site and Night MLE	EPTFUS	LASBOR	LASCIN	LASNOC	MYOLEI	MYOLUC	MYOSEP	MYOSOD	NYCHUM	PERSUB
AM26	Site	0	0.0784702	1	1	1	0.7580524	1	1	1	1
711120	20220603	0	1	1	1	1	1	1	1	1	1
	20220604	0	1	1	1	1	0.1242113	1	1	1	1
	20220605	0.0000178	1	1	1	1	1	1	1	1	1
	20220606	0.0000007	0.0813748	1	1	1	1	1	1	1	1
	20220607	0.0000001	1	1	1	1	1	1	1	1	1
AM27	Site	0	0	1	1	1	0.3274468	1	1	1	1
	20220603	0	1	1	1	1	1	1	1	1	1
	20220604	0.0050025	0	1	1	1	1	1	1	1	1
	20220605	0.0001372	1	1	1	1	1	1	1	1	1
	20220606	0	1	1	1	1	0.0154284	1	1	1	1
	20220607	0	1	1	1	1	0.1242113	1	1	1	1
AM28	Site	0	0.1785884	1	1	1	0.0062737	1	1	1	1
	20220603	0	1	1	1	1	1	1	1	1	1
	20220604	0.688351	1	1	0.1960262	1	1	1	1	1	1
	20220605	0.0000233	0.0740422	1	1	1	0.1661439	1	1	1	1
	20220606	0.0001864	1	0.7567554	1	1	0.0154271	1	1	1	1
	20220607	0.0000232	1	1	1	1	1	1	1	1	1
AM29	Site	0	1	1	0.8210818	1	0.2593213	1	1	1	0.1839604
	20220603	0.1688468	1	1	1	1	1	1	1	1	1
	20220605	0.1055596	1	1	0.2312144	1	1	1	1	1	0.1617664
	20220606	0.0008128	1	1	1	1	1	1	1	1	1
	20220607	0.0000003	1	1	0.9727153	1	0.1241971	1	1	1	1
AM30	Site	0	0	0	1	1	1	1	1	1	1
	20220603	0	0	0.0000328	0.0040715	1	1	1	1	1	1
	20220604	0	0.0011063	0.002648	1	1	0.8616845	1	1	1	1
	20220605	0	1	0	0.9776679	1	1	1	1	0.15261	1
	20220606	0	0.0289608	0.0792291	1	1	0.8861939	1	1	1	1
	20220607	1	1	1	1	1	1	1	1	1	1
AM31	Site	0	0	0.1559441	1	1	1	1	1	1	1
	20220614	0	0	0.9934736	1	1	1	1	1	1	1
	20220615	0	0.004132	0.0302747	0.9672239	1	1	1	1	1	0.7769195
AM32	Site	0	0.0739675	0	0.4381138	1	1	1	1	0.2599231	1
	20220614	0	0.0814106	0	0.4370927	1	1	1	1	1	1
	20220615	0	0.4830404	0	0.8508265	1	1	1	1	0.1381874	1
AM33	Site	0	0	0.0006446	1	1	0.4256228	1	1	1	1
	20220614	0	0.0066939	0.297498	0.9977263	1	0.171167	1	1	0.9463062	1
	20220615	0	0	0.0018702	1	1	0.984539	1	1	1	0.9467808
AM34	Site	0	0.0299052	1	1	1	0.0000032	1	1	1	1
	20220613	0	0.0326526	1	1	1	0.0278572	1	1	1	1
	20220614	0	0.8166316	1	1	1	0.0000364	1	1	1	1
AM35	Site	0.1693673	0.7588505	1	1	1	0	1	0.7632626	1	1
	20220613	1	1	1	1	1	0.000065	1	0.5312228	1	1
	20220614	0.1696433	0.4112297	1	1	1	0.000079	0.891832	1	1	1
AM36	Site	0.1688468	1	1	1	1	1	1	1	1	1
	20220613	0.1688468	1	1	1	1	1	1	1	1	1
AM37	Site	0	0.0103079	0	0.4878439	0.0690811	1	1	1	1	0.9632768
	20220613	0	0.0639078	0.0065999	0.6048776	0.0669673	1	1	1	1	0.8821452
44400	20220614	0	0.1783349	0	0.7597639	1	1	1	1	1	1
AM38	Site	0.4348912	0.01182	0.0348544	1	1	0.2658447	1	1	1	1
	20220613	0.2782024	1	0.2766429	1	1	1	1	1	1	1
44400	20220614	1	0.0118301	0.0807964	1	1	0.2656027	1	1	1	1
AM39	Site	0.0499687	0.2771174	1	0.1418788	1	0.532729	1	1	1	0.5561501
	20220804	0.1688468	1	1	1	1	0.2593194	1	1	1	0.1839784
48440	20220806	0.1697938	0.1783314	1	0.0814493	1	1	1	1	1	1
AM40	Site	0	0	0	0.0000483	1	1	1	1	1	1
	20220614	0	0.0000001	0	0.0299663	1	1	1	1	0.8985919	1
	20220615	0	0	0	0.0011664	1	1	1	1	1	1

Table 2. (cont.) Maximum Likelihood Estimate (MLE) by site and by night from Kaleidoscope PRO

Site	Site and Night MLE	EPTFUS	LASBOR	LASCIN	LASNOC	MYOLEI	MYOLUC	MYOSEP	MYOSOD	NYCHUM	PERSUB
AM41	Site	0	0.3697267	0.0016734	0.0376325	1	1	0.0866826	1	0.9604135	0.7080031
	20220804	0	1	0.0125701	0.0276083	1	1	0.0814815	1	1	0.1621105
	20220805	0	0.1783344	0.1829332	1	1	1	1	1	1	1
	20220806	0.1095027	1	0.6858253	0.3080313	1	1	1	1	0.3906533	1
AM42	Site	0.0000232	1	1	1	1	0.1242113	1	1	1	1
	20220807	1	1	1	1	1	0.1241367	1	1	1	1
	20220809	0.0000232	1	1	1	1	1	1	1	1	1
AM43	Site	0.0285092	1	1	1	1	1	1	1	1	1
	20220804	0.0285092	1	1	1	1	1	1	1	1	1
AM44	Site	1	1	1	1	1	1	1	1	1	1
	20220807	1	1	1	1	1	1	1	1	1	1
	20220809	1	1	1	1	1	1	1	1	1	1
AM45	Site	0	1	1	1	1	1	1	1	1	1
	20220805	0.1688468	1	1	1	1	1	1	1	1	1
	20220806	0	1	1	1	1	1	1	1	1	1
AM46	Site	0	0.0044687	1	1	1	0.1655223	1	1	1	1
	20220804	0	1	1	1	1	0.0154284	1	1	1	1
	20220805	0	0.0434326	1	1	1	0.6085872	1	1	1	1
	20220806	0	0.0813944	1	1	1	1	1	1	1	1
Proje	ect MLE	0	0	0	1	1	0	1	1	1	0.3964184

Table 3. Summary of bat acoustic auto-ID classifications by site

KP = Kaleidoscope Pro v 5.4.8; SB = SonoBat 4.4.5 NE; EPTFUS = Eptesicus fuscus (big brown bat), LASBOR = Lasiurus borealis (Eastern red bat), LASCIN = Lasiurus cinereus (hoary bat), LASNOC = Lasionycteris noctivagans (silver-haired bat), MYOLEI = Myotis leibii (Eastern small-footed bat), MYOLUC = Myotis lucifugus (little brown bat), MYOSEP = Myotis septentrionalis (Northern long-eared bat), MYOSOD = Myotis sodalis (Indiana bat), NYCMHU = Nycticeius humeralis (evening bat), PERSUB = Perimyotis subflavus (tricolored bat). LUCSOD = a call classification that is either Myotis lucifugus or Myotis sodalis. * LUCSOD is not an available option in Kaleidoscope Pro.

Species				Files	Confide	ntly Auto	-Classifi	ed Classi	fied to S _l	pecies by	/ Site			Tot	tal
Auto II Progra		AM01	AM02	AM03	AM04	AM05	AM06	AM07	80MA	AM09	AM10	AM11	AM12	KP	SB
EPTFUS	KP	15	508	143	32	2	6	54	3	8	12	48	116	947	_
EPIFUS	SB	14	485	186	31	2	5	52	5	7	10	44	114	_	955
LASBOR	KP	1	27	1				12	2	2	12			57	_
LASBOR	SB		28	4				9	2	1	3	1		_	48
LASCIN	KP		7	63				1	6	6		3		86	_
	SB			5					1	2			1	_	9
LASNOC	KP		8	6	4			3	7	3	3	3		37	_
	SB		8		1			3	6	2	2	4		_	26
LUCSOD	KP*	_	_	_	_	_	_	_	_	_	_	_	_	_	_
	SB													_	0
MYOLEI	KP													0	
	SB													_	0
MYOLUC	KP		8	1				2	2		5	1		19	
	SB														0
MYOSEP	KP		1						1					2	_
	SB							4	4					_	0
MYOSOD	KP							1	1					2	_
	SB		1.0					0						_	0
NYCHUM	KP	1	16	4				9	1		4			35	_
	SB		F2					3		1	1			-	5
PERSUB	KP		53					1			3			57	_
	SB	47	44	240	26	2		00	22	10	20		116	_	44
Total	KP	17	628	218	36	2	6	83	23	19	39	55	116	1242	1087
	SB	14	565	195	32	2	5	67	14	13	16	49	115		

Table 3 (cont.). Summary of bat acoustic ID by site (AM13 - AM24)

Species				Files	Confide	ntly Auto	-Classifi	ed Classi	fied to Sp	pecies by	/ Site			To	tal
Auto II Progra		AM13	AM14	AM15	AM16	AM17	AM18	AM19	AM20	AM21	AM22	AM23	AM24	КР	SB
EPTFUS	KP		28	21	14		64	25		95	14	9	10	280	_
EPIFUS	SB		23	21	16		62	23		101	18	9	20	_	293
LASBOR	KP		7	7	26	1	2	2				8	19	72	_
LASBOR	SB		4	10	37		2				2	5	7	_	67
LASCIN	KP	3	1	2			4	2		27	15		8	62	_
EASCH	SB	2		2			2			15	5			_	26
LASNOC	KP		1	8	1		24	2		20	5	4	11	76	_
27.51100	SB		1	5			21	4		7	2	1	3	_	44
LUCSOD	KP*	_	_	_	_	_	_	_	_	_	_	_	_	_	_
	SB				1						1			_	2
MYOLEI	KP				1			1			1		1	4	_
	SB													_	0
MYOLUC	KP		5	11	52	1	4				6	8	8	95	_
	SB				1									_	1
MYOSEP	KP				3			1						4	_
	SB													_	0
MYOSOD	KP			1	3							1		5	_
	SB													_	0
NYCHUM	KP		4	2	1		2					9	1	19	_
	SB												2	_	2
PERSUB	KP		1		4		1	16				2	1	25	_
	SB				3			15						_	18
Total	KP	3	47	52	105	2	101	49	0	142	41	41	59	642	453
.otai	SB	2	28	38	58	0	87	42	0	123	28	15	32	, i.E	.55

Table 3 (cont.). Summary of bat acoustic ID by Site (AM25 - AM36)

Species				Files	Confide	ntly Auto	-Classifi	ed Classi	fied to S _l	pecies by	Site			To	tal
Auto II Progra		AM25	AM26	AM27	AM28	AM29	AM30	AM31	AM32	AM33	AM34	AM35	AM36	KP	SB
EPTFUS	KP	90	53	76	28	19	796	217	153	83	85	1	1	1602	_
EPIFUS	SB	74	47	75	25	20	918	265	230	111	76	1	1	_	1843
LASBOR	KP	1	2	12	2		20	15	4	18	4	2		80	_
LASBOR	SB			10	2		12	11	7	15	6	4		_	67
LASCIN	KP	3			1		129	27	74	20				254	_
LASCIIV	SB	7					28	3	18	2				_	58
LASNOC	KP	5	2		2	6	138	37	59	21				270	_
LASIVOC	SB	3	3		1	3	17	1	3	3				_	34
LUCSOD	KP*	_	_	_	_	_	_	_	_	_	_	_	_	_	_
LOCSOB	SB													_	0
MYOLEI	KP													0	_
WITOLLI	SB													_	0
MYOLUC	KP		1	4	4	1	2			7	10	11		40	_
	SB													_	0
MYOSEP	KP											1		1	_
	SB													_	0
MYOSOD	KP	1										3		4	_
	SB			1			1							_	2
NYCHUM	KP	1	1				4	3	6	8	1			24	_
	SB						1	1		1				_	3
PERSUB	KP	1				1		2		4				8	_
	SB					1								_	1
Total	KP	102	59	92	37	27	1089	301	296	161	100	18	1	2283	2008
.otai	SB	84	50	86	28	24	977	281	258	132	82	5	1	05	

Table 3 (cont.). Summary of bat acoustic ID by site (AM37 - AM46, Project Total)

Species + Auto ID Program EPTFUS KP SB LASBOR KP SB	48 82 3	AM38 1 2	AM39	AM40 364	AM41	AM42	0.0442					
EPTFUS SB KP	82		4	264			AM43	AM44	AM45	AM46	KP	SB
SB KP	3	2		304	38	6	2		38	38	539	-
I ACDOD ——	_		1	575	60	1			24	39	_	784
LASBOR SB		3	1	27	1					4	39	
	2	1	1	16	1	1				3	_	25
LASCIN KP	33	2		107	13					1	156	_
SB	3	1		8	7						_	19
LASNOC KP	23		4	157	22					3	209	_
SB	2			9							_	11
LUCSOD KP*		_	_	_	_	_	_	_	_	_	_	_
SB											_	0
MYOLEI KP	1										1	_
SB											_	0
MYOLUC KP		2	1	2		1				3	9	
SB											_	0
MYOSEP KP					1						1	_
SB											_	0
MYOSOD KP	1										0	_
SB SB	1 1			45	1						-	0
NYCHUM KP	1			15	1					1	18 —	0
ZB ZB	1		1	3	1							_
PERSUB SB	1		1	3	1						6	_ 0
KP.	110	8	11	675	77	7	2	0	38	50		U
Total SB	89	4	2	608	68	2	0	0	24	42	978	839
30	03	4		000	00		U	U	Projec		5145	4387

Table 4. Comparison of files classified as Myotis by Kaleidoscope Pro with SonoBat and Manual ID

MYOLUC = Myotis lucifugus (little brown bat), MYOSOD = Myotis sodalis (Indiana bat), MYOSEP = Myotis septentrionalis (Northern long-eared bat), MYOLEI = Myotis leibii (Eastern small-footed bat), LUCSOD (highlighted green) = a call auto-classification available only in SonoBat that is either Myotis lucifugus or Myotis sodalis. The LUSOD classification is occasionally used in manual identifications as well. EPTFUS = Eptesicus fuscus (big brown bat), LASBOR = Lasiurus borealis (Eastern red bat). NOID = File contained low quality bat pulses that did not contain enough information for SonoBat to classify to species. 2BAT = File contained two unidentifiable bats, HIFU = File contained low quality hi-frequency (≥ 35 kHz) bat pulses that did not contain enough information to classify to species. Classifications were attached to file names during the manual ID process.

File Name	Site	Kaleidoscope Pro	SonoBat	Species Manual ID
PAS_RTE219_AM02_D500-20220613_002107-LASBOR.wav	AM02	MYOLUC	NOID	LASBOR
PAS_RTE219_AM02_D500-20220613_002211-LASBOR.wav	AM02	MYOLUC	NOID	LASBOR
PAS_RTE219_AM02_D500-20220613_002356-LASBOR.wav	AM02	MYOLUC	NOID	LASBOR
PAS_RTE219_AM02_D500-20220613_002711-LASBOR.wav	AM02	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM02_D500-20220613_012654-LASBOR.wav	AM02	MYOSEP	NOID	LASBOR
PAS_RTE219_AM02_D500-20220613_014832-LASBOR.wav	AM02	MYOLUC	NOID	LASBOR
PAS_RTE219_AM02_D500-20220613_034127-LASBOR.wav	AM02	MYOLUC	NOID	LASBOR
PAS_RTE219_AM02_D500-20220613_051959-LASBOR.wav	AM02	MYOLUC	NOID	LASBOR
PAS_RTE219_AM02_D500-20220614_012617-LASBOR.wav	AM02	MYOLUC	NOID	LASBOR
PAS_RTE219_AM03_D500-20220614_024923-LASBOR.wav	AM03	MYOLUC	NOID	LASBOR
PAS_RTE219_AM07_D500-20220608_231432-HIFU.wav	AM07	MYOSOD	NOID	HIFU
PAS_RTE219_AM07_D500-20220609_045421-LASBOR.wav	AM07	MYOLUC	NOID	LASBOR
PAS_RTE219_AM07_D500-20220611_233433-LASBOR.wav	AM07	MYOLUC	NOID	LASBOR
PAS_RTE219_AM08_D500-20220610_034239-2BAT.wav	AM08	MYOSOD	NOID	2BAT
PAS_RTE219_AM08_D500-20220611_031333-LUCSOD.wav	AM08	MYOLUC	NOID	LUCSOD
PAS_RTE219_AM08_D500-20220611_224953-LASBOR.wav	AM08	MYOSEP	NOID	LASBOR
PAS_RTE219_AM08_D500-20220611_234435-HIFU.wav	AM08	MYOLUC	NOID	HIFU
PAS_RTE219_AM10_D500-20220612_010647-HIFU.wav	AM10	MYOLUC	NOID	HIFU
PAS_RTE219_AM10_D500-20220613_001500-LASBOR.wav	AM10	MYOLUC	NOID	LASBOR
PAS_RTE219_AM10_D500-20220613_043639-LASBOR.wav	AM10	MYOLUC	NOID	LASBOR
PAS_RTE219_AM10_D500-20220613_043703-LASBOR.wav	AM10	MYOLUC	NOID	LASBOR

Table 4 (cont.). Comparison of files classified as Myotis by Kaleidoscope Pro with SonoBat and Manual ID

File Name	Site	Kaleidoscope Pro	SonoBat	Species Manual ID
PAS_RTE219_AM10_D500-20220613_043725-LASBOR.wav	AM10	MYOLUC	NOID	LASBOR
PAS_RTE219_AM11_D500-20220606_024733-LASBOR.wav	AM11	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM14_D500-20220604_210739-LASBOR.wav	AM14	MYOLUC	NOID	LASBOR
PAS_RTE219_AM14_D500-20220604_225108-LASBOR.wav	AM14	MYOLUC	NOID	LASBOR
PAS_RTE219_AM14_D500-20220607_013808-MYOLEI.wav	AM14	MYOLUC	NOID	MYOLEI
PAS_RTE219_AM14_D500-20220607_020044-HIFU.wav	AM14	MYOLUC	NOID	HIFU
PAS_RTE219_AM14_D500-20220607_044935-MYOLEI.wav	AM14	MYOLUC	NOID	MYOLEI
PAS_RTE219_AM15_D500-20220609_015527-LUCSOD.wav	AM15	MYOSOD	NOID	LUCSOD
PAS_RTE219_AM15_D500-20220609_033115-LASBOR.wav	AM15	MYOLUC	NOID	LASBOR
PAS_RTE219_AM15_D500-20220609_035858-LASBOR.wav	AM15	MYOLUC	NOID	LASBOR
PAS_RTE219_AM15_D500-20220609_041719-LASBOR.wav	AM15	MYOLUC	NOID	LASBOR
PAS_RTE219_AM15_D500-20220609_042250-LASBOR.wav	AM15	MYOLUC	NOID	LASBOR
PAS_RTE219_AM15_D500-20220609_213529-LASBOR.wav	AM15	MYOLUC	NOID	LASBOR
PAS_RTE219_AM15_D500-20220610_022350-HIFU.wav	AM15	MYOLUC	NOID	HIFU
PAS_RTE219_AM15_D500-20220611_235606-LASBOR.wav	AM15	MYOLUC	NOID	LASBOR
PAS_RTE219_AM15_D500-20220612_023321-LASBOR.wav	AM15	MYOLUC	NOID	LASBOR
PAS_RTE219_AM15_D500-20220613_030255-LASBOR.wav	AM15	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM15_D500-20220613_032608-LASBOR.wav	AM15	MYOLUC	NOID	LASBOR
PAS_RTE219_AM15_D500-20220613_041016-LASBOR.wav	AM15	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220612_205639-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220612_205747-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220612_205854-LASBOR.wav	AM16	MYOLUC	MYOLUC	LASBOR
PAS_RTE219_AM16_D500-20220612_205929-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220612_205938-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220612_205945-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220612_205956-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220612_210419-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220612_210436-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220612_210551-LASBOR.wav PAS_RTE219_AM16_D500-20220612_210632-LASBOR.wav	AM16 AM16	MYOLUC MYOLUC	NOID LASBOR	LASBOR LASBOR
PAS_RTE219_AM16_D500-20220012_210052-LASBOR.wav				
PAS_RTE219_AW16_D500-20220612_211013-LASBOR.wav	AM16 AM16	MYOLUC MYOLUC	LASBOR NOID	LASBOR LASBOR
PAS RTE219 AM16 D500-20220612 220837-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS RTE219 AM16 D500-20220612 220848-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220612_220948-EASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS RTE219 AM16 D500-20220612 221150-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS RTE219 AM16 D500-20220612 221300-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS RTE219 AM16 D500-20220612 230912-HIFU.wav	AM16	MYOLUC	NOID	HIFU
PAS RTE219 AM16 D500-20220612 234233-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS RTE219 AM16 D500-20220613 001238-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS RTE219 AM16 D500-20220613 012157-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS RTE219 AM16 D500-20220613 015859-LUCSOD.wav	AM16	MYOSOD	NOID	LUCSOD
PAS RTE219 AM16 D500-20220613 022226-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220613_023506-HIFU.wav	AM16	MYOSEP	NOID	HIFU
PAS_RTE219_AM16_D500-20220613_023937-LUCSOD.wav	AM16	MYOLUC	NOID	LUCSOD
PAS_RTE219_AM16_D500-20220613_024348-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220613_024728-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220613_030236-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220613_031211-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220613_042853-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220613_044424-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220613_044729-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220613_044816-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220613_045740-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220613_205750-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220613_210539-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220613_210552-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220613_211339-LASBOR.wav	AM16	MYOLUC	EPTFUS	LASBOR

Table 4 (cont.). Comparison of files classified as Myotis by Kaleidoscope Pro with SonoBat and Manual ID

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File Name	Site	Kaleidoscope Pro	SonoBat	Species Manual ID
PAS_RTE219_AM16_D500-20220614_003105-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220614_014213-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220614_014353-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220614_020921-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220614_023754-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220614_023827-HIFU.wav	AM16	MYOLEI	NOID	HIFU
PAS_RTE219_AM16_D500-20220614_024016-LUCSOD.wav	AM16	MYOSOD	NOID	LUCSOD
PAS_RTE219_AM16_D500-20220614_024045-LUCSOD.wav	AM16	MYOSOD	NOID	LUCSOD
PAS_RTE219_AM16_D500-20220614_024549-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220614_024558-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220614_031131-LUCSOD.wav	AM16	MYOLUC	NOID	LUCSOD
PAS_RTE219_AM16_D500-20220614_031545-HIFU.wav	AM16	MYOSEP	NOID	HIFU
PAS_RTE219_AM16_D500-20220614_031653-HIFU.wav	AM16	MYOSEP	LUCSOD	HIFU
PAS_RTE219_AM16_D500-20220614_043454-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220614_043746-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220614_044537-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM16_D500-20220614_044828-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220614_045717-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220614_050501-LASBOR.wav	AM16	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM16_D500-20220614_050724-LASBOR.wav	AM16	MYOLUC	NOID	LASBOR
PAS_RTE219_AM17_D500-20220613_032809-LASBOR.wav	AM17	MYOLUC	NOID	LASBOR
PAS_RTE219_AM18_D500-20220610_215940-LASBOR.wav	AM18	MYOLUC	NOID	LASBOR
PAS_RTE219_AM18_D500-20220611_225538-LASBOR.wav	AM18	MYOLUC	NOID	LASBOR
PAS_RTE219_AM18_D500-20220612_014310-LASBOR.wav	AM18	MYOLUC	NOID	LASBOR
PAS_RTE219_AM18_D500-20220612_021655-LASBOR.wav	AM18	MYOLUC	NOID	LASBOR
PAS_RTE219_AM19_D500-20220612_212318-MYOLEI.wav	AM19	MYOLEI	NOID	MYOLEI
PAS_RTE219_AM19_D500-20220613_001641-HIFU.wav	AM19	MYOSEP	NOID	HIFU
PAS_RTE219_AM22_D500-20220612_205953-LASBOR.wav	AM22	MYOLUC	NOID	LASBOR
PAS_RTE219_AM22_D500-20220613_030134-LASBOR.wav	AM22	MYOLUC	NOID	LASBOR
PAS_RTE219_AM22_D500-20220614_005030-HIFU.wav	AM22	MYOLEI	NOID	HIFU
PAS_RTE219_AM22_D500-20220614_023759-LASBOR.wav	AM22	MYOLUC	LUCSOD	LASBOR
PAS_RTE219_AM22_D500-20220614_025335-LASBOR.wav	AM22	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM22_D500-20220614_025435-LASBOR.wav	AM22	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM22_D500-20220614_035420-HIFU.wav	AM22	MYOLUC	NOID	HIFU
PAS_RTE219_AM23_D500-20220613_231254-LASBOR.wav	AM23	MYOLUC	NOID	LASBOR
PAS_RTE219_AM23_D500-20220614_035231-LASBOR.wav	AM23	MYOLUC	NOID	LASBOR
PAS_RTE219_AM23_D500-20220614_211826-LASBOR.wav	AM23	MYOLUC	NOID	LASBOR
PAS_RTE219_AM23_D500-20220614_211925-LASBOR.wav	AM23	MYOLUC	NOID	LASBOR
PAS_RTE219_AM23_D500-20220614_212336-LASBOR.wav	AM23	MYOLUC	NOID	LASBOR
PAS_RTE219_AM23_D500-20220614_213352-LASBOR.wav	AM23	MYOLUC	NOID	LASBOR
PAS_RTE219_AM23_D500-20220614_234933-HIFU.wav	AM23	MYOSOD	NOID	HIFU
PAS_RTE219_AM23_D500-20220615_014743-LASBOR.wav	AM23	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM23_D500-20220615_015922-LASBOR.wav	AM23	MYOLUC	NOID	LASBOR
PAS_RTE219_AM24_D500-20220614_004630-LASBOR.wav	AM24	MYOLEI	NOID	LASBOR
PAS_RTE219_AM24_D500-20220614_004729-LASBOR.wav	AM24	MYOLUC	NOID	LASBOR
PAS_RTE219_AM24_D500-20220615_001023-LASBOR.wav	AM24	MYOLUC	NOID	LASBOR
PAS_RTE219_AM24_D500-20220615_001423-LASBOR.wav	AM24	MYOLUC	NOID	LASBOR
PAS_RTE219_AM24_D500-20220615_002043-LASBOR.wav	AM24	MYOLUC	NOID	LASBOR
PAS_RTE219_AM24_D500-20220615_002213-LASBOR.wav	AM24	MYOLUC	NOID	LASBOR
PAS_RTE219_AM24_D500-20220615_003710-LASBOR.wav	AM24	MYOLUC	NOID	LASBOR
PAS_RTE219_AM24_D500-20220615_023716-LASBOR.wav	AM24	MYOLUC	NOID	LASBOR
PAS_RTE219_AM24_D500-LASBOR.wav	AM24	MYOLUC	NOID	LASBOR
PAS_RTE219_AM25_D500-20220605_030126-LUCSOD.wav	AM25	MYOSOD	NOID	LUCSOD
PAS_RTE219_AM26_D500-20220605_010345-LASBOR.wav	AM26	MYOLUC	NOID	LASBOR
PAS_RTE219_AM27_D500-20220604_205812-LASBOR.wav	AM27	MYOLUC	NOID	LASBOR
PAS_RTE219_AM27_D500-20220607_044455-LASBOR.wav	AM27	MYOLUC	NOID	LASBOR
PAS_RTE219_AM27_D500-20220607_044503-LASBOR.wav	AM27	MYOLUC	MYOSOD	LASBOR
PAS RTE219 AM27 D500-20220607 222513-LASBOR.wav	AM27	MYOLUC	NOID	LASBOR

Table 4 (cont.). Comparison of files classified as Myotis by Kaleidoscope Pro with SonoBat and Manual ID

PAS. RTE219_AM28_D500-20220666_001556-LASBOR.wav	File Name	Site	Kaleidoscope Pro	SonoBat	Species Manual ID
PAS_RTE219_AM28_D500-20220610_213644_HIFLUNION	PAS_RTE219_AM28_D500-20220605_235606-LASBOR.wav	AM28	MYOLUC	LASBOR	LASBOR
PAS RTE219 AM28 D500-20220607 002203-HIFU.wav	PAS_RTE219_AM28_D500-20220606_001556-LASBOR.wav	AM28	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM30_D500-20220610_121633-LASBOR.wav	PAS_RTE219_AM28_D500-20220606_213644-HIFU.wav	AM28	MYOLUC	NOID	HIFU
PAS_RTE219_AM30_D500-20220614_21633-LASBOR.wav	PAS_RTE219_AM28_D500-20220607_002203-HIFU.wav	AM28	MYOLUC	NOID	HIFU
PAS_RTE219_AM30_D500-20220615_004757-LASBOR.wav	PAS_RTE219_AM29_D500-20220608_023854-LASBOR.wav	AM29	MYOLUC	NOID	LASBOR
PAS_RTE219_AM33_D500-20220615_004757-LASBOR.wav	PAS_RTE219_AM30_D500-20220604_211633-LASBOR.wav	AM30	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM33_DS00-20220615_02131-HIFU.wav	PAS_RTE219_AM30_D500-20220607_014859-LASBOR.wav	AM30	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM33_D500-20220615_021131-HIFU.wav	PAS_RTE219_AM33_D500-20220615_004757-LASBOR.wav	AM33	MYOLUC	NOID	LASBOR
PAS_RTE219_AM33_D500-20220615_023124-HIFU.wav	PAS_RTE219_AM33_D500-20220615_005327-HIFU.wav	AM33	MYOLUC	NOID	HIFU
PAS_RTE219_AM33_D500-20220615_235601-LASBOR.wav	PAS_RTE219_AM33_D500-20220615_021131-HIFU.wav	AM33	MYOLUC	NOID	HIFU
PAS_RTE219_AM33_D500-20220615_235641-LASBOR.wav AM33 MYOLUC LASBOR LASBOR PAS_RTE219_AM33_D500-20220616_00903-HIFU.wav AM33 MYOLUC NOID HIFU PAS_RTE219_AM34_D500-20220613_210142-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220614_001241-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220614_001241-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_23817-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220614_21065014-2580R.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220614_210656-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220614_210656-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_210729-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220615_024253-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_024253-LASBOR.wav AM35 <	PAS_RTE219_AM33_D500-20220615_023124-HIFU.wav	AM33	MYOLUC	NOID	HIFU
PAS_RTE219_AM33_D500-20220616_040903-HIFU.wav	PAS_RTE219_AM33_D500-20220615_234606-LASBOR.wav	AM33	MYOLUC	NOID	LASBOR
PAS_RTE219_AM34_D500-20220614_001241-LASBOR.wav	PAS_RTE219_AM33_D500-20220615_235641-LASBOR.wav	AM33	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM34_D500-20220614_02432E.ASBOR.wav	PAS_RTE219_AM33_D500-20220616_040903-HIFU.wav	AM33	MYOLUC	NOID	HIFU
PAS_RTE219_AM34_D500-20220614_033817-LASBOR.wav	PAS_RTE219_AM34_D500-20220613_210142-LASBOR.wav	AM34	MYOLUC	NOID	LASBOR
PAS_RTE219_AM34_D500-20220614_033817-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220614_210619-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220614_210626-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_210626-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_210729-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_210749-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220615_024253-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220613_025714-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_05659-HIFU.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_05659-HIFU.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_020330-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_020330-LASBOR.wav AM35	PAS_RTE219_AM34_D500-20220614_001241-LASBOR.wav	AM34	MYOLUC	NOID	LASBOR
PAS_RTE219_AM34_D500-20220614_210619-IASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220614_210626-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_210626-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_210729-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_210749-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220615_024253-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220613_205714-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_005593-HIFU.wav AM35 MYOLUC NOID HIFU PAS_RTE219_AM35_D500-20220614_020016-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_020330-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021738-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021836-LASBOR.wav AM35 <t< td=""><td>PAS_RTE219_AM34_D500-20220614_024328-LASBOR.wav</td><td>AM34</td><td>MYOLUC</td><td>LASBOR</td><td>LASBOR</td></t<>	PAS_RTE219_AM34_D500-20220614_024328-LASBOR.wav	AM34	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM34_D500-20220614_210626-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_210654-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_210729-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_210749-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220615_024253-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_024253-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_005659-HIFU.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_01503-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_020016-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_020330-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021336-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015516-LASBOR.wav AM35 <	PAS_RTE219_AM34_D500-20220614_033817-LASBOR.wav	AM34	MYOLUC	NOID	LASBOR
PAS_RTE219_AM34_D500-20220614_210729-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_210729-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_210749-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220615_024253-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220613_025714-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_05659-HIFU.wav AM35 MYOLUC NOID HIFU PAS_RTE219_AM35_D500-20220614_015703-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_02016-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_020330-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021738-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_0211-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_01546-LASBOR.wav AM35 MYOLU	PAS_RTE219_AM34_D500-20220614_210619-LASBOR.wav	AM34	MYOLUC	NOID	LASBOR
PAS_RTE219_AM34_D500-20220614_210729-LASBOR.wav AM34 MYOLUC LASBOR LASBOR PAS_RTE219_AM34_D500-20220614_210749-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220615_024253-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220613_205714-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_005659-HIFU.wav AM35 MYOLUC NOID HIFU PAS_RTE219_AM35_D500-20220614_015703-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_020316-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_020330-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021738-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021836-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021836-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015216-LASBOR.wav AM35	PAS RTE219 AM34 D500-20220614 210626-LASBOR.wav	AM34	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM34_D500-20220614_210749-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM34_D500-20220615_024253-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220613_205714-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_005659-HIFU.wav AM35 MYOLUC NOID HIFU PAS_RTE219_AM35_D500-20220614_015703-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_020016-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_020030-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021738-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_02138-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_212011-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015429-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_020239-HIFU.wav AM35 MYOLUC<	PAS_RTE219_AM34_D500-20220614_210654-LASBOR.wav	AM34	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM34_D500-20220615_024253-LASBOR.wav AM34 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220613_205714-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_005659-HIFU.wav AM35 MYOLUC NOID HIFU PAS_RTE219_AM35_D500-20220614_015703-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_020016-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_020330-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021738-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_021836-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_212011-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015429-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015429-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015851-LASBOR.wav AM35 MY	PAS RTE219 AM34 D500-20220614 210729-LASBOR.wav	AM34	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM35_D500-20220613_205714-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_005659-HIFU.wav AM35 MYOLUC NOID HIFU PAS_RTE219_AM35_D500-20220614_015703-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_020016-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_020330-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_0213738-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_021336-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021836-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_212011-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015429-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015851-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015851-LASBOR.wav AM35 <td< td=""><td>PAS RTE219 AM34 D500-20220614 210749-LASBOR.wav</td><td>AM34</td><td>MYOLUC</td><td>NOID</td><td>LASBOR</td></td<>	PAS RTE219 AM34 D500-20220614 210749-LASBOR.wav	AM34	MYOLUC	NOID	LASBOR
PAS_RTE219_AM35_D500-20220614_005659-HIFU.wav AM35 MYOLUC NOID HIFU PAS_RTE219_AM35_D500-20220614_015703-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_020016-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_020330-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021738-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_021836-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_212011-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015429-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015516-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015851-LASBOR.wav AM35 MYOSDD NOID LASBOR PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_022434-LASBOR.wav AM35	PAS RTE219 AM34 D500-20220615 024253-LASBOR.wav	AM34	MYOLUC	NOID	LASBOR
PAS_RTE219_AM35_D500-20220614_015703-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_020016-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_020330-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021738-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_021836-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_212011-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015429-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015516-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015516-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220615_02247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_02434-LASBOR.wav AM35 <t< td=""><td>PAS RTE219 AM35 D500-20220613 205714-LASBOR.wav</td><td>AM35</td><td>MYOLUC</td><td>NOID</td><td>LASBOR</td></t<>	PAS RTE219 AM35 D500-20220613 205714-LASBOR.wav	AM35	MYOLUC	NOID	LASBOR
PAS_RTE219_AM35_D500-20220614_015703-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_020016-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_020330-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021738-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_021836-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_212011-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015429-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015516-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015516-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220615_02247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_02434-LASBOR.wav AM35 <t< td=""><td>PAS RTE219 AM35 D500-20220614 005659-HIFU.wav</td><td>AM35</td><td>MYOLUC</td><td>NOID</td><td>HIFU</td></t<>	PAS RTE219 AM35 D500-20220614 005659-HIFU.wav	AM35	MYOLUC	NOID	HIFU
PAS_RTE219_AM35_D500-20220614_020330-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_021738-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_021836-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_212011-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015429-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015516-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015851-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220615_022039-HIFU.wav AM35 MYOSOD NOID HIFU PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_02243-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_025338-LASBOR-social.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM36_D500-20220615_025338-LASBOR.wav AM37		AM35	MYOSOD	NOID	LASBOR
PAS_RTE219_AM35_D500-20220614_021738-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220614_021836-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_212011-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015429-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015516-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015851-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220615_015851-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220615_022039-HIFU.wav AM35 MYOSEP NOID HIFU PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_024434-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM37_D500-20220615_025338-LASBOR-social.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM38_D500-20220615_043934-LASBOR.wav AM36	PAS RTE219 AM35 D500-20220614 020016-LASBOR.wav	AM35	MYOLUC	NOID	LASBOR
PAS_RTE219_AM35_D500-20220614_021836-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220614_212011-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015429-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015516-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015851-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220615_022039-HIFU.wav AM35 MYOSEP NOID HIFU PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_0224434-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_025338-LASBOR-social.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM37_D500-20220614_042405-HIFU.wav AM35 MYOLUC NOID HIFU PAS_RTE219_AM38_D500-20220615_043934-LASBOR.wav AM38 MYOLUC NOID LASBOR PAS_RTE219_AM38_D500-20220615_052505-LASBOR.wav AM38	PAS RTE219 AM35 D500-20220614 020330-LASBOR.wav	AM35	MYOLUC	NOID	LASBOR
PAS_RTE219_AM35_D500-20220614_212011-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015429-LASBOR.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM35_D500-20220615_015516-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015851-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220615_022039-HIFU.wav AM35 MYOSEP NOID HIFU PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_0224434-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_025338-LASBOR-social.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM37_D500-20220614_042405-HIFU.wav AM37 MYOLEI NOID HIFU PAS_RTE219_AM38_D500-202220615_043934-LASBOR.wav AM38 MYOLUC NOID LASBOR PAS_RTE219_AM38_D500-202220615_052505-LASBOR.wav AM38	PAS RTE219 AM35 D500-20220614 021738-LASBOR.wav	AM35	MYOSOD	NOID	LASBOR
PAS_RTE219_AM35_D500-20220615_015429-LASBOR.wav AM35 MYOLUC LASBOR PAS_RTE219_AM35_D500-20220615_015516-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015851-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220615_022039-HIFU.wav AM35 MYOSEP NOID HIFU PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_022343-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_025338-LASBOR-social.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM37_D500-20220614_042405-HIFU.wav AM37 MYOLEI NOID HIFU PAS_RTE219_AM38_D500-20220615_043934-LASBOR.wav AM38 MYOLUC NOID LASBOR PAS_RTE219_AM38_D500-20220615_052505-LASBOR.wav AM38 MYOLUC LASBOR LASBOR	PAS RTE219 AM35 D500-20220614 021836-LASBOR.wav	AM35	MYOLUC	NOID	LASBOR
PAS_RTE219_AM35_D500-20220615_015516-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_015851-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220615_022039-HIFU.wav AM35 MYOSEP NOID HIFU PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_0224434-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_025338-LASBOR-social.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM37_D500-20220614_042405-HIFU.wav AM37 MYOLEI NOID HIFU PAS_RTE219_AM38_D500-20220615_043934-LASBOR.wav AM38 MYOLUC NOID LASBOR PAS_RTE219_AM38_D500-20220615_052505-LASBOR.wav AM38 MYOLUC LASBOR LASBOR	PAS RTE219 AM35 D500-20220614 212011-LASBOR.wav	AM35	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM35_D500-20220615_015851-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220615_022039-HIFU.wav AM35 MYOSEP NOID HIFU PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_024344-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_025338-LASBOR-social.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM37_D500-20220614_042405-HIFU.wav AM37 MYOLEI NOID HIFU PAS_RTE219_AM38_D500-20220615_043934-LASBOR.wav AM38 MYOLUC NOID LASBOR PAS_RTE219_AM38_D500-20220615_052505-LASBOR.wav AM38 MYOLUC LASBOR LASBOR		AM35	MYOLUC	LASBOR	LASBOR
PAS_RTE219_AM35_D500-20220615_015851-LASBOR.wav AM35 MYOSOD NOID LASBOR PAS_RTE219_AM35_D500-20220615_022039-HIFU.wav AM35 MYOSEP NOID HIFU PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_024344-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_025338-LASBOR-social.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM37_D500-20220614_042405-HIFU.wav AM37 MYOLEI NOID HIFU PAS_RTE219_AM38_D500-20220615_043934-LASBOR.wav AM38 MYOLUC NOID LASBOR PAS_RTE219_AM38_D500-20220615_052505-LASBOR.wav AM38 MYOLUC LASBOR LASBOR	PAS RTE219 AM35 D500-20220615 015516-LASBOR.way	AM35	MYOLUC	NOID	LASBOR
PAS_RTE219_AM35_D500-20220615_022039-HIFU.wav AM35 MYOSEP NOID HIFU PAS_RTE219_AM35_D500-20220615_022247-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_024434-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_025338-LASBOR-social.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM37_D500-20220614_042405-HIFU.wav AM37 MYOLEI NOID HIFU PAS_RTE219_AM38_D500-20220615_043934-LASBOR.wav AM38 MYOLUC NOID LASBOR PAS_RTE219_AM38_D500-20220615_052505-LASBOR.wav AM38 MYOLUC LASBOR LASBOR					
PAS_RTE219_AM35_D500-20220615_024434-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_025338-LASBOR-social.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM37_D500-20220614_042405-HIFU.wav AM37 MYOLEI NOID HIFU PAS_RTE219_AM38_D500-20220615_043934-LASBOR.wav AM38 MYOLUC NOID LASBOR PAS_RTE219_AM38_D500-20220615_052505-LASBOR.wav AM38 MYOLUC LASBOR LASBOR		AM35	MYOSEP	NOID	HIFU
PAS_RTE219_AM35_D500-20220615_024434-LASBOR.wav AM35 MYOLUC NOID LASBOR PAS_RTE219_AM35_D500-20220615_025338-LASBOR-social.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM37_D500-20220614_042405-HIFU.wav AM37 MYOLEI NOID HIFU PAS_RTE219_AM38_D500-20220615_043934-LASBOR.wav AM38 MYOLUC NOID LASBOR PAS_RTE219_AM38_D500-20220615_052505-LASBOR.wav AM38 MYOLUC LASBOR LASBOR	PAS RTE219 AM35 D500-20220615 022247-LASBOR.way	AM35	MYOLUC	NOID	LASBOR
PAS_RTE219_AM35_D500-20220615_025338-LASBOR-social.wav AM35 MYOLUC LASBOR LASBOR PAS_RTE219_AM37_D500-20220614_042405-HIFU.wav AM37 MYOLEI NOID HIFU PAS_RTE219_AM38_D500-20220615_043934-LASBOR.wav AM38 MYOLUC NOID LASBOR PAS_RTE219_AM38_D500-20220615_052505-LASBOR.wav AM38 MYOLUC LASBOR LASBOR					
PAS_RTE219_AM37_D500-20220614_042405-HIFU.wav AM37 MYOLEI NOID HIFU PAS_RTE219_AM38_D500-20220615_043934-LASBOR.wav AM38 MYOLUC NOID LASBOR PAS_RTE219_AM38_D500-20220615_052505-LASBOR.wav AM38 MYOLUC LASBOR LASBOR				LASBOR	
PAS_RTE219_AM38_D500-20220615_043934-LASBOR.wav AM38 MYOLUC NOID LASBOR PAS_RTE219_AM38_D500-20220615_052505-LASBOR.wav AM38 MYOLUC LASBOR					
PAS_RTE219_AM38_D500-20220615_052505-LASBOR.wav AM38 MYOLUC LASBOR LASBOR					
7.1.105 T. 1.1.105 T.					
PAS RTE219 AM40 D500-20220616 001601-LASBOR.wav AM40 MYOLUC LASBOR LASBOR					
PAS RTE219 AM40 D500-20220616 004404-LASBOR.wav AM40 MYOLUC NOID LASBOR					
PAS RTE219 AM41 D500-20220804 230522-LASBOR.wav AM41 MYOSEP NOID LASBOR					
PAS RTE219 AM42 D500-20220808 054448-LASBOR.wav AM42 MYOLUC LASBOR LASBOR					
PAS RTE219 AM46 D500-20220805 042958-HIFU.wav AM46 MYOLUC NOID HIFU					
PAS RTE219 AM46 D500-20220805 052859-LASBOR.wav AM46 MYOLUC NOID LASBOR					
PAS_RTE219_AM46_D500-20220806_042902-HIFU.wav AM46 MYOLUC NOID HIFU					

Appendix A

Acoustic Site Data Sheets

Project: 2022 Rout	e 219 Acoustic	State/County: F	PA/Somerset	Site: AMO	1	Total Valid Nights: 2 of 2		
Lat: 39.780190°		Lon: -79.03048	6°	Photo: AM01_3				
Biologist: Todd Sin	ander, Kacy Lyn I	Kindred		Detector: 50241				
Elevation: 692m	Mic AGL: 5m	Mic Az.: 255° Clutter: High		Frq: 300	Int: 0	Length: 4s		

Station Description: East edge of a power line ROW within a mature deciduous forest with sparsely spaced houses nearby. Mic was pointed South West across the ROW.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/12/22	3	60	160	20:46	05:46	8.2V	n/a	n/a	n/a	n/a	0	Deployed
06/14/22	3	60	160	20:46	05:46	8.0V	54	2	0	0	2	Demobilized



Project: 2022 Rout	e 219 Acoustic	State/County: F	PA/Somerset	Site: AMC)2	Total Valid Nights: 2 of 2		
Lat: 39.775690°		Lon: -79.02835	0°	Photo: AM02_7				
Biologist: Todd Sin	ander, Kacy Lyn I	Kindred	Detector: 50257					
Elevation: 723m	Mic AGL: 4m	Mic Az.: 240°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: East side of a small forest opening created by a grassy lane. The opening was North of a small pond and South of a second small pond nearby. The surrounding area was within a mature deciduous forest with a few sparsely spaced houses. Mic was pointed South West across the forest opening.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/12/22	3	60	160	20:46	05:46	8.1V	n/a	n/a	n/a	n/a	0	Deployed
06/14/22	3	60	160	20:46	05:46	7.8V	633	2	0	0	2	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AMO	3	Total Valid Nights: 3 of 3		
Lat: 39.772160°		Lon: -79.03088	0°	Photo: AM03_2				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred	Detector: 50239					
Elevation: 726m	Mic AGL: 5m	Mic Az.: 50°	Frq: 300	Int: 0	Length: 4s			

Station Description: South side of a small forest opening with some small dying trees interspersed throughout. The opening was within a mature deciduous forest and adjacent to the West was a large agricultural field. Nearby in the forest to the East was a small tributary with open water. Several farm houses were nearby across the field. Mic was pointed North East across the opening.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/12/22	3	60	160	20:46	05:46	8.8V	n/a	n/a	n/a	n/a	0	Deployed
06/15/22	3	60	160	20:47	05:46	8.1V	232	3	0	0	3	Demobilized



Project: 2022 Rou	te 219 Acoustic	State/County:	PA/Somerset	Site: AMC	4	Total Valid Nights: 3 of 3		
Lat: 39.765740°		Lon: -79.03114	5°	Photo: AM04_1				
Biologist: Todd Sir	ander, Kacy Lyn I	Kindred	Detector: 50118					
Elevation: 778m	Mic AGL: 5m	Mic Az.: 290° Clutter: High		Frq: 300	Int: 0	Length: 4s		

Station Description: East side of a closed canopy jeep trail in a mature deciduous forest within PA State Game Land 231. Mic was pointed North West across the trail.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/12/22	3	60	160	20:46	05:46	8.2V	n/a	n/a	n/a	n/a	0	Deployed
06/15/22	3	60	160	20:47	05:46	7.8V	69	3	0	0	3	Demobilized



Project: 2022 Rou	te 219 Acoustic	State/County:	PA/Somerset	Site: AMO	5	Total Valid Nights: 3 of 3		
Lat: 39.764247°		Lon: -79.03319	1°	Photo: AM05_2				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred	Detector: 50251					
Elevation: 774m	Mic AGL: 5m	Mic Az.: 40° Clutter: High		Frq: 300	Int: 0	Length: 4s		

Station Description: West side of a closed canopy jeep trail running North East to South West in a mature deciduous forest within PA SGL 231. Mic was pointed North East across the trail.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/12/22	3	60	160	20:46	05:46	8.1V	n/a	n/a	n/a	n/a	0	Deployed
06/15/22	3	60	160	20:47	05:46	7.8V	8	3	0	0	3	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County:	PA/Somerset	Site: AM06 Total Valid Nights: 3 of 3				
Lat: 39.761054°		Lon: -79.03292	3°	Photo: AM06_1				
Biologist: Todd Sir	ander, Kacy Lyn I	Kindred		Detector: 50222				
Elevation: 814m	Mic AGL: 4m	Mic Az.: 205°	Frq: 300	Int: 0	Length: 4s			

Station Description: West side of a closed canopy ATV trail in a mature deciduous forest within PA SGL 231. Mic was pointed South West across the North East to South West running section of the trail.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/12/22	3	60	160	20:46	05:46	8.2V	n/a	n/a	n/a	n/a	0	Deployed
06/15/22	3	60	160	20:47	05:46	7.8V	15	3	0	0	3	Demobilized



Project: 2022 Rou	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM07 Total Valid Nights: 3 of 5				
Lat: 39.752454°		Lon: -79.039174	1°	Photo: AM07_6				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector				
Elevation: 796m	Mic AGL: 4m	Mic Az.: 225°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: North East corner of a small North East to South West rectangular open grassy area within a mature deciduous forest with a dense understory. There are several grassy ATV trails leading to the open area from all sides. Mic was pointed South West across and along the length of the open area.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/08/22	3	60	160	20:44	05:46	9.1V	n/a	n/a	n/a	n/a	0	Deployed
06/13/22	3	60	160	20:46	05:46	8.2V	108	5	0	2	3	Rain: 6/8, 6/9. Demobilized



Project: 2022 Rout	te 219 Acoustic	State/County: F	PA/Somerset	Site: AMC	8	Total Valid Nights: 3 of 5		
Lat: 39.750022°		Lon: -79.04152	9°	Photo: AM08_2				
Biologist: Todd Sin	ander, Kacy Lyn I	Kindred		Detector				
Elevation: 798m	Mic AGL: 5m	Mic Az.: 280°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: East side of a small forest opening along a North West to South East running closed canopy jeep trail within mature deciduous forest with a dense understory. Mic was pointed North W across the jeep trail.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/08/22	3	60	160	20:44	05:46	9.1V	n/a	n/a	n/a	n/a	0	Deployed
06/13/22	3	60	160	20:46	05:46	8.1V	58	5	0	2	3	Rain: 6/8, 6/9. Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AMO	9	Total Valid Nights: 3 of 5		
Lat: 39.745611°		Lon: -79.04451	14°	Photo: AM09_3				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector				
Elevation: 793m	Mic AGL: 5m	Mic Az.: 150°	Clutter: High	Frq: 300 Int: 0 Length: 4s				

Station Description: West side of a small forest opening along a North to South running cluttered grassy jeep trail within a mature deciduous forest with a dense understory. Mic was pointed South East across the opening.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/08/22	3	60	160	20:44	05:46	8.0V	n/a	n/a	n/a	n/a	0	Deployed
06/13/22	3	60	160	20:46	05:46	7.8V	76	5	0	2	3	Rain: 6/8, 6/9. Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM1	Site: AM10 Total Valid Nights: 3 of 5				
Lat: 39.744820°		Lon: -79.04859	0°	Photo: AM10_2					
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector	50024				
Elevation: 756m	Mic AGL: 5m	Mic Az.: 185°	Clutter: High	Frq: 300	Int: 0	Length: 4s			

Station Description: North side of a small forest opening along an East to West running cluttered grassy jeep trail within a mature deciduous forest with a dense understory. Mic was pointed South across the opening.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/08/22	3	60	160	20:44	05:46	8.0V	n/a	n/a	n/a	n/a	0	Deployed
06/13/22	3	60	160	20:46	05:46	7.7V	76	5	0	2	3	Rain: 6/8, 6/9. Demobilized



Project: 2022 Rout	te 219 Acoustic	State/County:	PA/Somerset	Site: AM11 Total Valid Nights: 2 of 5				
Lat: 39.745380°		Lon: -79.051970)°	Photo: AM11_2				
Biologist: Todd Sin	ander, Kacy Lyn I	Kindred		Detector				
Elevation: 709m	Mic AGL: 5m	Mic Az.: 73°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: South side of a narrow East to West running grassy jeep trail with an open canopy and within a mature deciduous forest with a dense understory. Mic was pointed North East across a slightly wider section of the trail.

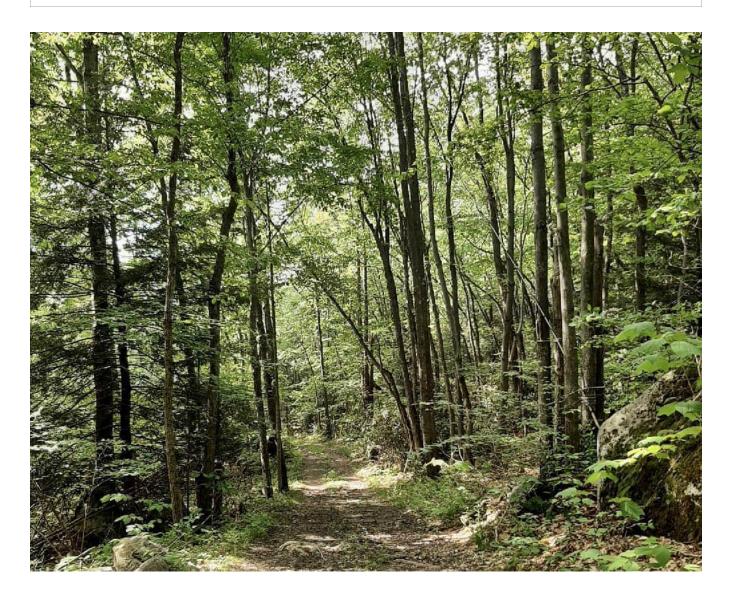
SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/03/22	3	60	160	20:41	05:47	6.0V	n/a	n/a	n/a	n/a	0	Deployed
06/08/22	3	60	160	20:44	05:46	5.1V	74	5	0	3	2	Rain: 6/3-4, 6/7. Demobilized



Project: 2022 Rou	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM1	2	Total Valid Nights: 2 of 5
Lat: 39.742715°		Lon: -79.05378	Photo: AM12_2			
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred	Detector: 50240			
Elevation: 677m	Mic AGL: 5m	Mic Az.: 330°	Clutter: High	Frq: 300	Int: 0	Length: 4s

Station Description: East side of a closed canopy forest road running North West to South East within a mature mixed forest and near Piney Creek. Mic was pointed North West across and down the road.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/03/22	3	60	160	20:41	05:47	9.0V	n/a	n/a	n/a	n/a	0	Deployed
06/08/22	3	60	160	20:44	05:46	7.9V	230	5	0	3	2	Rain: 6/3-4, 6/7. Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM1	Site: AM13 Total Valid Nights: 2 or		
Lat: 39.742874°		Lon: -79.05532	9°	Photo: AM13_1			
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred	Detector: 50024				
Elevation: 659m	Mic AGL: 4m	Mic Az.: 10°	Clutter: High	Frq: 300	Int: 0	Length: 4s	

Station Description: South side of a narrow, closed canopy forest jeep trail running North East to South West within a mature mixed forest near Piney Creek. Mic was pointed North across and along the road.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/03/22	3	60	160	20:41	05:47	9.0V	n/a	n/a	n/a	n/a	0	Deployed
06/08/22	3	60	160	20:44	05:46	8.0V	77	5	0	3	2	Rain: 6/3-4, 6/7. Demobilized



Project: 2022 Route 219 Acoustic	State/County: PA/Somerset	Site: AM14	Total Valid Nights: 2 of 5
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Lat: 39.745756°		Lon: -79.05517	9°	Photo: AM14_1				
Biologist: Todd Sin	ander, Kacy Lyn I	Kindred	Detector: 50228					
Elevation: 666m	Mic AGL: 5m	Mic Az.: 270°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: North side of Piney Run Road, a semi-open canopy dirt road running North West to South East within a mature mixed forest. Mic was pointed South West across the road.

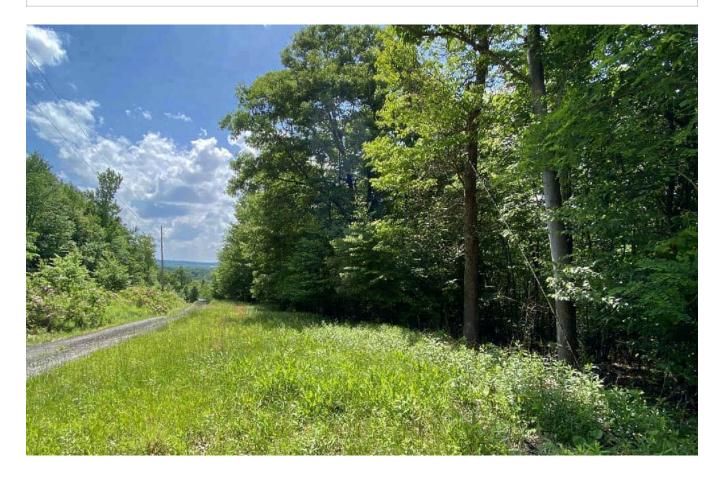
SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/03/22	3	60	160	20:41	05:47	9.1V	n/a	n/a	n/a	n/a	0	Deployed
06/08/22	3	60	160	20:44	05:46	8.1V	157	5	0	3	2	Rain: 6/3-4, 6/7. Demobilized



Project: 2022 Rou	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM1	Site: AM15 Total Valid Nights: 3 of 5			
Lat: 39.738388°		Lon: -79.04981	5°	Photo: AM15_4				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred	Detector: 50240					
Elevation: 775m	Mic AGL: 5m	Mic Az.: 195° Clutter: High		Frq: 300	Int: 0	Length: 4s		

Station Description: West side of a power line ROW and dirt access road running North East to South West within a mature deciduous forest. Mic was pointed South West across the road.

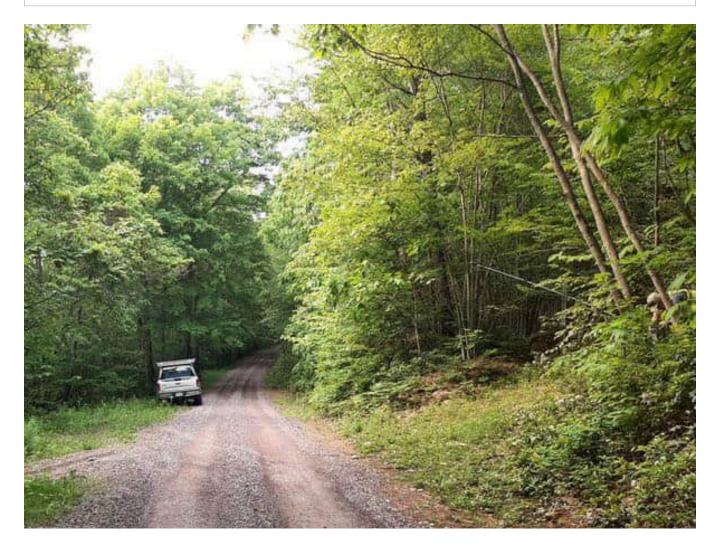
SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/08/22	3	60	160	20:44	05:46	8.0V	n/a	n/a	n/a	n/a	0	Deployed
06/13/22	3	60	160	20:46	05:46	7.7V	187	5	0	2	3	Rain: 6/8, 6/9. Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM1	6	Total Valid Nights: 2 of 6		
Lat: 39.738978°		Lon: -79.05333	8°	Photo: AM16_2				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector: 50223/50162				
Elevation: 693m	Mic AGL: 5m	Mic Az.: 300°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: North side of Piney Run Road, a semi-open canopy dirt road running North West to South East within a mature mixed forest. Mic was pointed South West across the road.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/08/22	3	60	160	20:44	05:46	5.9V	n/a	n/a	n/a	n/a	0	Deployed
06/12/22	3	60	160	20:46	05:46	5.2V/ 5.7V	19902	4	4	N/A	4	Card corrupted, no viable files. Replaced detector with new card. Redeployed
06/14/22	3	60	160	20:46	05:46	5.3V	136	2	0	0	2	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM1	7	Total Valid Nights: 3 of 5		
Lat: 39.736046°		Lon: -79.05360	00°	Photo: AM17_5				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector				
Elevation: 725m	Mic AGL: 3m	Mic Az.: 225°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: North East side of a small opening on a narrow, closed canopy forest trail running North East to South West within a mature deciduous forest. Mic was pointed South West across the opening.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/08/22	3	60	160	20:44	05:46	5.9V	n/a	n/a	n/a	n/a	0	Deployed
06/13/22	3	60	160	20:46	05:46	5.2V	214	5	0	2	3	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM1	8	Total Valid Nights: 3 of 5		
Lat: 39.734808°		Lon: -79.05393	7°	Photo: AM18_4				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector				
Elevation: 726m	Mic AGL: 3m	Mic Az.: 175°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: West side of a power line ROW and dirt access road running North East to South West within a mature deciduous forest. Mic was pointed South across and down the ROW.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/08/22	3	60	160	20:44	05:46	5.9V	n/a	n/a	n/a	n/a	0	Deployed
06/13/22	3	60	160	20:46	05:46	5.2V	152	5	0	2	3	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM1	9	Total Valid Nights: 2 of 2		
Lat: 39.732003°		Lon: -79.05438	36°	Photo: AM19_2				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector:				
Elevation: 680m	Mic AGL: 3m	Mic Az.: 230°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: North side of Piney Creek that ran East to West in that area and had an open canopy. The creek corridor was within a mature mixed forest. Mic was pointed South West over a large grassy sediment deposit on the North side of the creek.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/12/22	3	60	160	20:46	05:46	8.2V	n/a	n/a	n/a	n/a	0	Deployed
06/14/22	3	60	160	20:47	05:46	7.9V	60	2	0	0	2	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM2	0	Total Valid Nights: 4 of 4		
Lat: 39.734110°		Lon: -79.05676	66°	Photo: AM20_1				
Biologist: Todd Sir	ander, Kacy Lyn I	Kindred		Detector: 50119/50116				
Elevation: 680m	Mic AGL: 4m	Mic Az.: 170°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: West side of a closed canopy jeep trail running North to South adjacent and parallel to Piney Creek. The trail was within a mature mixed forest. Mic was pointed South East across the jeep trail.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/12/22	3	60	160	20:46	05:46	5.8V	n/a	n/a	n/a	n/a	0	Deployed
06/14/22	3	60	160	20:47	05:46	5.1V/ 5.9V	46	2	0	0	2	No bat files recorded, only noise. Replaced detector and redeployed out of an abundance of caution.
06/16/22	3	60	160	20:47	05:46	5.5V	0	2	0	0	2	Demobilized



Project: 2022 Rout	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM2	1	Total Valid Nights: 2 of 2		
Lat: 39.730714°		Lon: -79.05741	18°	Photo: AM21_10				
Biologist: Todd Sin	nander, Kacy Lyn I	Kindred		Detector: 50001				
Elevation: 736m	Mic AGL: 5m	Mic Az.: 345°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: North side of a narrow, open canopy jeep trial running South East to North West within a mature deciduous forest. Mic was pointed North West up and across the jeep trail.

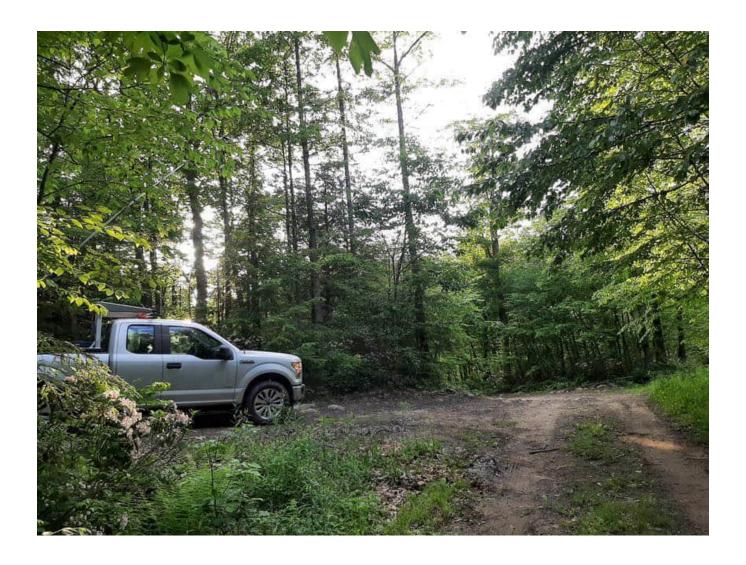
SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/12/22	3	60	160	20:46	05:46	6.0V	n/a	n/a	n/a	n/a	0	Deployed
06/14/22	3	60	160	20:47	05:46	5.5V	148	2	0	0	2	Demobilized



Project: 2022 Rou	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM22 Total Valid Nights: 2 of 2				
Lat: 39.732404°		Lon: -79.06035	50°	Photo: AM22_1				
Biologist: Todd Sir	ander, Kacy Lyn I	Kindred		Detector				
Elevation: 748m	Mic AGL: 5m	Mic Az.: 345°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: South side of an open canopy intersection of two jeep trials within a mature deciduous forest. Mic was pointed North West across the intersection.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/12/22	3	60	160	20:46	05:46	5.9V	n/a	n/a	n/a	n/a	0	Deployed
06/14/22	3	60	160	20:47	05:46	5.4V	70	2	0	0	2	Demobilized



Project: 2022 Rout	e 219 Acoustic	State/County: F	PA/Somerset	Site: AM2	23	Total Valid Nights: 2 of 2		
Lat: 39.728200°		Lon: -79.06499	96°	Photo: AM23_6				
Biologist: Todd Sin	ander, Kacy Lyn I	Kindred		Detector				
Elevation: 735m	Mic AGL: 5m	Mic Az.: 280°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: East side of a partially open canopy forest road running North East to South West within a mature deciduous forest. Mic was pointed West across the road.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/13/22	3	60	160	20:46	05:46	8.1V	n/a	n/a	n/a	n/a	0	Deployed
06/15/22	3	60	160	20:47	05:46	8.0V	42	2	0	0	2	Demobilized



Project: 2022 Rou	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM24 Total Valid Nights: 2 of 2				
Lat: 39.729384°		Lon: -79.06701	14°	Photo: AM24_6				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector:				
Elevation: 711m	Mic AGL: 4m	Mic Az.: 24°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: On the edge of a large grassy field to the West and a wetland with open water to the East. The wetland was on the edge of a mature deciduous forest that continued East. Mic was pointed South West across an opening between trees at the edge of the field and the wetland.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/13/22	3	60	160	20:46	05:46	6.0V	n/a	n/a	n/a	n/a	0	Deployed
06/15/22	3	60	160	20:47	05:46	5.5V	63	2	0	0	2	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM2	Site: AM25 Total Valid Nights: 2 of 5				
Lat: 39.739834°		Lon: -79.07364	6°	Photo: AM25_2					
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector					
Elevation: 749m	Mic AGL: 5m	Mic Az.: 247°	Clutter: High	Frq: 300	Int: 0	Length: 4s			

Station Description: North edge of a power line ROW running East to West within a mature deciduous forest and an agricultural field to the East. Mic was pointed South West across the ROW

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/03/22	3	60	160	20:41	05:47	9.0V	n/a	n/a	n/a	n/a	0	Deployed
06/08/22	3	60	160	20:44	05:46	8.0V	103	5	0	3	2	Rain: 6/3-4, 6/7. Demobilized



Project: 2022 Rou	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM26 Total Valid Nights: 2 of 5				
Lat: 39.739720°		Lon: -79.07815	0°	Photo: AM26_3				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector				
Elevation: 726m	Mic AGL: 5m	Mic Az.: 330°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: East edge of an open canopy jeep trail running North to South between a power line ROW and a small agricultural field within a mature mixed forest. Mic was pointed North West across the jeep trail.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/03/22	3	60	160	20:41	05:47	8.9V	n/a	n/a	n/a	n/a	0	Deployed
06/08/22	3	60	160	20:44	05:46	8.1V	62	5	0	3	2	Rain: 6/3-4, 6/7. Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM27 Total Valid Nights: 2 of 5				
Lat: 39.736470°		Lon: -79.08365	7°	Photo: AM27_3				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector				
Elevation: 682m	Mic AGL: 5m	Mic Az.: 310°	Frq: 300	Int: 0	Length: 4s			

Station Description: East edge of a mostly open canopy ROW running North to South within a mature mixed forest. Mic was pointed North West across the ROW.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/03/22	3	60	160	20:41	05:47	9.1V	n/a	n/a	n/a	n/a	0	Deployed
06/08/22	3	60	160	20:44	05:46	8.0V	94	5	0	3	2	Rain: 6/3-4, 6/7. Demobilized



Project: 2022 Rout	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM2	Site: AM28 Total Valid Nights: 2 of 5				
Lat: 39.738297°		Lon: -79.08371	4°	Photo: AM28_3					
Biologist: Todd Sin	ander, Kacy Lyn I	Kindred		Detector					
Elevation: 673m	Mic AGL: 5m	Mic Az.: 40°	Clutter: High	Frq: 300	Int: 0	Length: 4s			

Station Description: West edge of a mostly open canopy ROW running North to South within a mature mixed forest. The ROW intersected with a power line ROW 100m North of Site. Mic was pointed North East across the ROW

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/03/22	3	60	160	20:41	05:47	9.0V	n/a	n/a	n/a	n/a	0	Deployed
06/08/22	3	60	160	20:44	05:46	8.0V	38	5	0	3	2	Rain: 6/3-4, 6/7. Demobilized



Project: 2022 Rout	te 219 Acoustic	State/County:	PA/Somerset	Site: AM29 Total Valid Nights: 2 of 5				
Lat: 39.732950°		Lon: 79.096261	0	Photo: AM29_1				
Biologist: Todd Sin	ander, Kacy Lyn I	Kindred		Detector				
Elevation: 667m	Mic AGL: 6m	Mic Az.: 80°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: South West edge of a small forest opening and intersection of two closed canopy jeep trials within a mature mixed forest. Mic was pointed North East across the intersection

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/03/22	3	60	160	20:41	05:47	9.1V	n/a	n/a	n/a	n/a	0	Deployed
06/08/22	3	60	160	20:44	05:46	8.1V	35	5	0	3	2	Rain: 6/3-4, 6/7. Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County:	PA/Somerset	Site: AM30 Total Valid Nights: 2 of 5				
Lat: 39.729020°		Lon: -79.09337	71°	Photo: AM30_4				
Biologist: Todd Sir	ander, Kacy Lyn I	Kindred		Detector	: 50241			
Elevation: 690m	Mic AGL: 4m	Mic Az.: 280°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: South East edge of a small pond within a mature mixed forest. Mic was pointed West across a vegetated wetland area, South of the open water of the pond.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/03/22	3	60	160	20:41	05:47	9.1V	n/a	n/a	n/a	n/a	0	Deployed
06/08/22	3	60	160	20:44	05:46	8.1V	1097	5	0	3	2	Rain: 6/3-4, 6/7. Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM31 Total Valid Nights: 2 of 2				
Lat: 39.729354°		Lon: -79.07593	38°	Photo: AM31_2				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector				
Elevation: 683m	Mic AGL: 4m	Mic Az.: 10°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: South East edge of a small, vegetated wetland near Meadow Run and within a mature mixed forest. Mic was pointed North across the East end of the wetland area.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/14/22	3	60	160	20:46	05:46	8.9V	n/a	n/a	n/a	n/a	0	Deployed
06/16/22	3	60	160	20:47	05:46	8.3V	302	2	0	0	2	Demobilized



Project: 2022 Rou	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM32 Total Valid Nights: 2 of 2				
Lat: 39.731518°		Lon: -79.07856	68°	Photo: AM32_2				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector	50257			
Elevation: 680m	Mic AGL: 3m	Mic Az.: 180°	Frq: 300	Int: 0	Length: 4s			

Station Description: North edge of a vegetated wetland drainage that is West of an open water wetland adjacent to Meadow Run. The surrounding area is a mature mixed forest. Mic was pointed South across the vegetated wetland area.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/14/22	3	60	160	20:46	05:46	9.0V	n/a	n/a	n/a	n/a	0	Deployed
06/16/22	3	60	160	20:47	05:46	8.3V	297	2	0	0	2	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM33 Total Valid Nights: 2 of 2					
Lat: 39.730246°		Lon: -79.07788	34°	Photo: AM33_5					
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector	50119				
Elevation: 681m	Mic AGL: 4m	Mic Az.: 225°	Clutter: High	Frq: 300 Int: 0 Length: 4s					

Station Description: South East edge of a vegetated wetland and near Meadow Run to the West. The surrounding area is a mature mixed forest. Mic was pointed North West across the vegetated wetland area.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/14/22	3	60	160	20:46	05:46	9.0V	n/a	n/a	n/a	n/a	0	Deployed
06/16/22	3	60	160	20:47	05:46	8.4V	166	2	0	0	2	Demobilized



Project: 2022 Rou	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM34 Total Valid Nights: 2 of 2				
Lat: 39.729609°		Lon: -79.07085	52°	Photo: AM34_2				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector	50048			
Elevation: 707m	Mic AGL: 4m	Mic Az.: 60°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: South edge of a short, mostly closed canopy, forest road running East to West between an open grass field and a pond adjacent to Meadow Run. The Site, pond, and Meadow Run were within a mature mixed forest. Mic was pointed North East across the road.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/13/22	3	60	160	20:46	05:46	5.9V	n/a	n/a	n/a	n/a	0	Deployed
06/15/22	3	60	160	20:47	05:46	5.5V	100	2	0	0	2	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM3	35	Total Valid Nights: 2 of 2		
Lat: 39.724469°		Lon: -79.07713	30°	Photo: AM35_1				
Biologist: Todd Sir	ander, Kacy Lyn I	Kindred		Detector				
Elevation: 729m	Mic AGL: 3m	Mic Az.: 155°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: West side of a short, mostly closed canopy, jeep trail running North to South, parallel to an agricultural field to the West, and between an open grass field to the North and a second agricultural field to the South. The jeep trail is within a mature mixed forest that continued East. Mic was pointed North East across the jeep trail.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/13/22	3	60	160	20:46	05:46	7.7V	n/a	n/a	n/a	n/a	0	Deployed
06/15/22	3	60	160	20:47	05:46	7.6V	29	2	0	0	2	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM3	6	Total Valid Nights: 2 of 2		
Lat: 39.723019°		Lon: -79.07156	67°	Photo: AM36_2				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector:	50024			
Elevation: 722m	Mic AGL: 3m	Mic Az.: 315°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: South side of a narrow, mostly open canopy gas line ROW running East to West. The ROW ran parallel to an adjacent ROW to the South and this section was South of a large open field. The Site was on the edge of a mature mixed forest that continued South and West with Meadow Run within nearby to the West. Mic was pointed North West across the ROW

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/13/22	3	60	160	20:46	05:46	7.8V	n/a	n/a	n/a	n/a	0	Deployed
06/15/22	3	60	160	20:47	05:46	7.6V	1	2	0	0	2	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM3	7	Total Valid Nights: 2 of 2		
Lat: 39.722684°		Lon: -79.07694	14°	Photo: AM37_1				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector	50054			
Elevation: 731m	Mic AGL: 3m	Mic Az.: 60°	Frq: 300	Int: 0	Length: 4s			

Station Description: Open canopy intersection of a short, mostly closed canopy, jeep trail running North to South between grass and agricultural fields and a gas line ROW running East to West. A mixed mature forest surrounds the fields, jeep trail, and ROW. Mic was pointed North East across the intersection between the entrance to the jeep trail and the ROW.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/13/22	3	60	160	20:46	05:46	7.9V	n/a	n/a	n/a	n/a	0	Deployed
06/15/22	3	60	160	20:47	05:46	7.8V	137	2	0	0	2	Demobilized



Project: 2022 Rou	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM3	8	Total Valid Nights: 2 of 2		
Lat: 39.722546°		Lon: -79.08100	06°	Photo: AM38_4				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector: 50228				
Elevation: 722m	Mic AGL: 4m	Mic Az.: 280°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: East edge of a small open grassy area with a tributary on the West side and within a mature mixed forest. Mic was pointed South West across the open area.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/13/22	3	60	160	20:46	05:46	8.1V	n/a	n/a	n/a	n/a	0	Deployed
06/15/22	3	60	160	20:47	05:46	8.0V	10	2	0	0	2	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: N	MD/Garrett	Site: AM39 Total Valid Nights: 3 of 3				
Lat: 39.720224°		Lon: -79.08056	64°	Photo: AM39_3				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector				
Elevation: 473m	Mic AGL: 6m	Mic Az.: 89°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: North side of gravel road running East and West though a mature deciduous forest opening up to a field in the East. The mic was pointed East along road towards field opening.

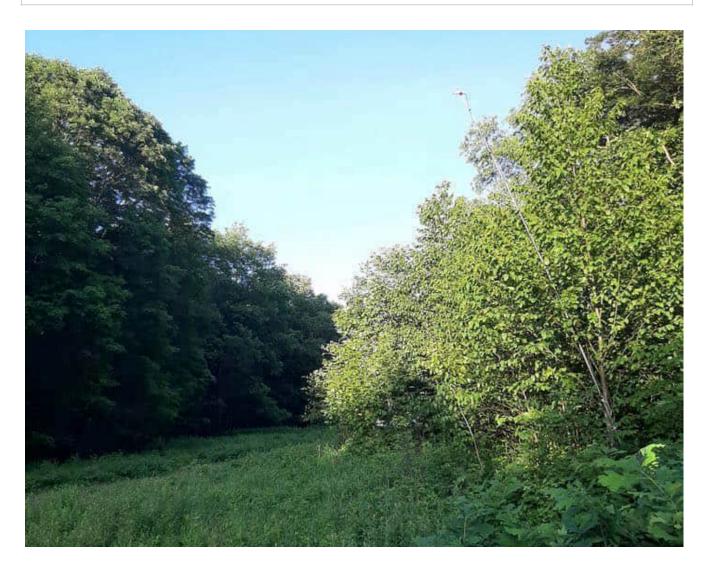
SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
08/04/22	3	60	160	20:27	06:17	8.9V	n/a	n/a	n/a	n/a	0	Deployed
08/07/22	3	60	160	20:25	06:19	8.1V	171	3	0	0	3	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: F	PA/Somerset	Site: AM4	0	Total Valid Nights: 2 of 2		
Lat: 39.722861°		Lon: -79.09166	68°	Photo: AM40_1				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector	50001			
Elevation: 735m	Mic AGL: 5m	Mic Az.: 340°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: South edge of a gas line ROW running East to West and a forest cut from the ROW NW to an agricultural field. The ROW ran through a strip of mature deciduous forest from a large commercial property to the East and to the same agricultural field to the West that the forest cut led to. The forest strip area continued North and South. Mic was pointed North West across the intersection.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
06/14/22	3	60	160	20:46	05:46	6.0V	n/a	n/a	n/a	n/a	0	Deployed
06/16/22	3	60	160	20:47	05:46	5.5V	954	2	0	0	2	Demobilized



Project: 2022 Rou	te 219 Acoustic	State/County:	MD/Garrett	Site: AM41 Total Valid Nights: 3 of 3				
Lat: 39.72101°		Lon: -79.08922	<u>2</u> °	Photo: AM41_2				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector				
Elevation: 739m	Mic AGL: 6m	Mic Az.: 280°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: South West end of large marsh within mature deciduous forest next to RT219 in Maryland. Mic was point West into marsh area.

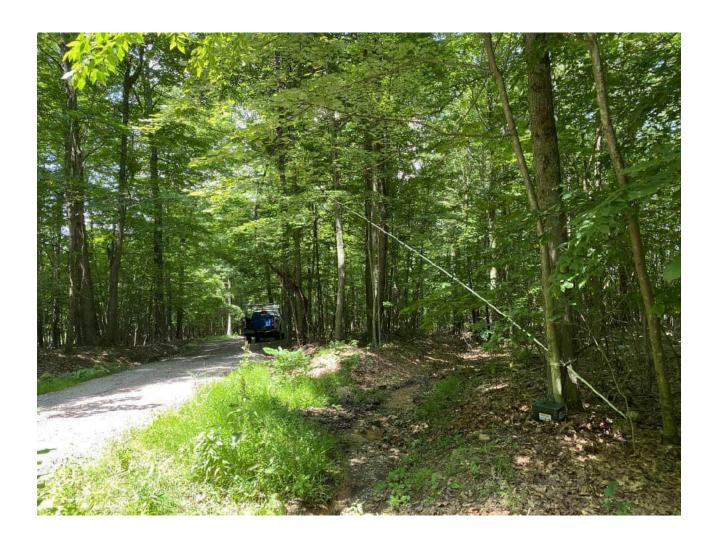
SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
08/04/22	3	60	160	20:27	06:17	8.5V	n/a	n/a	n/a	n/a	0	Deployed
08/07/22	3	60	160	20:25	06:19	7.8V	2625	3	0	0	3	Demobilized



Project: 2022 Rou	te 219 Acoustic	State/County: N	MD/Garrett	Site: AM42 Total Valid Nights: 8 of 12				
Lat: 39.717703°		Lon: -79.08769	90°	Photo: AM42_1				
Biologist: Todd Sir	ander, Kacy Lyn I	Kindred		Detector: 50228/50024				
Elevation: 773m	Mic AGL: m	Mic Az.: 255°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: South end of paved road within mature deciduous forest run-in East to West. Road led to driveway of a home. Small trail running from South East met up with paved road. Mic was pointed West up paved road.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
08/04/22	3	60	160	20:27	06:17	8.5V	n/a	n/a	n/a	n/a	n/a	Deployed
08/07/22	3	60	160	20:25	06:19	7.8V/ 8.2	123	3	3	0	0	Card corrupted, 0 files recovered, replaced detector and card, redeployed
08/16/22	3	60	160	20:19	06:24	7.4V	281	9	0	1	8	Demobilized



Project: 2022 Rout	te 219 Acoustic	State/County:	MD/Garrett	Site: AM43 Total Valid Nights: 3 of 3				
Lat: 39.716614°		Lon: -79.08208	33°	Photo: AM43_2				
Biologist: Todd Sin	ander, Kacy Lyn I	Kindred		Detector	: 50054			
Elevation: 774m	Mic AGL: 5m	Mic Az.: 35°	Clutter: High	Frq: 300 Int: 0 Length: 4s				

Station Description: East side of jeep dirt road running North East to South West. A small stream to the West ran through road going North to South East. An opening to agricultural field opened in the South West end of road. Mic was pointed North East along road.

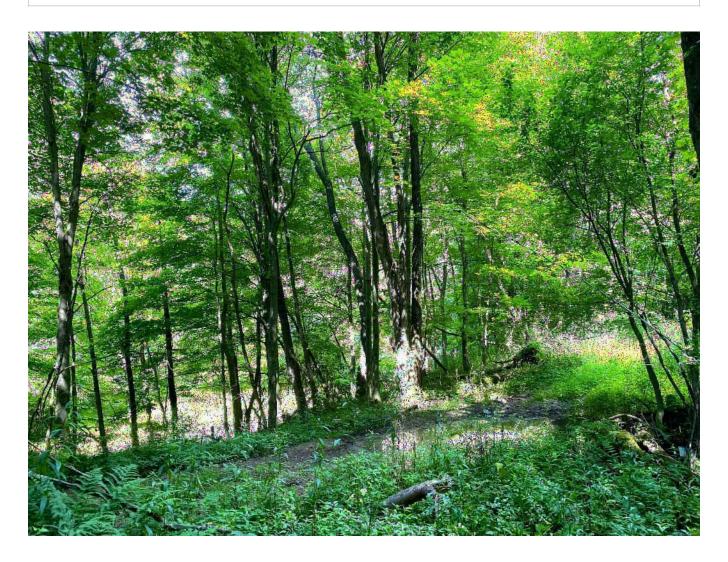
SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
08/04/22	3	60	160	20:27	06:17	9.0V	n/a	n/a	n/a	n/a	0	Deployed
08/07/22	3	60	160	20:25	06:19	8.2V	9	3	0	0	3	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County:	MD/Garrett	Site: AM4	4	Total Valid Nights: 8 of 12		
Lat: 39.715341°		Lon: -79.08357	73°	Photo: AM44_2				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector: 50119/50054				
Elevation: 785m	Mic AGL: 4m	Mic Az.: 188°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: On East side of ATV trail running North to South with large puddles through mature deciduous forest. Large pond to the West. Mic was pointed South along trail.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
08/04/22	3	60	160	20:27	06:17	9.0V	n/a	n/a	n/a	n/a	0	Deployed
08/07/22	3	60	160	20:25	06:19	8.3V/ 8.3V	0	3	3	0	3	Detector malfunction, 0 recorded files, replaced detector and redeployed
08/16/22	3	60	160	20:12	06:29	7.5	1208	9	0	1	8	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: N	MD/Garrett	Site: AM4	5	Total Valid Nights: 3 of 3		
Lat: 39.712219°		Lon: -79.08248	39°	Photo: AM45_3				
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred		Detector				
Elevation: 813m	Mic AGL: 6m	Mic Az.: 185°	Clutter: High	Frq: 300	Int: 0	Length: 4s		

Station Description: North end of 3 way jeep dirt road running through mature deciduous forest. Large puddles nearby on roads. Mic was pointed South where the roads meet.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
08/04/22	3	60	160	20:27	06:17	8.6V	n/a	n/a	n/a	n/a	0	Deployed
08/07/22	3	60	160	20:25	06:19	8.1V	50	3	0	0	3	Demobilized



Project: 2022 Rour	te 219 Acoustic	State/County: N	Site: AM4	6	Total Valid Nights: 3 of 3	
Lat: 39.712611°		Lon: -79.08806	Photo: AM46_5			
Biologist: Todd Sir	nander, Kacy Lyn I	Kindred	Detector: 50240			
Elevation: 813m	Mic AGL: 6m	Mic Az.: 29°	Clutter: High	Frq: 300	Int: 0	Length: 4s

Station Description: North side of jeep trail running through mature deciduous forest parallel to adjacent agricultural field, South end of grassy opening in the forest. On North West side opening are small buildings with jeep trail splitting three ways. Mic was pointed North towards grassy opening.

SERVICE	TS	GAIN	TL	START	STOP	BATT	FILES	TOTAL NIGHTS	INVALID TECH	INVALID WEATHER	VALID NIGHTS	COMMENTS
08/04/22	3	60	160	20:27	06:17	9.0V	n/a	n/a	n/a	n/a	0	Deployed
08/07/22	3	60	160	20:25	06:19	8.0V	688	3	0	0	3	Demobilized



APPENDIX B

Biologist Qualifications

John Chenger

220 Old Stone House Road North Carlisle, PA 17015 jchenger@batmanagement.com jchenger@batsurveysolutions.com

Endangered species biologist and company head with 27+ years of bat sampling and management

Designer of projects, sampling plans, and specialty equipment to meet clients' permit sampling needs

Large Project Mist Net Sampling Plans PCG WEVCA/USFWS Compliance

Indiana Bat Migration Telemetry Bat Artificial Roost Design Bat Acoustic Survey & Analysis
Bat Survey Training

Bat Conservation and Management, Inc. — Carlisle, PA

1999 to Present

Cell: 814-442-4246

President/Project Biologist

Created a company based on performing high quality bat sampling and management services for industrial, commercial and government clients. <u>Selected Contributions</u>:

- Design, supervise and run projects to meet USFWS section 7 and 10 Indiana bat consultation needs.
- Supervise up to 20 employees, sampling over 2,000 summer mist net Sites and fall & spring mine surveys in 18 states across more than 140 projects.
- Designs bat acoustic monitoring studies in 8 states and provides expert manual analysis of recordings. Expert
 using SonoBat, Kaleidoscope, Echoclass, BCID analysis software, and Binary Acoustics, Pettersson, and Wildlife
 Acoustics bat acoustic hardware.
- Supervised employees radio tracking of over 230 bats of 6 species since 2000, including Myso, Myse, Myle, Mylu, Labo, and Laci. Tracking included migration, summer foraging, and locating roosts.
- Supervise employees providing surveys covering most of the needs of developers including mist net surveys, woodrat surveys, bat acoustic surveys, cave and mine project area evaluations, small-footed bat habitat evaluations, and artificial roost design and creation.
- Specialist with macro, near infrared, thermal, and multi-flash photography and video.
- Instructed or co-led over 60 training workshops for federal & state biologists, land managers, and consultants for proper use of acoustic monitoring equipment and bat capture techniques.
- Permitted to sample bats nationwide.

Pennsylvania Game Commission

1992-2006

Biologist Aide

Assisted PGC biologists in a wide variety of biological sampling; Target animals included bats, woodrats, flying squirrels, small mammals, and peregrine falcons. <u>Selected Contributions</u>:

- · Performed bat mist net, harp trap, and Anabat surveys; Handled 20,000+ individual bats
- Performed 300+ hibernacula surveys in caves, mines, tunnels, and aqueducts; Skilled in internal and external surveys; Identified 200,000+ individual bats in cave and mine surveys
- Assisted with first identification of modern use at 8 of PA and 2 NJ M. sodalis (Indiana bat) hibernacula
- Surveyed potential Sites for presence or historic presence of the Allegheny woodrat (N. magister)
- Ran small mammal trap lines in remote locations across PA

TODD SINANDER

Bat Conservation and Management, Inc., Carlisle, PA- (717) 241-2228

Professional Experience:

Bat Conservation and Management, Inc., Carlisle, PA

2010-Present

Wildlife Biologist, Project Manager

- Coordinate with project proponents, state and federal agencies, and land owners to plan and execute wildlife and habitat surveys.
- Conduct bat mist net and acoustic USFWS absence/presence, hibernacula harp trapping, and radio telemetry habitat use studies.
- Assess and delineate forest and rock habitat for bat roost and foraging quality using systematic transects and fixed forest plots.
- Analyze bat absence/presence acoustic data using auto-classification programs (SonoBat, Kaleidoscope Pro).
- Write technical reports summarizing absence/presence capture and acoustic data, radio telemetry, and habitat assessments.
- Supervise and manage 10+ biologists and seasonal technicians conducting wildlife, radio telemetry, and habitat surveys.
- Bat acoustics and capture techniques instructor in training workshops hosted by Bat Survey Solutions, LLC in PA, AZ, and FL.
 Instructed workshop participants in the use of acoustic bat detectors, acoustic data management, auto-classification software, and bat capture techniques and identification.
- Conduct public outreach programs, bats house building workshops, and formal lectures to the public.

Philadelphia Zoo, Philadelphia, PA

1990-2010

Lead Keeper, Small Mammals

- Established and implemented long term animal health, husbandry, and population management goals.
- · Supervised the daily activities of small mammal keepers, coordinated public education, and maintained safety protocols.
- Designed and constructed animal exhibits to represent species natural habitat for both animal health and public education. Relief Keeper
- Responsible for the daily husbandry of a variety of mammals, birds, and reptile species.
- Conducted behavior and reproductive research on the blind mole rat (Nannospalax ehrenbergi).

New York State Department of Environmental Conservation, New Paltz, NY

1989-1990

Fish and Wildlife Technician

- Operated cooperative big and small game hunting check stations.
- Reviewed permit applications and conducted site inspections for stream disturbances under NY environmental protection law.
- Sampled anadromous fish from the Hudson River Estuary using seine nets, electro-shocking, monitoring the commercial fishery.

Additional Experience:

- Collected environmental data and used radio telemetry to collect short-beaked echidna (Tachyglossus aculeatus) body temperatures on Kangaroo Island, Australia.
- Tracked coyotes (Canis latrans) to determine habitat use, behavioral patterns, and prey densities in the Adirondack Park, NY.
 Investigated kill sites and deer carcasses preyed upon by coyotes and bobcat. Conducted the analysis of coyote fecal samples to determine prey preference.
- Located, captured, and marked eastern massasauga rattlesnakes (Sistrurus catenatus) in Syracuse, NY using radio telemetry to determine their habitat use.
- Captured, took blood samples, and banded spruce grouse (Falcipennis Canadensis) for an ongoing census and genetics study of
 the population in the Adirondack Park, NY.
- Trapped broad-winged hawks (Buteo platypterus), tracked using radio telemetry, and observed nest visits.

Education:

SUNY College of Environmental Science and Forestry, Syracuse, NY - BS, Wildlife and Forest Biology

1989

Certifications/Affiliations:

- U.S. Fish and Wildlife Service Federally Permitted Bat Biologist
- Pennsylvania Game Commission: Qualified Bat Surveyor (QBS)
- Northeastern Bat Working group
- Florida Bat Working Group
- Southeastern Bat Diversity Network
- The Wildlife Society

Appendix C

Acoustic Data: Attached Electronic Document

US 6219, SECTION 050 TRANSPORTATION IMPROVEMENT PROJECT MEYERSDALE, PA TO OLD SALISBURY ROAD, MD 2022 FALL BAT CAPTURE HIBERNACULA USE ASSESSMENT

Somerset County, Pennsylvania September 21 – October 26, 2022

Prepared by:



1263 Claremont Road, Carlisle, Pennsylvania 17015 Office and Fax: (717) 241-2228 Mobile: (814) 442-4246 www.batmanagement.com

Project Principal: John Chenger

Qualified Bat Surveyors: John Chenger Todd Sinander

> Bat Surveyors: Lori Braet Ken Gearhart Daniel Merrill

Report Prepared by: Todd Sinander

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Executive Summary

The Pennsylvania Department of Transportation (PennDOT) and Maryland State Highway Administration (MDSHA) proposes to construct a new 11.3 km (7 mile), limited-access section of State Route (SR) 6219, Section 050, from the Borough of Meyersdale, Somerset County, Pennsylvania, to Old Salisbury Road in Garrett County, Maryland. Bat Conservation and Management, Inc. (BCM) was contracted by KCI Technologies, Inc. to conduct a Fall Bat Hibernacula Use Assessment during September and October, 2022 at six previously surveyed sites near the proposed alignments. Five sites, 2005-01, 2005-19, 2005-27, and 2005-28 were described in 2005 and assessed for bat activity in 2005 and 2014. One site, 2014-01, was described and assessed for bat activity by BCM in 2014. The sixth site, was last assessed for bat activity in 2005 by the Pennsylvania Game Commission. Bat activity was previously documented at all sites except 2014-01.

Harp traps and mist-nets were utilized to trap each site for six nights during the 6.5-week survey period in 2022. Bat use was confirmed at site 2005-19 with the capture of one Eastern small-footed bat (*Myotis leibii*) and at site 2005-27 with the capture of one tricolored bat (*Perimyotis subflavus*). Bat use was also confirmed at where a total of 63 bats were captured which included Northern long-eared bats (*Myotis septentrionalis*), Eastern small-footed bats, tricolored bats, little brown bats (*Myotis lucifugus*), and big brown bats (*Eptesicus fuscus*). No bats were captured at sites 2005-01, 2005-28, and 2014-01. Results of this data suggest that these openings presently are not being used by bats of any species.

We have prepared this survey report for the use of our client's office for planning purposes in accordance with generally accepted bat capture and monitoring practices. No other warranties, either expressed or implied, are made as to the professional services included in this report. This report may be considered void without the electronic attachments originally accompanying it.

Introduction

In response to a U.S. Fish and Wildlife Service (USFWS) letter dated February 17, 2022 regarding outdated bat surveys on the US 219 Improvement Project, SR 6219, Section 050 (USFWS Project #2022-0001474, PNDI Receipt # 738552), Bat Conservation and Management, Inc. (BCM) was contracted to conduct a fall Bat Hibernaculum Use Assessment in 2022 at six previously surveyed sites near the proposed alignment.

An initial bat hibernacula habitat assessment within the US 219 Improvement Project Area conducted by BCM in 2005 delineated sites 2005-01, 2005-19, 2005-27, and 2005-28 as potential hibernacula (*Abandoned Mine Investigations for the U.S. 6219, Section 019 Highway Improvement Project*, August 27 - October 1, 2005). In 2014 BCM conducted a follow up assessment where previously delineated habitat was re-evaluated and a search for new habitat was conducted (*2014 RT 219 Fall Bat Harp Trapping and Abandoned Mine/Rocky Habitat Assessment*, October 2 - 12, 2014). During this assessment site 2014-01 was delineated as a new potential hibernaculum. The sixth site, is an established, gated bat hibernaculum that BCM has not previously surveyed.

Fall bat activity was confirmed during past BCM hibernacula assessments at four of the sites in 2005 and 2014 (sites 2005-01, 2005-19, 2005-27, and 2005-28). In 2005 Northern Long-eared bat (*Myotis septentrionalis*) presence was documented at site 2005-01 and in 2014 presence of the Northern Long-eared bat was documented at site 2005-28. Site 2014-01 was previously trapped in the fall of 2014 by BCM and no bats were captured. was last surveyed by the Pennsylvania Game Commission (PGC) in 2005 when the presence of the Indiana bat (*Myotis sodalis*) was documented. The 2022 BCM Bat Hibernaculum Use Assessment was conducted using the most recent USFWS and PGC physical capture survey protocols (2022 Guidelines) that are more robust than past guidelines. The protocols can be found within the 2022 USFWS *Range-Wide Indiana Bat Summer Survey Guidelines* and in Appendix B of the PGC document *Little Brown Bat and Tri-colored Bat Environmental Review Guidance Document* (10/3/19).

Methods

Capture Survey

The level of effort outlined within the 2022 Guidelines is a minimum of one night of sampling per week for six weeks at each suitable entrance using a harp trap (or mist-nets when the mine or cave configurations are not suitable to harp trapping). The survey is conducted during the period between September 15 to October 31 and each trapping night is to begin 30 minutes prior to sunset and continue for a minimum of five hours. The survey night was considered valid if; (1) the temperature remained $\geq 10^{\circ}\text{C}$ (50°F) for the first two hours of trapping and did not fall below 4.4°C (40°F) at any point during the survey, (2) precipitation, including rain and/or heavy fog, did not persist for more than 30 minutes or continued intermittently, and (3) at least 3 hours of the survey period is free of high wind. The survey effort may be suspended at a site if no bats are captured after the first two valid survey nights.

Meta-data was collected that fully described individual trapping sites and included photographs, global positioning satellite (GPS) coordinates, nightly weather conditions during sampling, and general information regarding habitat and surrounding area. Data collected on captured bats included species, sex, age, and reproductive condition. Species age was determined by using the Epiphyseal-diaphyseal Fusion method. The reproductive condition of females was noted by inspection of mammary glands.

Capture Survey Sites

In 2022 BCM visited all six survey sites prior to trapping to confirm the location of entrances and to verify that they were open for bat access. The six trapping sites (2005-01, 2005-19, 2005-27, 2005-28, 2014-01, and were surveyed between September 21 and October 26, 2022 (Figure 1, Table 1, Appendix A).

Site 2005-01 is a rectangular abandoned coal mine entrance with an acid mine drainage flowing from the opening. The terrain around the mine portal gently slopes up except for a small steep rise directly at the mine entrance. The

site was surveyed using a large harp trap placed outside and parallel to the entrance on the first three survey nights. Bird netting was draped from the top of the trap to the embankment above the opening and around the sides of the trap. The trap was set perpendicular to the opening on the last three survey nights with netting blocking the entrance to the mine during the survey.

Site 2005-19 is an abandoned coal mine up higher on the steep west bank of Piney Creek at the base of a high cliff face. During the first two trapping nights at this site a small harp trap was set parallel and outside the mine entrance with netting blocking the areas of the opening around the trap. A medium size trap set outside and perpendicular to the mine entrance, with netting blocking the entrance, was used during the remaining four survey nights.

Sites 2005-27 and 2005-28 are abandoned coal mines 49 m (160 ft.) apart on a relatively short steep section of the east bank of Piney Creek close to the waterline. Both sites are within dense thickets of Rhododendron. The two mine portals near each other were trapped simultaneously with one medium sized harp trap at each entrance set parallel to the openings with netting blocking the entrance area outside of the traps.

Site 2014-01 is a deep sink hole with a small entrance in the middle of a drainage ravine. The site was trapped using a small harp trap with netting blocking the opening during the first survey night. On the second night of trapping at 2014-01 two single high mist-nets attached end to end to form an L-shape single high net was used. The angle of the L-shaped net was placed over the sink hole with the long net running down the drainage and the shorter arm running up the side of the drainage. On the remaining 4 nights of trapping site 2014-01 two separate single high nets were used that formed an open T-formation over the sink hole. One net ran down the drainage and the second ran across the drainage diagonally.

is on the south facing slope of a ridge 85 m (280 ft.) above Piney Creek. The abandoned limestone mine entrance is relatively large with a dirt mound at the drip edge and a bat gate shortly inside the opening. The was trapped each night using two large harp traps set together to form an L-shape against the bat gate just inside the mine. One trap was parallel and next to the bat gate and the other had one end against the end of the first trap and was perpendicular to the gate. Netting covered the gate in the areas around the taps.

Acoustic Monitoring

A Pettersson D500x bat detector (Pettersson Elektronik, Uppsala, Sweden) was placed within 4.5 m (15 ft.) from each mine or sink hole entrance to detect hourly bat activity at or very near each opening that was trapped. Detector microphones were orientated towards the largest volume of airspace directly in front of the entrance for each site surveyed (Appendix A). Each detector was stationary and programmed to record for at least five hours, beginning 30 minutes before local sunset, and corresponded to the time when the trapping survey occurred. The resulting individual 4-second bat recordings represent a single "pass" (fly by) from a single bat. However, if multiple bats are flying through the optimal volume of detection during the same 4-second interval, they were recorded in tandem.

Recorded echolocation calls were post-processed using SonoBat 4 call analysis software (SonoBat, Arcata, CA). This process attributed meta-data from the survey effort to each recording while preserving the date-time stamp when recordings were made. All recordings were run through the SonoBat scrubber program to remove those with no discernable bat call pulses present. The remaining recordings were manually reviewed using the SonoBat viewer to confirm that they contained bat pulses. Recorded bat passes were tallied for each site in five one-hour increments. Bats using echolocation in and near high clutter areas such as cave entrances emit calls that are too ambiguous to identify either by auto-classification software or by manual review. Captured bats produce largely unstudied distress and social calls when in traps and while being handled, which were recorded particularly at the site. Therefore, no bat recordings were classified to species. Despite microphones focused on site entrances, monitoring microphones are capable of recording bat calls hundreds of feet away and behind the microphone. In this scenario, positive results cannot be used to assume presence, but are more of a general indication of activity. In addition, bats may reduce echolocation calls to a whisper in high traffic and high clutter areas such as cave entrances, rendering it impossible to obtain recording samples of every bat pass where negative results may not necessarily indicate an absence of bat activity. Considering these factors, acoustic monitoring at hibernacula is not an ideal survey method for bats and may be considered here for the record only.

Results

Survey Effort

A total of six sites were trapped for six survey nights each between September 21 and October 26, 2022 for a total of 30+ hours of trapping at each site. A significant number of nights during the 6.5-week hibernacula trapping survey period suggested by the 2022 Guidelines (September 15 – October 31) were below the minimum survey temperatures outlined in the protocols. An attempt was made to avoid trapping on the coldest nights. As a result, the USFWS and PGC preferred trapping schedule of one survey night each week during the 6.5-week survey period could not be maintained at sites 2005-01, 2005-27, 2005-28, and These sites were not surveyed during week five and instead were trapped on two consecutive nights during the sixth week of the survey when the temperature was forecasted to be significantly higher. Even with a concerted effort to move scheduled survey dates depending on the forecasted temperature, a number of survey nights at each site were below the temperature guidelines (Table 2). While not ideal, cold temperatures do not necessarily preclude bat activity during the fall swarming period, as evidenced by the capture of a tri-colored bat (*Perimyotis subflavus*) at the end of the survey night on September 8 (2005-27) at a temperature of 6.8°C (44.2°F).

Temperatures remained above 10°C (50°F) for first two hours of trapping during four out of the six survey nights at sites 2005-27 and 2005-28, during three of the six nights at 2005-01 and and during one night at 2014-01. There were no survey nights at site 2005-19 where the temperature stayed above the guideline temperature minimums (Table 2). No significant precipitation occurred during the nightly survey periods. Site-specific weather conditions are described on the PGC *Bat Netting/Trapping Site Survey Record Forms* (Appendix C: Attached Electronic Document).

Species Occupancy: Capture

No bats were captured at sites 2005-01, 2005-28, and 2014-01. One male Eastern small-footed bat (*Myotis leibii*) was captured at 2005-19 and one female tricolored bat (*Perimyotis subflavus*) was captured at 2005-27. At 24 big brown bats (*Eptesicus fuscus*), 20 Eastern small-footed bats, 12 little brown bats (*Myotis lucifugus*), three Northern long-eared bats (*Myotis septentrionalis*), and four tricolored bats were captured (Tables 1, 3, and 4).

Bat Activity: Acoustic Monitoring

Bat detectors were deployed near the entrances at each of the six survey areas during all trapping nights and were removed when each survey night was complete. Bat passes were tallied during each hour of the five-hour survey night. No bat passes were recorded at site 2005-28 and one was recorded at site 2014-01. Over the six survey nights at sites 2005-01, 2005-27, and 2005-19 few bat passes were recorded with site 2005-19 having the highest total count of eight and the highest nightly count of 5 (10/11) for the three sites. Bat acoustic activity was recorded during all but one of the six survey nights at On that night (9/28) the survey starting temperature was 9°C (48.2°F). However, four bats were captured on that same night, highlighting the ineffectiveness of acoustic monitoring in this application (Tables 5 and 6).

Conclusion

Five mine entrances and one sink hole opening were trapped between September 21 and October 26, 2022 to determine bat use during the fall swarming season. Bat use was confirmed at 2005-19 with the capture of one Eastern small-footed bat (*Myotis leibii*), at 2005-27 with the capture of one tricolored bat (*Perimyotis subflavus*), and at with the capture of 24 big brown bats (*Eptesicus fuscus*), 20 Eastern small-footed bats, 12 little brown bats (*Myotis lucifugus*), three Northern long-eared bats (*Myotis septentrionalis*), and four tricolored bats. No bats were captured at sites 2005-01, 2005-28, and 2014-01 which suggests that these sites are not presently being used by bats of any species.

Of the six sites surveyed, 2014-01 is the only site that has not had fall bat activity documented during previous BCM surveys in 2005 and 2014. The most notable historic captures were Northern long-eared bats captured in 2005 at site 2005-01 and in 2014 at site 2005-28. Also of note are historical BCM captures of tricolored bats at sites 2005-01, 2005-19, and 2005-27 and little brown bats at sites 2005-01 and 2005-19 (Table 7).

Bat captures and acoustic detection of bat passes did not necessarily correlate. Although no bat passes were recorded on 9/28 at four bats were captured. However, bat pass recordings did correlate with captures during all other nights at that site. Bat passes were also recorded at sites with no captures (2005-01, 2014-01) which is likely due to the wide detection range of the microphone. While the acoustic results did confirm bat activity near trap sites, these results alone are inconclusive regarding whether or not recorded bats are using the hibernacula.

Figures

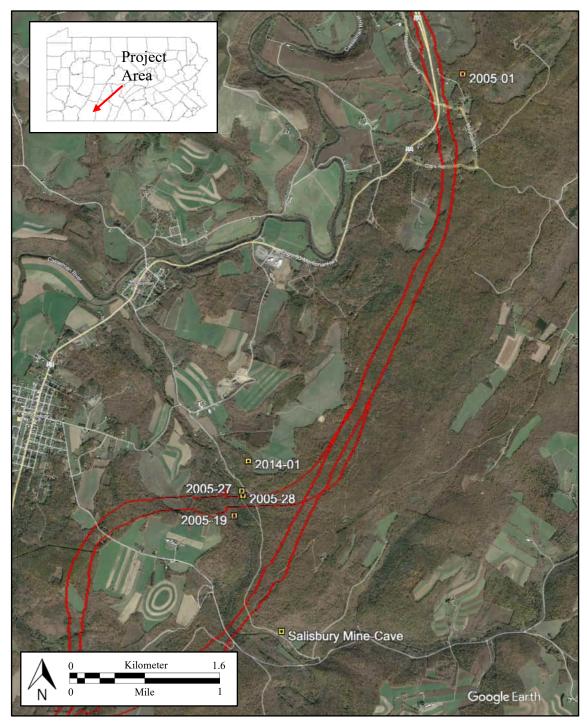


Figure 1. Location of six mine portals trapped in relation to the proposed SR 6219 Section 050 alignment.

Tables

Table 1. Trap site locations, level of effort, and captures by night.

	Site						Captur	e Resul	ts	
Survey Site	Location Lat, Long, (WGS84)	Site description	Survey Method by Date	Survey Dates	EPFU	MYLE	MYLU	MYSE	PESU	Total by Date
		A \sim 6 ft. wide x 4 ft. high mine entrance		09/21	-	-	-	-	-	0
		with an acid mine drainage flowing out and into the surrounding mature	x 2.1 m), set parallel to opening on 09/21, 28	09/28	-	-	-	-	-	0
2005.04	39.785564°	deciduous forest. The entrance is ~365	and 10/7 and set	10/07	-	-	-	-	-	0
2005-01	-79.028208°	ft. northeast from Mountain Rd. A	perpendicular on	10/12	-	-	-	-	-	0
		horizontal flooded passage into the		10/25	-	-	-	-	-	0
		mine can be seen trending east at least 50 ft.	1- Pettersson D500x Detector	10/26	-	-	-	-	-	0
		150.30	2005-01 Species and S	ite Total	0	0	0	0	0	0
		Mine entrance is ~ 3 ft. high and 4 ft. wide and is located 75 ft. above the	1- 1.6 ft. harp trap (0.5 m x 0.8 m), 1- Pettersson D500x	09/23	-	-	-	-	-	0
2005 40	39.743311°	west bank of Piney Creek in a mature	Detector	09/29	-	-	-	-	-	0
2005-19	-79.056614°	deciduous forest. The drift is on a very steep hillside without traces of old	1-3 ft. harp trap	10/05	-	-	-	-	-	0
		road and at the base of a 20 ft. high	(0.9 m x 1.1 m),	10/11	-	1	-	-	-	1
		sandstone cliff.	1- Pettersson D500x Detector	10/18	-	-	-	-	-	0
		<u> </u>	2005-19 Site Specie		0	1	0	0	0	1
		Entrance is ~12 ft. wide and 5 ft. high	•	09/21	-	-	-	-	-	0
		and is located on the east bank of Piney	1-3 ft. harp trap	09/28	-	-	-	-	1	1
2005-27	39.745696°	Creek, ~15 ft. above the stream, and is	(0.9 m x 1.1 m),	10/06	-	-	-	-	-	0
	-79.055679°	within a mixed mature forest with a dense undergrowth of Rhododendron.	1- Pettersson D500x Detector	10/12 10/25	-	-	-	-	-	0
		This mine is 160 ft. north of 2005-28.	Bettettor	10/26	-	-	-	-	-	0
			2005-27 Site Speci	es Totals	0	0	0	0	1	1
		Mine entrance is located ~75 ft. from		09/21	-	-	-	-	-	0
	20.7452600	the east bank of Piney Creek, ~20 ft.		09/28	-	-	-	-	-	0
2005-28	39.745260° -79.055530°	above the stream. The entrance is \sim 8 ft. wide and 3 ft. high and the site is	(0.9 m x 1.1 m), 1- Pettersson D500x	10/06 10/12	-	-	-	-	-	0
	73.055550	within a mature mixed forest with a	Detector	10/25	-	-	-	-	-	0
		dense Rhododendron undergrowth.		10/26	-	-	-	-	-	0
			2005-28 Site Speci	es Totals	0	0	0	0	0	0
		Feature is a sink hole with a 1.5 ft.	1- 1.6 ft. harp trap (0.5 m x 0.8 m), 1 Pettersson D500x Detector	09/21	-	-	-	-	-	0
2014-01	39.748539° -79.054863°	diameter entrance at the upper elevations of a steep sided drainage trench with a small spring emerging from the bottom of the trench below the opening. The trench is in a mature	(6m+9m) attached end to end, 1- Pettersson D500x Detector	09/29	-	-	-	-	-	0
		mixed forest with a meadow just uphill		10/05	-	-	-	-	-	0
		on top of the rise.	(6m+9m) in an open T- formation,	10/11	-	-	-	-	-	0
			1- Pettersson D500x	10/18	-	-	-	-	-	0
			Detector	10/24	-	-	-	-	-	0
	l		2014-01 Site Speci	1	0	0	0	0	0	0
		The abandoned limestone mine		09/21	-	5	8	2	2	17
		entrance is 18 ft. wide and 8 ft. high with a dirt mound at the drip edge. The		09/28 10/07	-	3	3	1	1	<u>4</u> 5
		mine is wider 15 ft. inside the entrance	L-shape,	10/07	10	1	-	-	1	12
		where there is a bat gate. Beyond the		10/12	11	6	-	-	-	17
		gate the passage divides at least twice.	Detector	10/26	3	5	-	-	-	8
			Site Speci		24	20	12	3	4	63
			Project Specie	es Totals	24	21	12	3	5	65

EPFU = big brown bat (*Eptesicus fuscus*), MYLE = Eastern small-footed bat (*Myotis leibii*), MYLU = little brown bat (*Myotis lucifugus*), MYSE = Northern long-eared bat (*Myotis septentrionalis*), PESU = tricolored bat (*Perimyotis subflavus*)

Table 2. Survey start/end times and temperatures.

Survey Site	Survey Dates	Time Start	Start Temp (°C)	Low Temp During First 2 Hours of Survey (°C)	Low Temp During Last 3 Hours of Survey (°C)	Survey End Time
	09/21	18:45	20.9	-	19.0	23:45
	09/28	18:30	9.6	1	7.3	23:35
2005-01	10/07	18:15	8.6	7.4	6.4	23:20
2003-01	10/12	18:10	15.0	14.1	13.6	23:10
	10/25	17:55	14.8	13.1	11.9	22:55
	10/26	17:55	10.2	8.6	6.4	22:55
	09/23	18:45	20.0	-	6.2	00:00
	09/29	18:35	8.9	7.2	4.8	23:35
2005-19	10/05	18:15	10.1	I	4.7	23:35
2005-19	10/11	18:00	12.1	1	5.3	23:30
	10/18	18:15	1.9	-	1.8	23:15
	10/24	18:00	12.4	-	7.7	23:30
	09/21	18:30	19.7	-	16.2	00:00
	09/28	18:30	9.6	-	6.8	23:30
2005 25	10/06	18:15	12.1	10.4	9.3	23:30
2005-27	10/12	18:10	13.7	12.6	12.4	23:10
	10/25	18:00	14.4	-	11.4	23:30
	10/26	18:00	12.1	-	7.5	23:00
	09/21	18:30	19.6	-	16.3	00:00
	09/28	18:30	9.6	-	6.8	23:30
2005 20	10/06	18:15	12.1	10.4	9.3	23:30
2005-28	10/12	18:10	13.7	12.6	12.4	23:10
	10/25	18:00	14.4	-	11.4	23:30
	10/26	18:00	12.1	-	7.5	23:00
	09/21	18:30	20.7	-	19.0	00:00
	09/29	18:30	12.1	7.8	5.4	23:35
2014.01	10/05	18:20	11.6	8.7	5.3	23:20
2014-01	10/11	18:10	14.0	8.7	6.1	23:11
	10/18	18:00	1.2	-	0.9	23:00
	10/24	18:00	12.4	-	7.7	23:30
	09/21	18:45	19.8	-	19.1	00:00
	09/28	18:35	9.0	-	7.6	23:35
	10/07	18:00	8.8	-	5.3	23:30
	10/12	18:00	14.7	-	13.6	23:30
	10/25	18:00	14.4	_	11.4	23:30
	10/26	18:00	12.1	_	7.5	23:45

Highlighted survey dates were invalid due to low temperatures.

Table 3. Bat capture by site, sex, and age.

		EP	FU			M	YLE			l	MYL	.U			M	/SE			PE	SU		To	otals	Ву	Sex	
Trap Site	Fen	nale	Ma	ale	Fen	nale	M	ale	Fen	nale	М	ale			nale	Δ	ale	Fen	nale	M	ale	Fer	nale	М	ale	Site Totals
	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	Unk	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	Ad	Juv	
2005-01	_	_	_	_	_	_	_	_	_	_	-	_	_	_	-	-	_	_	_	-	_	О	0	0	0	0
2005-19	_	_	_	_	_	_	1	_	_	_	-	_	_	_	-	-	_	_	_	-	_	О	О	1	0	1
2005-27	_	_	_	_	_	_	_	_	_	_	-	_	_	_	-	-	_	1	_	-	_	1	О	0	0	1
2005-28	_	_	_	_	_	_	_	_	_	_	-	_	_	_	-	-	_	_	_	-	_	О	0	0	0	0
2014-01	_	_	_	_	_	_	_	_	_	_	-	_	_	_	-	-	_	_	_	-	_	О	0	0	0	0
	12	_	12	-	6	_	14	-	2	-	9	_	1	_	-	3	_	1	_	3	_	21	0	41	0	63
Species	12	0	12	0	6	0	15	0	2	0	9	0	1	0	0	3	0	2	0	3	0	22	0	42	0	Project Total
Totals			<u>4</u>			2	21				12		1 CM			3				5			ŧ	54		65

EPFU = big brown bat (*Eptesicus fuscus*), MYLE = Eastern small-footed bat (*Myotis leibii*), MYLU = little brown bat (*Myotis lucifugus*), MYSE = Northern long-eared bat (*Myotis septentrionalis*), PESU = tricolored bat (*Perimyotis subflavus*), Ad = Adult, Juv = Juvenile, Unk = sex unknown

Table 4. Reproductive condition of captured bats.

		EP	FU		N	ЛYLE			M۱	/LU			MYSE			PESU			TC)TAL	S	
Trap Site	Fe	em	Ma	ale	Fem	Ma	ale	Fem	Ma	ale	Ukn	Fem	Ma	ale	Fem	Ma	ale	Fe	em	Ma	ale	Hale
	NR	Unk	SCR	NR	NR	SCR	NR	NR	SCR	NR	UKN	NR	SCR	NR	NR	SCR	NR	NR	Unk	SCR	NR	Unk
2005-01	_	-	-	-	_	-	-	-	-	_	-	_	-	-	_	_	-	0	0	0	0	0
2005-19	_	_	_	_	_	_	1	_	_	_	_	_	_	_	_	_	-	0	0	0	1	0
2005-27	_	_	_	_	_	_	_	_	_	_	_	_	_	_	1	_	_	1	0	0	0	0
2005-28	-	_	_	_	_	_	_	_	-	-	_	_	_	_	-	-	_	0	0	0	0	0
2014-01	_	_	-	_	_	-	_	_	_	_	_	_	_	-	_	_	-	0	0	0	0	0
	10	2	2	10	6	4	10	2	5	4	1	_	1	2	1	1	2	19	2	13	28	1
Species	10	2	2	10	6	4	11	2	5	4	1	0	1	2	2	1	2	20	2	13	29	1
Totals		2	4			21			1	2			3			5				65		

NR = Non-reproductive, SCR = Scrotal

Table 5. Acoustic bat passes at sites 2005-01, -27, -28, and

during each survey hour.

											F	ive	Н	our	Sι	urv	ey	Pe	erio	d [Duri	ing	Eac	h S	urv	ey	Dat	e									Total
Trap Site			09)/2	21			C	9/	28			1	0/0)6			1	LO/(07			1	0/1	.2			1	LO/2	25			1	0/2	26		Site Bat
	1	2		3	4	5	1	. 2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	Passes
2005-01	-	-		-	_	-	-	- -	<u> </u>	<u> </u>	-						-	<u> </u>	-	-	_	_	4	-	-	-	_	-	-	-	-	-	-	-	-	-	
2005-01 Totals			•	0				•	0)	•							•	0					4					0	•				0	•		4
2005-27	_	1		-	-	-	-	- -	-	-	3	_	_	1								_	-	-	-	-	_	-	-	-	-	-	-	_	_	_	
2005-27 Totals				1					3	!				1										0					0					0			5
2005-28	-	_		-	_	-						-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	
2005-28 Totals				0										0					0					0					0					0			0
	1	1		3	8	9	_	-	-	_	-						_	_	-	_	23	_	19	14	1	6	-	8	22	88	99	-	-	2	6		
Salisbury Mine-Cave Totals			,	22				•	0)									23	}				40					217	,				8			310

Table 6. Acoustic bat passes at sites 2005-19, 2014-01 during each survey hour.

									Fi	ive	Нс	our	Su	ırv	ey	Pe	rio	d D	uri	ng	Eac	h S	urv	ey	Dat	е									Total
Trap Site		0	9/2	1		0	9/2	23			09	9/2	9			1	0/0)5			1	0/1	l1			1	.0/1	.8			10	/2	4		Site Bat
	1	2	3	4 5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	Passes
2005-19									1			1		1										5											
2005-19 Totals							1					2					0					5					0					0			8
2014-01				1																															
2014-01 Totals			1	·								0					0	-				0					0					0			1

Table 7. Historical BCM capture data compared to 2022 captures at six survey trap sites.

Survey Site	Survey Year	EPFU	MYLU	MYSE	MYLE	PESU	Site Total by Year
	2005	0	14	7	0	6	27
2005-01 ¹	2014	0	0	0	0	0	0
	2022	0	0	0	0	0	0
	2005	0	2	0	0	2	4
2005-19 ²	2014	0	0	0	0	0	0
	2022	0	0	0	1	0	1
	2005	0	0	0	0	2	2
2005-27 ²	2014	0	0	0	0	0	0
	2022	0	0	0	0	1	1
	2005	0	0	0	0	2	2
2005-28 ²	2014	0	0	2	0	5	7
	2022	0	0	0	0	0	0
	2005						
2014-01 ³	2014	0	0	0	0	0	0
	2022	0	0	0	0	0	0
	2005						
Salisbury ⁴ Mine-Cave	2014						
c cave	2022	24	12	3	20	4	63

EPFU = big brown bat (*Eptesicus fuscus*), MYLE = Eastern small-footed bat (*Myotis leibii*), MYLU = little brown bat (*Myotis lucifugus*), MYSE = Northern long-eared bat (*Myotis septentrionalis*), PESU = tricolored bat (*Perimyotis subflavus*).

¹Level of effort was 2 consecutive nights in 2005, 3 nights over a 2-week period in 2014, and 6 nights over a 6-week period in 2022.

² Level of effort was 2 consecutive nights in 2005, 3 consecutive nights in 2014, and 6 nights over a 6-week period in 2022.

³ Site was not surveyed in 2005. Level of effort was 3 consecutive nights in 2014 and 6 nights over a 6-week period in 2022.

⁴ Site was not surveyed by BCM in 2005 or 2014. Level of effort was 6 nights over a 6-week period in 2022.

Appendix A Trap Site Photographs



Trap Site 2005-01 A: Mine opening trapped using a 6 ft. harp trap (1.8m x 2.1m) set parallel to entrance with netting draped over trap and top of opening (09/21,28 and 10/7). A Pettersson D500x mic was pointed toward trap (left side of photo).



Trap Site 2005-01 B: Mine opening trapped using a 6 ft. harp trap set perpendicular to entrance with netting draped over opening (10/12, 25, and 26). A Pettersson D500x mic pointed toward trap.



Trap Site 2005-19 A: Mine opening trapped using a 1.6 ft. harp trap (0.5 m x 0.8 m) set parallel to entrance with netting blocking entrance around the trap (9/23, 29). A Pettersson D500x mic pointed toward area in front of trap.



Trap Site 2005-19 B: Mine opening trapped using a 3 ft. harp trap (0.9m x 1.1m) set perpendicular to entrance with netting blocking entrance (10/5, 11, 18, 24). A Pettersson D500x mic pointed toward trap area.



Trap Site 2005-27: Mine opening trapped using a 3 ft. harp trap (0.9m x 1.1m) set parallel to entrance with netting blocking entrance around the trap. A Pettersson D500x mic pointed toward trap area.



Trap Site 2005-28: Mine opening trapped using a 3 ft. harp trap (0.9m x 1.1m) set parallel to entrance with netting blocking entrance around the trap. A Pettersson D500x mic pointed toward trap area.



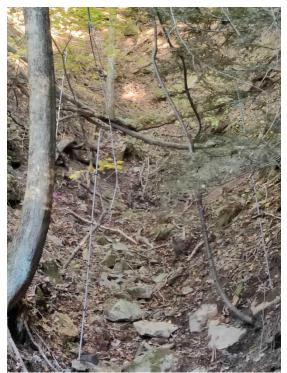
Trap Site 2014-01 A: A sink hole opening was trapped using a 1.6 ft. harp trap (0.5 m x 0.8 m) set downslope from the opening (9/29). Netting was draped over the back of the trap to the embankment over the opening.



Trap Site 2014-01 B: A 1.6 ft. harp trap with a Pettersson D500x mic pointed toward the trap and sink hole opening.



Trap Site 2014-01 C: Two single high mist-nets (6m + 9m) attached end to end to form a 15m L-shaped single high net with the angle over the sink hole (9/29). A Pettersson D500x mic pointed toward net and sink hole area.



Trap Site 2014-01 D: Two single high mist-nets in an open T-formation with Trap A (9m) running up the center of the drainage toward the sink hole and Trap B (6m) set diagonally across the drainage and over the sink hole (10/5, 11, 18, 24). A Pettersson D500x mic pointed toward net and sink hole area.

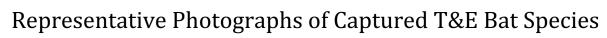


A: Two 6 ft. harp traps (each $1.8 \text{ m} \times 2.1 \text{ m}$) set together forming an L-shape against the bat gate just inside the mine. A Pettersson D500x mic was pointed toward the area around the traps.



B: Two 6 ft. harp traps set together forming an L-shape against the bat gate. Netting covered the gate around the traps.

Appendix B





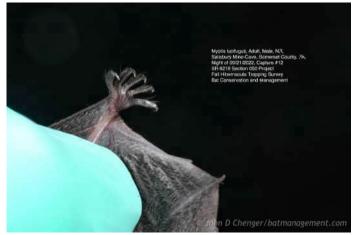
Eastern small-footed bat (*Myotis leibii*): Profile, dark face. Adult male, NR, Site Capture Night: 09/21/2022.



Eastern small-footed bat (*Myotis leibii*): Foot, keeled calcar. Adult male, NR, Site Capture Night: 09/21/2022.



Little brown bat (*Myotis lucifugus*): Profile, tragus. Adult male, Site Capture Night: 09/21/2022.



Little brown bat (*Myotis lucifugus*): Foot, toe hair, calcar. Adult male, Site Capture Night: 09/21/2022.



tragus. Adult male, Site 09/21/2022.

Northern long-eared bat (Myotis septentrionalis): Profile, Capture Night:



Northern long-eared bat (Myotis septentrionalis): Foot, calcar, uropatagium. Adult male, Site Capture Night: 09/21/2022.



Tricolor bat (Perimyotis subflavus): Profile, light forearm. Adult Capture Night: 09/21/2022. male, Site

Appendix C

PGC Site and Bat Capture Forms: Attached Electronic Document

File Name: 2022_Rt219_FallTrap_BCMReport_AppB_TrapSite-DataSheets.zip

File Includes: 6.pdf files, 1 for each survey site (e.g., 2022_Rt219_Fall-HiberTrapping_2005-01_DataSheets.pdf).

US 6219, SECTION 050 TRANSPORTATION IMPROVEMENT PROJECT MEYERSDALE, PA TO OLD SALISBURY ROAD, MD 2023 BAT HIBERNACULA HABITAT ASSESSMENT

Somerset County, Pennsylvania, Garrett County, Maryland February 15 – April 26, 2023

Prepared by:



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Executive Summary

The Pennsylvania Department of Transportation (PennDOT) and Maryland State Highway Administration (MDSHA) proposes to construct a new 7 mile (11.3 km), limited-access section of State Route (SR) 6219, Section 050, from the Borough of Meyersdale, Somerset County, Pennsylvania, to Old Salisbury Road in Garrett County, Maryland. Bat Conservation and Management, Inc. (BCM) was contracted by KCI Technologies, Inc. to conduct a Bat Hibernacula Habitat Assessment during February, March, and April, 2023 within the proposed alignment plus a quarter mile buffer. Two new potential hibernacula sites were found (BCM 2023-01 and BCM 2023-02) during the assessment. Both were natural sandstone caves located within 1000 ft. (0.3 km) of Piney Creek. It is recommended that these sites be assessed to determine bat activity and use during the fall of 2023.

In addition to searching for new potential hibernacula, 27 abandoned mine features previously surveyed by BCM in 2005 and 2014 were assessed to evaluate their current status. No new openings were found at these sites but six of the sites have documented open portals and five of those are known hibernacula confirmed by bat captures during past fall trapping surveys. Degradation of habitat was noted at three of the five known hibernacula sites. These included site BCM 2005-01 that had visible signs of collapsed support timbers, BCM 2005-28 where vegetation encroachment was noted around the entrance, and at the where there have been internal ceiling collapses and deterioration of an existing bat gate. In addition to the physical degradation of habitat, a predator (raccoon) was also observed emerging from two open portal sites during a BCM fall trapping survey in 2022; site BCM 2005-19, one of the five known hibernacula, and site BCM 2014-01, a potential hibernaculum where no bats have been captured during two fall trapping surveys (2014 and 2022).

We have prepared this survey report for the use of our client's office for planning purposes in accordance with generally accepted bat capture and monitoring practices. No other warranties, either expressed or implied, are made as to the professional services included in this report. This report may be considered void without the electronic attachments originally accompanying it.

Introduction

In response to the U.S. Fish and Wildlife Service (USFWS) letter dated February 17, 2022 regarding outdated bat surveys on the US 219 Improvement Project, SR 6219, Section 050 (USFWS Project #2022-0001474, PNDI Receipt #738552), Bat Conservation and Management, Inc. (BCM) was contracted to conduct a Bat Hibernacula Habitat Assessment in 2023 to evaluate previously assessed abandoned mine land sites, established bat hibernacula sites, and to search for new potential bat hibernacula habitat.

An initial bat hibernacula habitat assessment conducted by BCM in 2005 within the US 6219 Improvement Project Area evaluated 28 potential abandoned mine sites. Four of the sites (BCM 2005-01, BCM 2005-19, BCM 2005-27, and BCM 2005-28) were assessed as potential hibernacula and, in the fall of 2005, a bat presence or probable absence trapping survey confirmed bat activity at all four sites (Abandoned Mine Investigations for the U.S. 6219, Section 019 Highway Improvement Project, August 27 - October 1, 2005). In 2014 BCM conducted a follow up hibernacula assessment where the 28 potential abandoned mine sites identified in 2005 were re-evaluated and a search for new habitat was conducted. During that assessment, site BCM 2014-01 was delineated as a new potential hibernaculum. Bat use at the four hibernacula established in 2005 and at the new 2014 potential hibernaculum was evaluated during a trapping survey in the fall of 2014 (2014 RT 219 Fall Bat Harp Trapping and Abandoned Mine/Rocky Habitat Assessment, October 2 - 12, 2014). In the fall of 2022 BCM again trapped the five sites surveyed in 2014 to determine bat use. In addition to those sites, the was also trapped. The hibernaculum within the Project Area buffer that was not previously available to access since 2005 when the Pennsylvania Game Commission (PGC) confirmed the presence of hibernating Indiana bats (Myotis sodalis), northern long-eared bats (Myotis septentrionalis), little brown bats (Myotis lucifugus), and tricolored bats (Perimyotis subflavus) within the mine.

The 2023 BCM Bat Hibernacula Habitat Assessment was conducted using the most recent USFWS survey guidelines available (Guidelines). The protocols can be found within the 2023 USFWS Range-Wide Indiana Bat Summer Survey Guidelines, Appendix H: Potential Hibernaculum Survey Guidance and within the PGC document Little Brown Bat and Tri-colored Bat Environmental Review Guidance Document, Appendix B: Protocol for Assessing Hibernacula (10/3/19).

Methods

Survey Area

The 2023 Bat Hibernacula Habitat Assessment was conducted within the US 6219 Improvement Project 2023 proposed alignment's Limit of Disturbance (LOD) that include the Northern Section (Section 1 DU E), Middle Section (Section 2 DU and Section 2 E), and the Southern Section (Section 3 DU E and Section 3 DU E Shift) alignments. In addition, a quarter mile buffer (0.4 km) around the alignment's LOD was included which totaled a survey study area of approximately 4,650± acres (18.8 km²) of primarily forested land interspersed with agricultural fields, commercial properties, and small clusters of residential areas (Figures 1-4). A portion of the Northern alignment buffer (Section 1) is within Pennsylvania State Game Lands 231.

Desktop Analysis Survey

A preliminary desktop analysis to map known and potential areas of interest within the US 6219 Improvement Project 2023 alignments plus buffer was conducted prior to the field reconnaissance of mapped sites, foot searches, and onsite assessments of habitat. Areas that were investigated during 2005 and 2014 BCM hibernacula habitat assessments were included in this survey to update their status. This included the 28 Abandoned Mine Land Features (AMLF) originally investigated in 2005 (BCM 2005-01 to BCM 2005-28), the AMLF and Coal Mine Point Location (CMPL) sites investigated by BCM from the 2014 desktop survey (AMLF 2014-01, AMLF 2014-02, CMPL 2014-03 to CMPL 2014-10), and the AMLF found by BCM during the 2014 survey foot search (BCM 2014-01, BCM 2014-02). The area around the two openings into were also explored during the desktop survey in preparation for an updated description of the site.

In addition to sites previously investigated by BCM, publicly available map layer resources such as the Pennsylvania Mine Map Atlas (PA Department of Environmental Protection and Pennsylvania State University (https://www.minemaps.psu.edu/) and Google Earth® Pro Hillshade layer from Pennsylvania Spatial Data Access (PASDA, https://www.pasda.psu.edu/) were used to locate additional land feature sites to investigate.

Foot Search and Site Habitat Assessment

Systematic foot searches were conducted to look for potential hibernacula habitat throughout the US 6219 Improvement Project Area between February 15 and April 26, 2023. Searches were conducted by two or three surveyors prior to leaf out to increase the probability of detecting historical mining activity, sink holes or slumping, and natural rock formations that were not noted during the desktop survey. Hand held GPS units (Garman, Montana® 680) and two-way radios coordinated simultaneous searches through large tracts of land.

A USFWS Habitat Assessment Data Sheet was used to describe the condition and current environment around each previously assessed potential and known bat hibernacula sites, as well as new sites found. Air temperature inside the entrance of the mine or cave, ambient temperature outside, air flow at the entrance and general condition of the habitat and structure were recorded. Photographs were taken of all previous and new hibernacula habitat. All previously surveyed AMLF, CMPL and BCM sites were assessed for recent openings and their current condition was noted.

Results

Two new potential bat hibernacula (BCM 2023-01 and BCM 2023-02) were found within the 2023 US 6219 Improvement Project Area alignments plus a quarter mile buffer (Figure 3, Table 1). Both sites are natural sandstone caves within 1000 ft. (0.3 km) of Piney Creek in a mature deciduous forest. Site BCM 2023-01 was found east of Piney Run Road on the west facing slope of the ravine formed by Piney Creek. The cave opening was 1.5 ft. (0.5 m) high and 4 ft. (1.2 m) wide. The passage inside sloped downward toward the northeast and opened into a 5 ft. (1.5 m) high, 3 ft. (0.9 m) wide, and 15 ft. (4.6 m) long passage that turned left out of sight. A slight cool breeze could be felt flowing out of the entrance. The temperature inside the entrance was 34.5°F (1.4°C) while outside it was 63.8°F (17.7°C). Site BCM 2023-02 was found west of Greenville Road on the east facing slope near the ridge top of the Piney Creek ravine. The cave opening was 2.5 ft. (0.8 m) high and 1.5 ft (0.5 m) wide and was at the bottom of a 20 ft. (6.1 m) high cliff sandstone outcrop. The passage inside sloped down and was slightly larger than the opening. Approximately 3 ft. (0.9 m) past the entrance the passage turned sharply to the right and opened up to a 5 ft. (1.5 m) high and 2 ft. (0.6 m) wide passage that continued for 6 ft. (1.8 m) then narrowed down to several fissures in the rock that could not be closely observed from the entrance. A slight cool breeze could be felt flowing out of the opening. The temperature inside the entrance was 35.1°F (1.7°C) while outside it was 51.3°F (10.7°C).

In addition to the two new potential hibernacula sites found, 27 previously surveyed abandoned mine land sites located within the current study area were assessed (Table 1, Appendix A, B, and C). Fifteen were originally surveyed in 2005 and 12 sites were originally surveyed in 2014. Five of these sites have open portals where bat activity has been confirmed during past fall trapping surveys (BCM2005-01, BCM-2005-19, BCM-2005-27, BCM-2005-28, One additional site that has an open portal (BCM 2014-01) was trapped in the fall of 2014 and 2022 with no bat activity during either survey (Table 2). None of the remaining previously surveyed abandoned mine land sites had open portals and their status has not changed.

Some degradation or increase in clutter has occurred at four of the known hibernacula sites. At site BCM 2005-01 a support rafter at the entrance has collapsed and the entire floor of the horizontal drift was flooded 6 in. (0.2 m) to 1 ft. (0.3 m) in depth. At site BCM 2005-27 the density of Rhododendron shrubs has significantly increased around the opening. The bat gate just inside the entrance of the shows significant signs of oxidation at the top one third but is still intact. The current land owner of the several collapses within the mine and there was concern expressed about its overall stability.

A more detailed current description of the two new potential hibernacula and known hibernacula sites as well as descriptions of sites not surveyed in 2023 can be found in Appendix A. Site photographs can be found in Appendix B and USFWS hibernacula habitat data sheets are in Appendix C.

Conclusion

Bat Conservation and Management, Inc. conducted a Bat Hibernacula Habitat Assessment in 2023 to evaluate previously assessed abandoned mine land sites, established bat hibernacula sites, and to search for new potential bat hibernacula habitat within the 2023 US 6219 Improvement Project Area. Two new natural sandstone potential bat hibernacula sites were found but no new mining related openings were discovered. The locations of both new potential bat hibernacula were outside of the current proposed alignment limit of disturbance (LOD) but inside the quarter mile (0.4 km) buffer around the LOD. It is recommended that the two potential bat hibernacula sites be assessed for bat fall swarming activity to determine bat use at the sites.

Some of the established hibernacula that have been visited multiple times are showing signs of collapses and vegetation encroachment. The continued degradation of these sites may eventually reduce the winter bat hibernation habitat near prime Piney Creek summer foraging and maternity roost habitat potentially forcing bats to travel further away to hibernate.

Figures

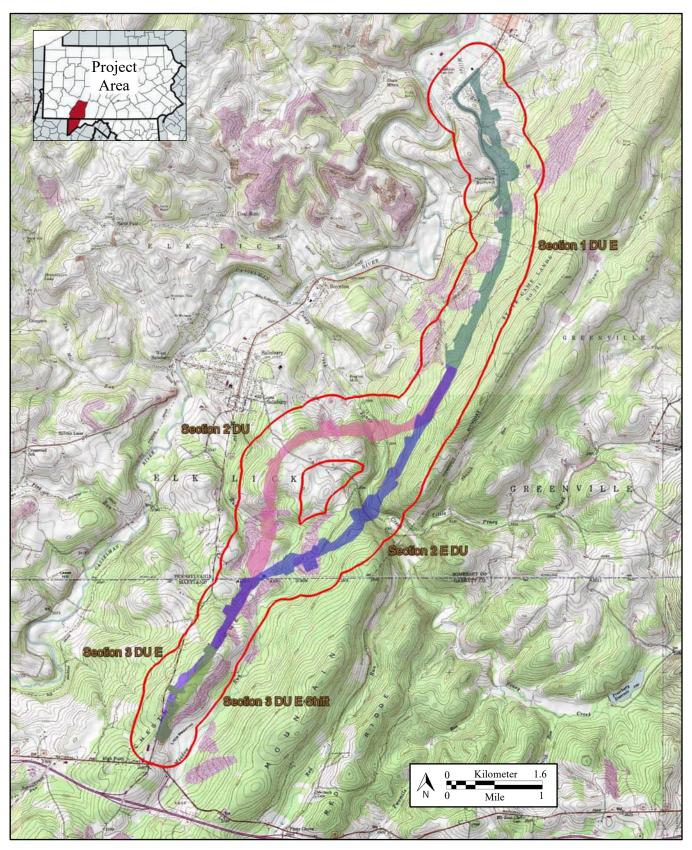


Figure 1. Proposed SR 6219 Section 050 alignment Sections, alignment limit of disturbance, and quarter mile buffer.

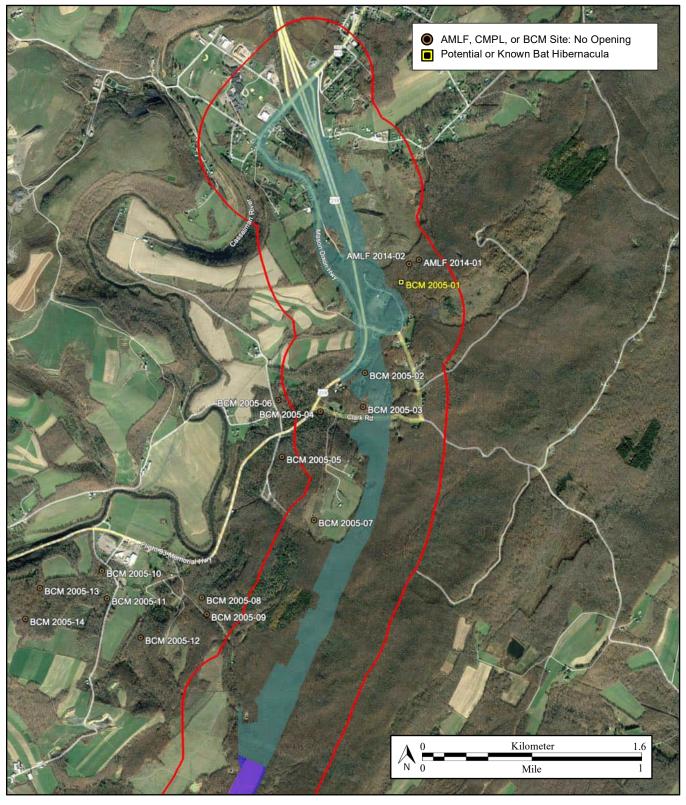


Figure 2. AMLF and BCM sites surveyed in the Northern (PA) Section 1 DU E alignment plus buffer study area.

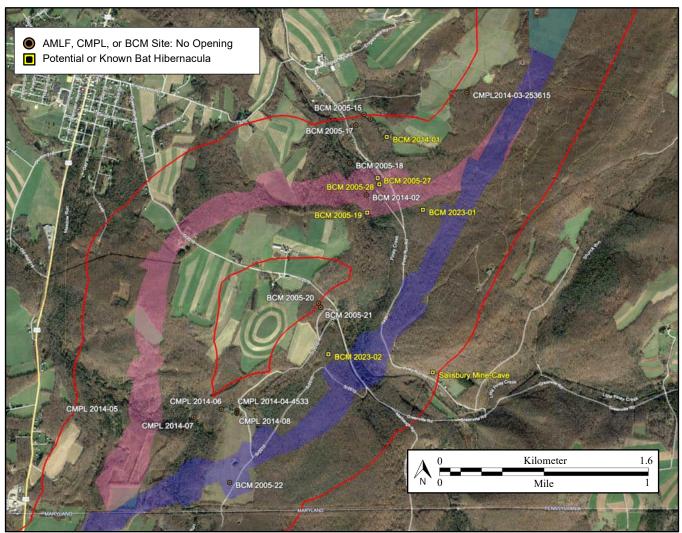


Figure 3. AMLF, CMPL, and BCM sites surveyed in the Middle (PA) Section 2 DU and Section 2 E alignments plus buffer study area.

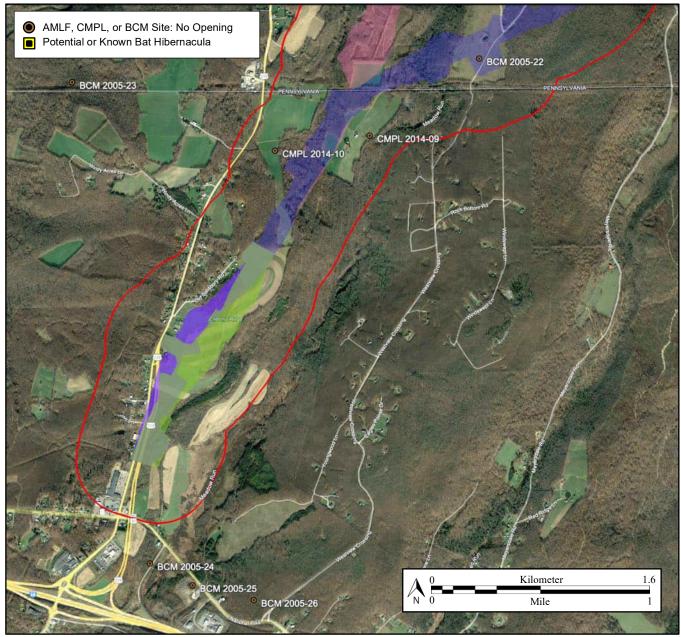


Figure 4. AMLF, CMPL, and BCM sites surveyed in the Southern (MD) Section 3 DU E and Section 3 DU Shift alignments plus buffer study area.

Tables

Table 1. Summary of hibernacula habitat assessment survey sites.

Habitat Site Name	Year Habitat Visited	Site Location Lat, Long (WGS84)	2023 Survey Comments
BCM 2005-01*	2005*, 2014*, 2022*, 2023	39.785566°, -79.028209°	Open abandoned mine entrance within deciduous forest. Small acid mine drainage stream from entrance flows past remnants of a block building. Observed recent deterioration at entrance.
BCM 2005-02	2005, 2014, 2023	39.779646°, -79.031284°	Trench with no opening. A few old railroad ties were at the bottom of the trench.
BCM 2005-03	2005, 2023	39.777424°, -79.031437°	Reclaimed mine with no openings that is now an open forested area with medium sized trees.
BCM 2005-04	2005, 2014, 2023	39.777124°, -79.035065°	Trench ending in a blind valley with no opening. Remnants of railroad tracks and outbuilding are still visible.
BCM 2005-05	2005	39.774169°, -79.038332°	Not investigated due to site location occurring outside of 2023 alignment Study Area.
BCM 2005-06	2005	39.777860°, -79.038637°	Not investigated due to site location occurring outside of 2023 alignment Study Area.
BCM 2005-07	2005, 2014, 2023	39.770033°, -79.035618°	Reclaimed mine with no openings. Currently site is an open meadow. Collapsed trenches and spoil piles are 600 ft. southwest from point.
BCM 2005-08	2005	39.764980°, -79.045137°	Not investigated due to site location occurring outside of 2023 alignment Study Area.
BCM 2005-09	2005, 2014	39.763883°, -79.044723°	Not investigated due to site location occurring outside of 2023 alignment Study Area.
BCM 2005-10	2005	39.766735°, -79.053621°	Not investigated due to site location occurring outside of 2023 alignment Study Area.
BCM 2005-11	2005	39.764921°, -79.053182°	Not investigated due to site location occurring outside of 2023 alignment Study Area.
BCM 2005-12	2005	39.762360°, -79.050337°	Not investigated due to site location occurring outside of 2023 alignment Study Area.
BCM 2005-13	2005	39.765585°, -79.058890°	Not investigated due to site location occurring outside of 2023 alignment Study Area.
BCM 2005-14	2005	39.763585°, -79.060121°	Not investigated due to site location occurring outside of 2023 alignment Study Area.
BCM 2005-15	2005, 2014, 2023	39.750113°, -79.056899°	Reclaimed mine, open pasture, no openings found.
BCM 2005-16	2005, 2014, 2023	39.749788°, -79.056332°	Reclaimed mine, open pasture, no openings found.
BCM 2005-17	2005, 2014, 2023	39.749352°, -79.057638°	Evidence of historical mining activity (trenches, spoil piles) are present. No openings were found.
BCM 2005-18	2005, 2014, 2023	39.746512°, -79.058664°	Evidence of historical mining activity (trenches, road cuts) are present 125 ft. west.
BCM 2005-19*	2005*, 2014*, 2022*, 2023	39.743311°, -79.056614°	Open abandoned mine entrance on a steep sloped area of Piney Creek's west bank. Raccoons observed emerging from entrance in 2022.
BCM 2005-20	2005, 2014, 2023	39.737050°, -79.061010°	Historical mine spoil piles and trenches with no open mine entrances.
BCM 2005-21	2005, 2014, 2023	39.736764°, -79.060805°	Historical mine spoil piles and trenches with no open mine entrances.
BCM 2005-22	2005, 2014, 2023	39.724642°, -79.068997°	Reclaimed mine and is currently an open meadow. No openings found.
BCM 2005-23	2005, 2014	39.723086°, -79.103662°	Not investigated due to site location occurring outside of 2023 alignment Study Area.
BCM 2005-24	2005, 2014	39.691581°, -79.097017°	Not investigated due to site location occurring outside of 2023 alignment Study Area.
BCM 2005-25	2005, 2014	39.690151°, -79.093392°	Not investigated due to site location occurring outside of 2023 alignment Study Area.
BCM 2005-26	2005, 2014	39.689187°, -79.088181°	Not investigated due to site location occurring outside of 2023 alignment Study Area.
BCM 2005-27*	2005*, 2014*, 2022*, 2023	39.745696°, -79.055679°	Open abandoned mine entrance on the east bank of Piney Creek. Vegetation density increased at entrance.
BCM 2005-28*	2005*, 2014*, 2022*, 2023	39.745260°, -79.055530°	Open abandoned mine entrance on the east bank of Piney Creek.
AMLF 2014-01	2014, 2023	39.787027°, -79.026692°	No evidence of mining activity or mine entrances were found at this site.
AMFL 2014-02	2014, 2023	39.786749°, -79.027526°	No evidence of mining activity or mine entrances were found at this site.
BCM 2014-01*	2014*, 2022*, 2023	39.748539°, -79.054863°	Open abandoned mine entrance through a sink hole within a collapsed trench. Water can be heard dripping inside. Raccoons observed emerging from entrance in 2022.
BCM 2014-02	2014, 2023	39.744527°, -79.056693°	Small slump along an old mining road above the west bank of Piney Creek. No entrance found.
CMPL 2014-03- 253615	2014, 2023	39.751605°, -79.047657°	No evidence of mining activity or mine entrances were found at this site.
CMPL 2014-04- 4533	2014, 2023	39.729441°, -79.068333°	Acid mine drainage remediation site. Infrastructure for discharge treatment was present.
CMPL 2014-05	2014, 2023	39.730277°, -79.081111°	Acid mine drainage remediation site. No infrastructure for discharge treatment was found.
CMPL 2014-06	2014, 2023	39.729719°, -79.069722°	Acid mine drainage remediation site. Infrastructure for discharge treatment was present.
CMPL 2014-07	2014, 2023	39.729166°, -79.072222°	Acid mine drainage remediation site. Infrastructure for discharge treatment was present.
CMPL 2014-08	2014, 2023	39.729441°, -79.068333°	Acid mine drainage remediation site. Infrastructure for discharge treatment was present.
CMPL 2014-09	2014, 2023	39.718611°, -79.086389°	Acid mine drainage remediation site. No infrastructure for discharge treatment was found.
CMPL 2014-10	2014, 2023	39.718611°, -79.086389°	Acid mine drainage remediation site. No infrastructure for discharge treatment was found.
BCM 2023-01	2023	39.743505°, -79.051612°	Natural sandstone cave opening under a dome shaped outcrop with a possible second opening.
BCM 2023-02	2023	39.733517°, -79.060108°	Natural sandstone cave opening at the base of a cliff face outcrop.
	1986-20052022*, 2023		Open abandoned limestone mine with two entrances. Primary larger entrance has a bat gate.
	2022, 2023	۰	Secondary horizontal opening of the abandoned limestone mine that is a small diameter metal culvert pipe partially covered by mining remnants of a wooden structure and vegetation.

^{*} Site and year site was trapped in the fall to determine bat activity. Sites that are shaded were outside of the 2023 survey study area and were not assessed.

Table 2. Summary of fall trap capture data at five known and one potential hibernaculum sites.

Survey Site	Survey Year	EPFU	MYLU	MYSE	MYLE	PESU	Site Total by Year
	2005	0	14	7	0	6	27
BCM 2005-01 ¹	2014	0	0	0	0	0	0
	2022	0	0	0	0	0	0
	2005	0	2	0	0	2	4
BCM 2005-19 ²	2014	0	0	0	0	0	0
	2022	0	0	0	1	0	1
	2005	0	0	0	0	2	2
BCM 2005-27 ²	2014	0	0	0	0	0	0
	2022	0	0	0	0	1	1
	2005	0	0	0	0	2	2
BCM 2005-28 ²	2014	0	0	2	0	5	7
	2022	0	0	0	0	0	0
BCM 2014-01 ³	2014	0	0	0	0	0	0
BCIVI 2014-01	2022	0	0	0	0	0	0
	1992	0	1	2	2	2	7
Salisbury ⁴ Mine-Cave	2004	8	509	48	0	14	579
	2022	24	12	3	20	4	63

EPFU = big brown bat (*Eptesicus fuscus*), MYLU = little brown bat (*Myotis lucifugus*), MYSE = Northern long-eared bat (*Myotis septentrionalis*), MYLE = Eastern small-footed bat (*Myotis leibii*), PESU = tricolored bat (*Perimyotis subflavus*).

¹Level of effort was 2 consecutive nights in 2005, 3 nights over a 2-week period in 2014, and 6 nights over a 6-week period in 2022.

² Level of effort was 2 consecutive nights in 2005, 3 consecutive nights in 2014, and 6 nights over a 6-week period in 2022.

³ Site was not surveyed in 2005. Level of effort was 3 consecutive nights in 2014 and 6 nights over a 6-week period in 2022.

⁴ Site was surveyed by the PGC in 1992 and 2005. In 1992 level of effort was 1 night, dusk to dawn. In 2004 effort was 3 consecutive nights for 5 hours. Level of effort in 2022 was 6 nights, 5 hours each, over a 6-week period in 2022.

Appendix A

2023 Abandoned Mine Land Feature Updates

BCM 2005-01

The habitat at this site was originally assessed by BCM on August 28, 2005. It was described as a 6 ft. (1.8 m) wide by 4 ft. (1.2 m) high mine entrance with an acid mine drainage flowing out and into the surrounding mature deciduous forest. The entrance was 365 ft. (111.2 m) northeast from Mountain Road. A horizontal flooded passage into the mine can be seen trending east at least 50 ft. (15.2 m) and outside of the mine an empty shell of a block building is located 80 ft. (24.4 m) southwest of the entrance with the small stream drainage flowing past its foundation. Remnants of a rail line and mine-related foundations are nearby. An old mine rail cart is in front of the entrance, more than half buried in the sediment outflow from the drift. When the outside temperature is high a strong draft of cold air can be felt emerging from the entrance.

The mine was assessed again on October 10, 2014 and in the fall of 2022 to determine bat activity at the entrance. Most recently the site was visited on April 25, 2023. No changes to the site were noted in 2014 but during the most recent visits in 2022 and 2023 it was noted that a horizontal support timber at the entrance to the mine had fallen on one side so it is now laying diagonally across the entrance. During the 2023 visit the temperature 2 ft. (0.6 m) inside the cave was 47.8° F $(8.8^{\circ}$ C) and the outside temperature was 49.0° F $(9.4^{\circ}$ C). There was no detectable airflow at the cave entrance at this time.

The mine was trapped to determine bat activity in the fall of 2005, 2014, and in 2022. In 2005 twenty-seven bats were captured which included little brown bats (*Myotis lucifugus*), Northern long-eared bats (*Myotis septentrionalis*), and tricolored bats (*Perimyotis subflavus*). No bats were captured during the 2014 and 2022 fall bat activity surveys even though the level of effort was progressively increased each survey year (two consecutive nights in 2005, three nights during one week in 2014, and one night per week for 6 weeks in 2022).

BCM 2005-02

A foot search was originally conducted for this site on August 28, 2005. The homeowner in the mobile home at the time was aware of previous mining activity but did not know of an actual entrance. The site included a trench with no opening in a mature deciduous forest immediately behind the mobile home and 400 ft. (121.9 m) southeast from State Rt. 219. There were a few old railroad ties from tracks within the trench. No other evidence of mining activity was apparent. The site was revisited on October 2, 2014 and again on April 25, 2023. No mine entrances were found.

BCM 2005-03

A foot search was originally conducted for this site on August 28, 2005 and was determined to be reclaimed at that time and contained a meadow with immature trees. The site was not investigated in 2014. On April 25, 2023 the site was revisited and was confirmed as an open forested area with medium sized trees.

BCM 2005-04

On August 28, 2005 the site contained an old outbuilding that was visible from Clark Road. Just southeast of this structure a 20 ft. (6.1 m) deep and 300 ft. (91.4 m) long collapsed trench could be followed southeast through thick hemlocks ending in a blind valley. There were timbers visible in the bottom of the trench along with remnants of old rail tracks. No open portals were found in this area. The site was visited again on October 2, 2014 and most recently on April 25, 2023. No mine entrances were found and the site description did not require updating.

BCM 2005-05

A search was conducted for this site on October 1, 2005. A fragment of an old rail line and a concrete structure were found at this location. No entrance was apparent. The site was not investigated during the habitat assessments conducted in 2014 and 2023 due to the it being outside of the Study Area during both years.

BCM 2005-06

A search was conducted for this site on August 28, 2005. The reported mine location was in a small woodlot between a mobile home and Earnest Miller Road. The homeowner was unaware of previous mining activity. No entrance or mining evidence was apparent. The site was not investigated during the habitat assessments conducted in 2014 and 2023 due to it being outside of the Study Area during both surveys.

BCM 2005-07

A habitat assessment was conducted on October 1, 2005 at the site based on location points of historical mining activity found during the desktop survey. It was determined that the area had been strip mined and then reclaimed and was then a meadow with no open portals found in the area. The site was visited again on October 2, 2014 due to additional information about the area and no mine entrances or discharge points were found.

On March 16 and again on April 25, 2023 the area was searched for mining activity. Currently a meadow still exists at the BCM 2005-07 point. However, in the forested area, 600 ft. (182.9 m) southwest from the point in the meadow, extensive trenching with associated spoil piles were found. No mine openings or discharge points were found.

BCM 2005-08

A search was conducted on October 1, 2005. Upon entering the forest, spoil piles were evident. Moving past the piles northeast, the land has been strip mined and reclaimed. No open portals were found in this area. The site was not investigated during the habitat assessments conducted in 2014 and 2023 due to the it being outside of the study area during both surveys.

BCM 2005-09

During a search conducted on October 1, 2005, remnants of mine activity were found south of Grime Hollow Road. On the south side of the road from the BCM 2005-09 point was a collapsed trench and adit containing timber remnants. An old fan house (used to move air within the mine) was located in the trench and another related outbuilding foundation west immediately to the west. A small stream emerged from the workings and covers much of the bottom of the trench. A very small 2 ft. (0.6 m) wide, 1 ft. (0.3 m) high hole can be found under a tree at the east end of the trench. This leads to a very small chamber which was formed by slump action caused by the stream and does not lead into any workings. No airflow was observed. No open portals were found in this area.

The site was visited again on October 02, 2014. No mine entrances were found and the site description did not require updating. It was not investigated during the habitat assessments conducted in 2023 due to the site being outside of the Study Area.

BCM 2005-10

A foot search was conducted on August 28, 2005. A steep sided, forested blind valley was located at the historical mining activity point location found during the desktop survey. No open portals were found in this area, although the odd topography suggests past mine use. The site was not investigated during the habitat assessments conducted in 2014 and 2023 due to the it being outside of the Study Area during both surveys.

BCM 2005-11

A search was conducted on October 1, 2005. This location was within an open deciduous forest with relatively high visibility. No open portals were found in the area. The site was not investigated during the habitat assessments conducted in 2014 and 2023 due to the it being outside of the Study Area during both surveys.

BCM 2005-12

A search was conducted on October 1, 2005. The area was located in open deciduous forest. No open portals were found in the area. The site was not investigated during the habitat assessments conducted in 2014 and 2023 due to the it being outside of the Study Area during both surveys.

BCM 2005-13

A search was conducted on October 1, 2005. This location was in open deciduous forest with relatively high visibility. A cornfield was nearby. The mine location point was at an intersection of two old roads where an old clearing has become overgrown with brush. No open portals were found in this area. The site was not investigated during the habitat assessments conducted in 2014 and 2023 due to the it being outside of the Study Area during both surveys.

BCM 2005-14

A search was conducted on October 1, 2005. This location was in open deciduous forest with relatively high visibility. Several cornfields are nearby. The mine location point was in open woods with low slope. A number of trees were blown down. No open portals were found in the area. The site was not investigated during the habitat assessments conducted in 2014 and 2023 due to it being outside of the Study Area during both surveys.

BCM 2005-15

The area around a cluster of three adjacent sites (BCM 2005-15, BCM 2005-16, BCM 2005-17) generated from a desktop survey of historical mining activity was initially assessed for potential hibernacula on August 28, 2005 as follows. A large, obvious spoil pile was immediately encountered east of Piney Run Road within a deciduous forest. From the top of the spoil pile, there were number of adit traces and sinks located within 500 ft. (152.4 m) to the southeast. There was another parallel level of similar old development traces approximately 75 ft. (22.9 m) higher in elevation. A few hundred feet northeast of point BCM 2005-15 there was a small brick foundation next to what appeared to have been one of the better entrances but in 2005 was merely an old collapsed trench. Just beyond this to the north, the forest gave way to pasture, which appeared to be a reclaimed strip mine that was not depicted on the USGS Meyersdale/Avilton 7.5 minute topographic map. No open portals were found in this area. The site was visited again on October 2, 2014. No mine entrances were found and the site description did not require updating.

Site BCM 2005-15 was most recently visited on February 23, 2023. The point was north and just outside of the Study Area. The area around the point was reclaimed land that was currently on the southwest edge of an open pasture and a deciduous forest was to the south with no openings found in the area. The area described in 2005 that was northeast of BCM 2005-15 was further outside the study area and was not investigated. Site BCM 2005-16 was 200 ft. (61.0 m) southeast from this site and BCM 2005-17 is 350 ft. (106.7 m) southwest.

BCM 2005-16

The area around a cluster of three adjacent sites (BCM 2005-15, BCM 2005-16, BCM 2005-17) generated from a desktop survey of historical mining activity was initially assessed for potential hibernacula on August 28, 2005 as follows. A large, obvious spoil pile was immediately encountered east of Piney Run Road within a deciduous forest. From the top of the spoil pile, there were number of adit traces and sinks located within 500 ft. to the southeast. There was another parallel level of similar old development traces approximately 75 ft. (22.9 m) higher in elevation. A few hundred feet northeast of point BCM 2005-15 there was a small brick foundation next to what appeared to have been one of the better entrances but in 2005 was merely an old collapsed trench. Just beyond this to the north, the forest gave way to pasture, which appeared to be a reclaimed strip mine that was not depicted on the USGS Meyersdale/Avilton 7.5 minute topographic map. No open portals were found in this area. The site was visited again on October 2, 2014. No mine entrances were found and the site description did not require updating.

Site BCM 2005-16 was most recently visited on February 23, 2023. The site was 200 ft. (61.0 m) southeast from BCM 2005-15 and inside of the Study Area. The area around the point was reclaimed land that was currently on the

southwest edge of an open pasture and a deciduous forest to the south with no potential hibernacula found in the area. The site was 400 ft. (121.9 m) northeast from site BCM 2005-17.

BCM 2005-17

The area around a cluster of three adjacent sites (BCM 2005-15, BCM 2005-16, BCM 2005-17) generated from a desktop survey of historical mining activity was initially assessed for potential hibernacula on August 28, 2005 as follows. The area around the cluster of the three points generated from a desktop survey of historical mine sites was initially assessed for potential hibernacula on August 28, 2005. A large, obvious spoil pile was immediately encountered east of Piney Run Road within a deciduous forest. From the top of the spoil pile, there were number of adit traces and sinks located within 500 ft. to the southeast. There was another parallel level of similar old development traces approximately 75 ft. (22.9 m) higher in elevation. A few hundred feet northeast of point BCM 2005-15 there was a small brick foundation next to what appeared to have been one of the better entrances but in 2005 was merely an old collapsed trench. Just beyond this to the north, the forest gave way to pasture, which appeared to be a reclaimed strip mine that was not depicted on the USGS Meyersdale/Avilton 7.5 minute topographic map. No open portals were found in this area. The site was visited again on October 2, 2014 and on February 23, 2023. No mine entrances were found and the site description did not require updating.

Site BCM 2005-17 was most recently visited on February 23, 2023. The site was 350 ft. (106.7 m) southwest from BCM 2005-15 and 400 ft. (121.9 m) southwest from BCM 2005-16. The area around the point was within a deciduous forest 220 ft. (67.1 m) east from Piney Run Road. The spoil piles, adit traces, and sinks described in 2005 were within 100 ft. (30.5 m) northeast of the site and continued approximately 330 ft. (100.6 m) southeast past BCM 2005-17. No mine entrances were found.

BCM 2005-18

The site was initially assessed on August 28, 2005. At that time an entrance was reportedly located on the west bank of Piney Creek, directly behind several private residences. Homeowners indicated no knowledge of a mine in that location, but instead reported on mines BCM 2005-19, BCM 2005-27, and BCM 2005-28. The area around BCM 2005-18 was searched regardless of the landowner reports and no open portals were found. The site was visited again on October 02, 2014 and several blind trenches were noted, a few with small springs or seeps emerging, but no openings were found. Most recently, the area was searched for potential hibernacula on February 24, 2023. The search confirmed historical mining activity at the site within 150 ft. (45.7 m) southwest of the BCM 2005-18 point, above the west bank of Piney Creek. There were several old road cuts in the northeast facing ridge that led southeast parallel to Piney Creek as well. No potential hibernacula were found.

BCM 2005-19

A foot search was conducted on September 30, 2005. The entrance was located 75 ft. (22.9 m) above the west bank of Piney Creek. Locals also referred to the mine entrance as "panther hole." The drift was on a very steep hillside without traces of old road. The entrance was largely collapsed and only a 3 ft. (0.9 m) high, 4 ft. (1.2 m) wide crawlway remained. The crawl sloped down over rubble and the passage could not be estimated beyond. No airflow was apparent. No other evidence of previous mining activity was visible.

No discernable changes at the site were noted when a return visit occurred in the fall of 2014 and again in the fall of 2022 to assess bat activity at the site. However, a night vision trail camera that was set up at the site during fall trapping in 2022 revealed a raccoon and a porcupine emerging from the cave separately during several trap nights. Most recently the site was visited on February 24, 2023 to evaluate its status. No physical changes were observed. During this visit the temperature 3 ft. (0.9 m) inside the cave was 39.2°F (4.0°C) and the outside temperature was 36.2°F (2.3°C). There was no detectable airflow at the cave entrance at this time.

Four bats were captured (2 little brown, 2 tricolored) when the site was trapped to determine bat activity on September 30 and October 1, 2005. No bats were captured at the site on October 6, 7, and 8, 2014. In 2022 the level of effort increased to six nights of trapping (one night per week from September 23 to October 24) resulting in the capture of one Eastern small-footed bat (*Myotis leibii*).

BCM 2005-20

This site was within 120 ft. northwest from BCM 2005-21 and both were generated from a desktop survey of historical mining activity that may have had two potential entrances. The sites were initially assessed together on August 27, 2005 with the following description. This is one of two entrances reported in relatively open deciduous forest. Coal spoil piles are located north of a gravel road. There is mining evidence in this entire woodlot consisting of at least seven traces of trenches and two entrance drifts that now end in blind valleys. No open portals were found in this area. The site was visited again on October 2, 2014 and no open portals were found in the area.

The site was most recently visited on March 2, 2023. Coal mine spoil piles and seven trenches with no open mine entrances were confirmed north of a gravel access road and 250 ft. (76.2 m) southwest of Greenville Road in a deciduous forest.

BCM 2005-21

This site was within 120 ft. (36.6 m) southeast from BCM 2005-20 and both were generated from a desktop survey of historical mining activity that may have had two potential entrances. The sites were initially assessed together on August 27, 2005 with the following description. This is one of two entrances reported in relatively open deciduous forest. Coal spoil piles are located north of a gravel road. There is mining evidence in this entire woodlot consisting of at least seven traces of trenches and two entrance drifts that now end in blind valleys. No open portals were found in this area. On October 2, 2014 the site was assessed again and no open portals were found.

The site was most recently visited on March 2, 2023. Coal mine spoil piles and seven trenches with no open mine entrances were confirmed north of a gravel access road and 250 ft. (76.2 m) southwest of Greenville Road in a deciduous forest.

BCM 2005-22

A search was initially conducted on October 1, 2005. The land has been strip mined and reclaimed. No open portals were found in this area. The site was visited again on July 22, 2014 and most recently on March 2, 2023. No mine entrances were found. Currently the BCM 2005-22 point is in the center of a 60-acre (0.2 km²) meadow where the strip mine was located prior to being reclaimed. In 2014, five additional Coal Mine Point Locations (CMPL2014-04 to CMPL2014-08) were associated with this site during the 2014 desktop survey of the area prior to a foot search to survey the site. During the foot search in 2014, the CMPL sites were confirmed to be associated with strip mine point discharge treatment sites in and around Meadow Run, a small stream that runs along the west side of the reclaimed mine. In 2023 the infrastructure for discharge treatment sites were still present.

BCM 2005-23

A search was conducted on October 2, 2005. This site is located within a few hundred feet of a utility right-of-way. Mining traces include a built-up earthen work area leading into a small blind valley. A smaller collapse feature is just inside the tree line on the north side of the right-of-way, downhill of the larger working. No open portals were found in this area. The site was visited on October 08, 2014. No mine entrances were found and the site description did not require updating. The site was not investigated during the habitat assessments conducted in 2023 due to the it being outside of the Study Area.

BCM 2005-24

A foot search was initially conducted for this site on August 28, 2005 by BCM. The topography has been significantly altered by the construction of an I-68 exit ramp at the location of the reported entrance. No entrance or mining evidence was apparent. Dawn Noel reported that survey crews from McCormick Taylor, Inc. visited the site again on August 1 and 8, 2014 and no mine features were reported. The site was not investigated during the BCM habitat assessment conducted in 2023 due to it being outside of the study area.

BCM 2005-25

A foot search was conducted on August 28, 2005. A patch of forest adjacent to a recycling center and US 40 Alternate was searched. From the recycling center, a few small depressions were located near US 40 Alternate in the brush. The slope and forest cover increased to the northeast and no other features were notable. Dawn Noel reported that survey crews from McCormick Taylor, Inc. visited the site again on August 1 and 8, 2014 and no mine features were reported. It was also visited by BCM on July 22, 2014 and no new features were noted. The site was not investigated during the BCM habitat assessment conducted in 2023 due to it being outside of the study area.

BCM 2005-26

A foot search was conducted on August 28, 2005. The area was located in a gently sloping, open deciduous forest littered with small fragments of sandstone. Small, shallow depressions were located 600 ft. (128.9 m) due west of the reported mine location within sight of a garage. Additional depressions are just northeast of the garage. All depressions are only traces of previous development. No portal was found. The site was visited again on July 22, 2014 and no new features were noted. The site was not investigated during the habitat assessment conducted in 2023 due to it being outside of the Study Area.

BCM 2005-27

A foot search was conducted on August 27, 2005. The mine entrance was located on the east bank of Piney Creek, approximately 15 ft. (4.6 m) above the stream. The entrance was 12 ft. (3.7 m) wide and 5 ft. (1.5 m) high. The passage into the mine could be seen to extend at least 40 ft. (12.2 m) trending northeast. This is one of two sites that were pointed out to BCM surveyors by local land owners.

The mine was assessed again in October, 2014 with no significant changes to the site noted. It was noted in 2022 during fall trapping that the vegetation (Rhododendron) density around the entrance had increased since 2014. Most recently it was visited on February 23, 2023 to evaluate its status. This mine entrance is approximately 160 ft. (48.8 m) northwest from site BCM 2005-28 on the east bank of Piney Creek. No additional physical changes were observed. During this visit the temperature 5 ft. (1.5 m) inside the cave was 45.9° F $(7.7^{\circ}$ C) and the outside temperature was 61.9° F $(16.6^{\circ}$ C). There was no detectable airflow at the cave entrance at this time. Water was observed from the entrance flowing down the mine passage walls in several locations.

The mine was trapped to determine bat activity in the fall of 2005, 2014, and in 2022. In 2005 two tricolored bats (*Perimyotis subflavus*) were captured at the mine. No bats were captured during trapping in the fall of 2014 and one tricolored bat was captured during the 2022 fall trapping. The fall trapping level of effort at the site progressively increased with two consecutive trapping nights in 2005, three consecutive nights in 2014, and one night per week for 6 weeks in 2022.

BCM 2005-28

A foot search was conducted on August 27, 2005. The entrance was located 75 ft. (22.9 m) from the east bank of Piney Creek, approximately 20 ft. (6.1 m) above the stream. The entrance was 12 ft. (3.7 m) wide and 5 ft. (1.5 m) high. The passage can be seen to extend at least 40 ft. (12.1 m) trending northeast. Cold air could be felt emerging from the entrance. Several bat droppings were found on a large rock under the drip line. Access to the portal was improved by using earth to form a raised platform in front of the entrance. Another entrance may have existed 100 ft. (30.5 m) south where a seep emerges from a slump in the hillside. This is one of two sites that were pointed out to BCM surveyors by local land owners.

The mine was assessed again in October, 2014 during trapping with no significant changes to the site noted. Most recently it was visited on February 23, 2023 to evaluate its status. This mine entrance is approximately 160 ft. (48.8 m) southeast from site BCM 2005-28 on the east bank of Piney Creek. No additional physical changes were observed. During this visit the temperature 5 ft. (1.5 m) inside the cave was 45.7° F $(7.6^{\circ}$ C) and the outside temperature was 61.9° F $(16.6^{\circ}$ C). There was no detectable airflow at the cave entrance at this time.

The mine was trapped to determine bat activity in the fall of 2005, 2014, and in 2022. No bats were captured in 2005, two northern long-eared bats (*Myotis septentrionalis*) in 2014, and no bats were captured in 2022. The fall trapping level of effort at the site progressively increased with two consecutive trapping nights in 2005, three consecutive nights in 2014, and one night per week for 6 weeks in 2022.

AMLF 2014-01

The site area was visited on October 02, 2014 and no evidence of mine workings were present except for at the nearby site BCM 2005-01. What might appear to be a mine spoil pile on aerial photos 0.3 miles (470 m) northeast of the AMLF 2014-01 is a small pond.

The site was visited again on April 25, 2023. No evidence of mining activity or mine entrances were found at the site other than the open mine portal 660 ft. (201.2 m) southwest of this area at site BCM 2005-01.

AMLF 2014-02

The site area was visited on October 02, 2014 and no evidence of mine workings were present except for at the nearby site BCM 2005-01. What might appear to be a mine spoil pile on aerial photos 0.3 miles (470 m) northeast of the AMLF 2014-01 is a small pond.

The site was visited again on April 25, 2023. No evidence of mining activity or mine entrances were found at the site other than the open mine portal 650 ft. (201.2 m) southwest of this area at site BCM 2005-01.

BCM 2014-01

On September 26, 2014 John Chenger was revisiting a small group of reported entrance locations (BCM2005-15, BCM 2005-16, and BCM 2005-17). An entrance feature was encountered east of this cluster of sites. It was located in a steep sided trench with a small spring emerging from the hillside just below an open meadow, where a farm lane briefly intersects the forest. There were a few old timbers in the trench. Fifty feet (15.2 m) up the trench from where the water emerges was a small 1.5 ft. (0.5 m) diameter hole with a passage that dropped steeply and opened up wider. Water can be heard dripping in the chamber inside. No airflow was observed. Given the extent that the trench is collapsed above this hole, the mine passage may be collapsed.

The sink hole mine opening was assessed again in October, 2014 and in 2022 during fall trapping. Water can still be heard dripping into a pool from the chamber inside the entrance. No significant changes to the site noted. However, a night vision trail camera that was set up at the site during fall trapping in 2022 revealed several raccoons emerging from the hole during several trap nights. Most recently the site was visited on February 23, 2023 to evaluate its status. No additional physical changes were observed. During this visit the temperature 1 ft. inside the hole was 49.1°F (9.5°C) and the outside temperature was 61.9°F (16.6°C). There was no detectable airflow at the mine entrance at this time.

The hole was netted to determine bat activity in the fall of 2014 and, in 2022, it was initially harp trapped then netted. No bats were captured in during either survey year even though the survey effort increased from three consecutive nights in 2014 to one night per week for 6 weeks in 2022.

BCM 2014-02

During the course of reinvestigating BCM 2005-19 and BCM 2005-18 on October 02, 2014, this small slump was found along an old mining road 100 ft. (20.5 m) above the west bank of Piney Creek. It appeared to be slumped shut and had no airflow. It was listed for-the-record-only (FRO) to minimize confusion during future surveys. The site was visited again on February 24, 2023. No mine entrances were found and the site description did not require updating.

CMPL 2014-03-253615

The site area was visited on October 9, 2014 and no evidence of mine workings was present. However, the area consisted of a large boulder field adjacent to agricultural fields. This area was surveyed as possible *Myotis leibii* habitat. The habitat was located in a deciduous forest. The area was 755 ft. (230 m) in length and ranged from 148-443 ft. (45-135 m) in width. The habitat consisted of boulders ranging in size from less than 3.2-1.5 ft. (1-5 m) with shallow and deep crevices. The majority of the habitat was covered with organic matter and 100 percent canopy coverage. The site was visited again on February 15, 2023. No mine entrances were found and the site description did not require updating.

CMPL 2014-04-4533

The site area was visited on October 9, 2014 and was found to be an acid mine drainage remediation site. No entrances to underground workings were discovered. The site was visited again on March 2, 2023. No mine entrances were found and the infrastructure for discharge treatment was still present.

CMPL 2014-05

The site was visited on July 24, 2014 and was found to be a strip mine point discharge treatment site. No entrance to underground workings existed. The site was visited again on March 1, 2023. No mine entrances were found and the infrastructure for discharge treatment was still present.

CMPL 2014-06

The site was visited on July 24, 2014 and was found to be a strip mine point discharge treatment site. No entrance to underground workings existed. The site was visited again on March 2, 2023. No mine entrances were found and the infrastructure for discharge treatment was still present.

CMPL 2014-07

The site was visited on July 24, 2014 and was found to be a strip mine point discharge treatment site. No entrance to underground workings existed. The site was visited again on March 2, 2023. No mine entrances were found and the infrastructure for discharge treatment was still present.

CMPL 2014-08

The site was visited on July 24, 2014 and was found to be a strip mine point discharge treatment site. No entrance to underground workings existed. The site was visited again on March 2, 2023. No mine entrances were found and the infrastructure for discharge treatment was still present.

CMPL 2014-09

The site was visited on July 24, 2014 and was found to be a strip mine point discharge treatment site. No entrance to underground workings existed. The site was visited again on March 15, 2023. No mine entrances were found and there was no discharge treatment infrastructure present.

CMPL 2014-10

The site was visited on July 24, 2014 and was found to be a strip mine point discharge treatment site. No entrance to underground workings existed. The site was visited again on March 15, 2023. No mine entrances were found and there was no discharge treatment infrastructure present.

mine that was first surveyed for hibernating bats by the Pennsylvania Game Commission (PGC) in February 1986. Due to access restrictions, the mine was assessed for the first time since 2005 in the fall of 2022 during a bat use trapping survey conducted by BCM to determine bat activity at the primary entrance. Most recently the site was visited on February 16, 2023 by BCM.

The mine currently has two openings within a mature deciduous forest. An old access dirt road leads from a residential property on Piney Run Road to the primary entrance.

he passage is a few feet wider and higher 15 ft. (4.6 m) inside the entrance where a bat gate was installed in 1992. Beyond the gate the passage enlarges into a room and then divides into at least two passages heading north into the ridge. There is an abandoned car to the left of the entrance. The bat gate just inside the entrance is shown significant signs of oxidation at the top one third but is still intact. The temperature inside the cave at the bat gate was 43.1°F (6.2°C) and the outside temperature was 46.2°F (7.9°C).

The second opening (may also be known as Salisbury Lower) is a small diameter shaft located near the . At one time this opening was larger, but was closed by the land owner. The vent is currently a 16 in. (0.4 m) diameter metal culvert pipe that extends horizontally north an unknown distance. Deteriorating remnants of a wooden structure with metal machine parts along with vegetation and cut logs partially cover the vent. Remnants of what may have been a cinder block structure are nearby. The temperature just inside the vent was 41.2°F (5.1°C) during the habitat assessment and there was heavy cool airflow coming out of it.

The PGC conducted 15 internal winter surveys to determine what bat species were hibernating at the site during the 19-year period from 1986 (winter of 1985) to 2005 (winter of 2004). The number of bats counted during the winter surveys peaked in 1994 with 2314. During the last winter survey in 2005 there were 2006 bats counted. The bat species recorded hibernating at the site were Indiana (*Myotis sodalis*), little brown (*Myotis lucifugus*), Northern longeared (*Myotis septentrionalis*), tricolored (*Perimyotis subflavus*), Eastern small-footed (*Myotis Leibii*), and big brown (*Eptesicus fuscus*). The mine was harp trapped at the primary entrance to determine bat activity by the PGC in the fall of 1992 and 2004, and by BCM in 2022. In 1992 seven bats were captured during one night of trapping, 258 were captured during three consecutive nights of trapping in 2004, and 63 were captured in 2022 during 6 nights of trapping over a 6-week period. The bat species captured during fall trapping surveys included little brown, Northern long-eared, tricolored, Eastern small-footed, and big brown.

BCM 2023-01

During a foot search on February 15, 2023 a natural sandstone cave was found 540 ft. (164.6 m) east of Piney Run Road on the west facing slope of Piney Creek Ravine in a mature deciduous forest. The cave was formed under a fractured dome shaped outcrop that rises above the surrounding terrain with clumps of Rhododendron around the outside edge. The cave opening was 1.5 ft. (0.5 m) high and 4 ft. (1.2 m) wide. The passage inside sloped downward toward the northeast and opened into a 5 ft. (1.5 m) high, 3 ft. (0.9 m) wide, and 15 ft. (4.6 m) long passage that turned left out of sight. A slight cool breeze could be felt flowing out of the entrance. The temperature inside the entrance was 34.5°F (1.4°C) while outside it was 63.8°F (17.7°C). There was an opening in the canopy above the cave entrance so that area might receive a few hours of sunlight at mid-day. There were several smaller openings under slabs of rock around the primary opening but none of them were obviously connected directly to the primary passage and none had cold air inside or air flowing in or out of the entrance. Approximately 25 ft. (7.6 m) to the west at the edge of the outcrop was a slab ledge with a 4 ft. high (1.2 m), 6 ft. (1.8 m) wide, and 5 ft. (1.5 m) deep crawl space under it and with several cracks in fractured rock that continued northeast toward the primary entrance. The temperature at the back of the crawl space where the cracks started was 35.6 °F (2.0°C) and there was a slight flow of cold air coming out from the cracks.

BCM 2023-02

During a foot search on March 2, 2023 a natural sandstone cave was found 450 ft. (137.2 m) west of Greenville Road on the east facing slope near the ridge top of the Piney Creek ravine in a mature deciduous forest. The cave was at the bottom of a 20 ft. (6.1 m) high cliff outcrop that was part of a 550 ft. (167.6 m) long linear series of individual outcrops running north to south. The cave opening was 2.5 ft. (0.8 m) high and 1.5 ft (0.5 m) wide. The passage inside sloped down and was slightly larger than the opening and ice covered the floor. Approximately 3 ft. (0.9 m) past the entrance the passage turned sharply to the right and opened up to a 5 ft. (1.5 m) high and 2 ft. (0.6 m) wide passage that continued for approximately 6 ft. (1.8 m) then narrowed down to several fissures in the rock that could not be closely observed from the entrance. A slight cool breeze could be felt flowing out of the opening. The temperature inside the entrance was 35.1°F (1.7°C) while outside it was 51.3°F (10.7°C). There were several small cracks and crevices that could have led back out of the cave from inside the entrance and the entire cliff face included many crevices throughout the entire outcrop. Most of the outcrop containing the cave was open but overall, the rock surface up and down the linear series of outcrops was 50% covered with Rhododendron. The trees in the area directly east of the cave was were selectively cut which opened up the forest in that area.

Appendix B





Hibernaculum Site BCM 2005-01 A: Entrance with mine acid drainage steam flowing out.



Hibernaculum Site BCM 2005-01 B: Habitat around mine entrance with remnants of block building, the acid mine drainage stream, and remnants of railroad track.



Hibernaculum Site BCM 2005-19 A: Mine opening at the base of a cliff face outcrop on a steep embankment.



Hibernaculum Site BCM 2005-19 B: Steep slope below the mine entrance down to the west bank of Piney Creek.



Hibernaculum Site BCM 2005-27: Mine opening on the east bank of Piney Creek with Rhododendron encroaching around the entrance.



Hibernaculum Site BCM 2005-28: Mine opening on the east bank of Piney Creek with surrounding habitat.



Potential Hibernaculum Site BCM 2014-01 A: A small sink hole mine opening in a forested hillside trench.



Potential Hibernaculum Site BCM 2014-01 B: Above the sink hole mine opening and forested trench is an open pasture. Down slope from the opening a small spring emerges and further down old mining timbers are in pooled water adjacent to a farm lane.



Hibernaculum Site opening north of Piney Run Road.



Hibernaculum Site Bat gate within primary entrance with top third heavily oxidized.



Hibernaculum Site Remnants of wood structure and vegetation on top of secondary opening into mine adjacent to Piney Run Road.



Hibernaculum Site Secondary entrance small metal culvert under debris and vegetation.



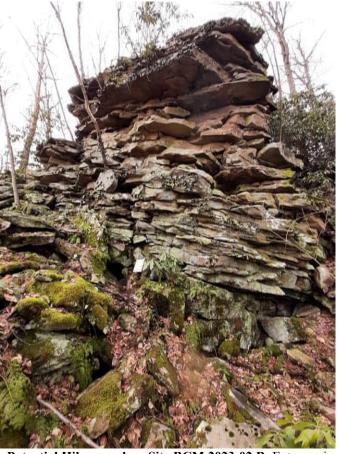
Potential Hibernaculum Site BCM 2023-01 A: Horizontal opening into natural sandstone cave that leads down into a larger passage.



Potential Hibernaculum Site BCM 2023-01 B: Habitat around opening showing dome shaped outcrop that rises above the surrounding terrain.

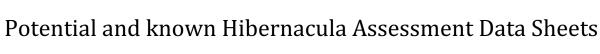


Potential Hibernaculum Site BCM 2023-02 A: Entrance to natural sandstone cave with a passage that became larger and turned to the right.



Potential Hibernaculum Site BCM 2023-02 B: Entrance is at the bottom of a cliff outcrop that was part of a long linear series of individual outcrops.

Appendix C



Phase I Habitat Assessment USFWS Data Sheet Location Observers (include permit monder Ken Gearhart Daniel Merri 785564 Longitude82 -79.028208 Temp Time 19:00 (outside) Opening Opening Opening Opening #2 #3 #4 Opening Type (e.g., cave, portal, shaft) Opening vertical or horizontal 70112001a Opening Size: Height x Width (or high X Diameter) Internal Dimensions: Height x Width Slope (up or down from entrance) Entrance Stable? Direction of Airflow (In or out?) Voorto Amount of Airflow (e.g., none, slight, Nonc heavy) Internal air warmer or cooler than coole outside temp.? No Evidence of collapse? Ceiling Condition 9000 Amount of water in opening 210" Evidence of past flooding? Observed length of internal passage Distance to nearest water source At Enfronce 3' % Canopy Cover at entrance Foraging Signs? (e.g., moth wings) Are any portals suspected or known to be connected? Which ones? No Any observable side passages? No Additional comments: Temp of enfrance = 47.84, No air Flow. A small acid mine drainage stream Flows out of mine entrance. Entry of abandoned mine portals, quarries, or caves can be extremely dangerous because of the potential for ceiling collapse and presence of toxic gases. Safety or health problems may occur as a result of entering abandoned mines. The FWS does not authorize or require anyone to enter any potential hibernaculum that is or could be unsafe while implementing surveys. These guidelines do not require any applicant or applicant employee, consultant, lessee, or other such designee to enter any cave, quarry, or mine portal.

⁸² Provide coordinates for each opening.

Phase I Habitat Assessment US Location Rt219 RCM Observers (include	2005-19					
numbers) Todal Sinand						
Latitude (WGS84) 39, 743311		gitude ⁸² ->	9.056614			
Date $2/24/23$ Time			Temp (outside) 3	6,2°F		
	Opening	Opening	Opening	Opening		
Opening Type (e.g., cave, portal, shaft)	Portal	#2	#3	#4		
Opening vertical or horizontal	Horizontal					
Opening Size: Height x Width (or Diameter)	4'46'					
Internal Dimensions: Height x Width	Smeller					
Slope (up or down from entrance)	Cown					
Entrance Stable?	yes					
Direction of Airflow (In or out?)	None					
Amount of Airflow (e.g., none, slight, heavy)	None					
Internal air warmer or cooler than outside temp.?	Warmer					
Evidence of collapse?	Yes ,		v			
Ceiling Condition	9008					
Amount of water in opening	1 None					
Evidence of past flooding?	No					
Observed length of internal passage	30					
Distance to nearest water source	1001					
% Canopy Cover at entrance	100					
Foraging Signs? (e.g., moth wings)						
Are any portals suspected or known to be Any observable side passages? Additional comments:		7.50				
Temp inside ent	raire 39,2	15				

Entry of abandoned mine portals, quarries, or caves can be extremely dangerous because of the potential for ceiling collapse and presence of toxic gases. Safety or health problems may occur as a result of entering abandoned mines. The FWS does not authorize or require anyone to enter any potential hibernaculum that is or could be unsafe while implementing surveys. These guidelines do not require any applicant or applicant employee, consultant, lessee, or other such designee to enter any cave, quarry, or mine portal.

⁸² Provide coordinates for each opening.

Conservers (include permit numbers) Latitude (WGS84) 39.743314 Longitude 2 79.056614 Temp (outside) 61.99 F Opening Type (e.g., cave, portal, shaft) 79.056614 Opening Type (e.g., cave, portal, shaft) 79.05614 Opening Type (e.g., cave, portal, shaft	Phase I Habitat Assessment USI	FWS Data Shee	et		
Date 2/32/32 Time 12.20 Temp (outside) Opening Type (e.g., cave, portal, shaft) Opening Type (e.g., cave, portal, shaft) Opening Size: Height x Width (or Diameter) Internal Dimensions: Height x Width (or S' Y 12' Dimensions: Height x Width (or Diameter) Internal Dimensions: Height x Width (or Diameter) Internal Dimensions: Height x Width (or Diameter) Internal air warmer or cooler than outside temp.? Entrance Stable? Direction of Airflow (e.g., none, slight, heavy) Internal air warmer or cooler than outside temp.? Evidence of collapse? Ceiling Condition Amount of water in opening Evidence of past flooding? Observed length of internal passage Distance to nearest water source % Canopy Cover at entrance Foraging Signs? (e.g., moth wings) Are any portals suspected or known to be connected? Which ones? Any observable side passages? Additional comments: Small amount of the cast of the potential for ceiling collapse and presence of toxic gases. Safety or health problems may occur as a result of entering abandoned mine portals, quarries, or caves can be extremely dangerous because of the potential for ceiling collapse and presence of toxic gases. Safety or health problems may occur as a result of entering abandoned mines. The FWS does not authorize or require anyone to enter any potential hibernaculum that is or could be unsafe while implementing surveys. These guidelines do not require any applicant or applicant employee, consultant, lessee, or other such designee to enter any cave, quarry, or	Observers (include permit				
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⁸² Provide coordinates for each opening.

Phase I Habitat Assessment US	FWS Data Shee	et			
Location RE219 BC Observers (include permit numbers) Todal Singuis		28			
Date 2/23/23 Time	12:05 Lon	gitude ⁸²	9.055678 Temp (outside)	1.9°F	
	Opening #1	Opening #2	Opening #3	Opening #4	
Opening Type (e.g., cave, portal, shaft)	Cave				
Opening vertical or horizontal	horsendet				
Opening Size: Height x Width (or Diameter)	3'x8'				
Internal Dimensions: Height x Width	Widor				
Slope (up or down from entrance)	Down				
Entrance Stable?	No				
Direction of Airflow (In or out?)	None				
Amount of Airflow (e.g., none, slight, heavy)	None				
Internal air warmer or cooler than outside temp.?	Cooler				
Evidence of collapse?	1/05				
Ceiling Condition	Stable				
Amount of water in opening	None				
Evidence of past flooding?	Ne				
Observed length of internal passage	450				
Distance to nearest water source	75-1				
% Canopy Cover at entrance	100				
Foraging Signs? (e.g., moth wings)	No				
Are any portals suspected or known to be connected? Which ones? Any observable side passages?					
Additional comments: Water Floor	ains down	6.4 No	4 4 Sout	E wall	
Additional comments: Water Flow IMSide come (~20') Temp	Just 195	de entre	aure = 45	7ºA	
Entry of abandoned mine portals, quarrie potential for ceiling collapse and presence of entering abandoned mines. The FWS do hibernaculum that is or could be unsafe we applicant or applicant employee, consultation mine portal.	of toxic gases. Safe ses not authorize or t hile implementing su	ty or health protection for the protection of th	blems may occur o o enter any potent idelines do not rec	is a result ital quire any	

⁸² Provide coordinates for each opening.

Phase I Habitat Assessment USFWS Data Sheet

Location RE219 BCM 20	1111 -1		
Observers KE219 DCM 20	014-01		
(include permit numbers) Todal Sinander			
Latitude (WGS84) 39, 748537°	Longitude ⁸²	-79.0548	63°
Date 2/23/23 Time /2	55	Temp (outside)	61.9%

	Opening #1	Opening #2	Opening #3	Opening #4
Opening Type (e.g., cave, portal, shaft)	Sinkhale			
Opening vertical or horizontal	Virticle			
Opening Size: Height x Width (or Diameter)	1.5 Lians.			
Internal Dimensions: Height x Width	langer			
Slope (up or down from entrance)	Cown			
Entrance Stable?	No			
Direction of Airflow (In or out?)				
Amount of Airflow (e.g., none, slight, heavy)	None			
Internal air warmer or cooler than outside temp.?	Cooler			
Evidence of collapse?	No			
Ceiling Condition	Unk			
Amount of water in opening	Drips			
Evidence of past flooding?	1005			
Observed length of internal passage	100			
Distance to nearest water source	900'			
% Canopy Cover at entrance	100			
Foraging Signs? (e.g., moth wings)	10/8			

Are any portals suspected or known to be connected? Which ones? Mo

Any observable side passages? No

Additional comments: ~ 1' into the entrance the temps 491'F

Entry of abandoned mine portals, quarries, or caves can be extremely dangerous because of the potential for ceiling collapse and presence of toxic gases. Safety or health problems may occur as a result of entering abandoned mines. The FWS does not authorize or require anyone to enter any potential hibernaculum that is or could be unsafe while implementing surveys. These guidelines do not require any applicant or applicant employee, consultant, lessee, or other such designee to enter any cave, quarry, or mine portal.

⁸² Provide coordinates for each opening.

Location Kt 217 - Sa	lichery 1	MIND .C.	1100	
Location Rt 219 - Sq. Observers	113000	Tiere Co	300	
(include				
normit			^	ner Are
numbers) Todd Sinana	Dor He	a Como bo	et Dan	el Mer
-2	10,010	J O Ear III	50	0, 0,
Latitude (WGS84) 57, 732261	L	ongitude ⁸²	17.0507.	30_
Latitude (WGS84) 39, 73226/ Date 2/16/2023 Time	10:00	2	Temp (outside)	G.Z°
	Opening	Opening	Opening	Opening
	#1	#2	#3	#4
Opening Type (e.g., cave, portal, shaft)	Portal	SHOFT		
Opening vertical or horizontal	horizontal	Virtuele?		
Opening Size: Height x Width (or Diameter)	8'x 18'	16 4 16"		
Internal Dimensions: Height x Width	Larger	_		
Slope (up or down from entrance)	UP	Down		
Entrance Stable?	Larger Up	No		
Direction of Airflow (In or out?)	out	OUT		
Amount of Airflow (e.g., none, slight, heavy)	Slight	Heavy		
Internal air warmer or cooler than outside temp.?	Cooler	COOLER		
Evidence of collapse?	Yes	Tes		
Ceiling Condition	unstable	and an analysis of the same of		
Amount of water in opening	None	None		
Evidence of past flooding?	No	No		
Observed length of internal passage	3501			
Distance to nearest water source		200'		
% Canopy Cover at entrance	70%	20%		
Foraging Signs? (e.g., moth wings)	No	No		
Are any portals suspected or known to be a Vest Any observable side passages? Additional comments: Temperator of the Additional comments of the Ad	pening #2 s, or caves can be of toxic gases. So the implementing	Mine 2 39,73209 extremely danger afety or health pro or require anyone surveys. These go	ous because of the blems may occur o to enter any poten udelines do not re	tial quire any

⁸² Provide coordinates for each opening.

Phase I Habitat Assessment USFWS Data Sheet

Date 2/	15/2023	Time	16:40	Temp (outside)	63.8°F
Latitude (W	GS84) 39.74	3505	Longitude ⁸²	79.0516	12
Observers (include permit numbers)	Todd S	inander	, Ken Gearhart	, Daniel M.	erill
Location	R+ 219	BCM	2023-01		

	Opening #1	Opening #2	Opening #3	Opening #4
Opening Type (e.g., cave, portal, shaft)	Cave	cave		
Opening vertical or horizontal	Horrismal	Horizongal		
Opening Size: Height x Width (or Diameter)	18"x4"	4'x 6'		
Internal Dimensions: Height x Width	5'x 3'	9'x0'		
Slope (up or down from entrance)	Down	Down		
Entrance Stable?	325	yes		
Direction of Airflow (In or out?)	Out	DUT		
Amount of Airflow (e.g., none, slight, heavy)	Slight	Slight		
Internal air warmer or cooler than outside temp.?	Cooler	Cooler		
Evidence of collapse?	NO	Vies		
Ceiling Condition	Stable	Stable		
Amount of water in opening	None	Dropping		
Evidence of past flooding?	None	None		
Observed length of internal passage	15'	6		
Distance to nearest water source	950'	9501		
% Canopy Cover at entrance	90%	100%		
Foraging Signs? (e.g., moth wings)	NO	NO		

Are any portals suspected or known to be connected? Which ones?	at march
Any observable side passages? Especially #1442 con	mected.
Additional comments:	-1
Additional comments: Temp Cold within the opening of #/ (34.5%) a #2 (35.6%). Roughly to openings ronging from 15" x 15", 5' x 18", to 6' x 4	7
Entry of abandoned mine portals, quarries, or caves can be extremely dangerous because of the	ings are connected.
potential for ceiling collapse and presence of toxic gases. Safety or health problems may occur a of entering abandoned mines. The FWS does not authorize or require anyone to enter any potent.	s a result
hibernaculum that is or could be unsafe while implementing surveys. These guidelines do not req applicant or applicant employee, consultant, lessee, or other such designee to enter any cave, qu	uire any
mine portal	1 6060
There was some Keathe entrance to one of the s	med
holes that were probability not not connected to opining #1 Passage beyon hole and no oir flows.	n#2 160
passage beyon hole and no air thous.	
rovide coordinates for each opening.	

82 P

Phase I Habitat Assessment USI	WS Data She	et		
Location Rt219 BM	120020	1.0		
Observers (include permit numbers) Todd Smander			Daniel M	1err, 11
Latitude (WGS84) 37.733517	Lon	gitude ⁸²	79.060108	7
Date $3/2/23$ Time			Temp (outside)	
	Opening #1	Opening #2	Opening #3	Opening #4
Opening Type (e.g., cave, portal, shaft)	Care			
Opening vertical or horizontal	Vertice			
Opening Size: Height x Width (or Diameter)	2.5'x 1.5'			
Internal Dimensions: Height x Width	5' x 2'			
Slope (up or down from entrance)	Down			
Entrance Stable?				
Direction of Airflow (In or out?)	yes out			
Amount of Airflow (e.g., none, slight, heavy)	Slight			
Internal air warmer or cooler than outside temp.?	Cooler			
Evidence of collapse?	No.			
Ceiling Condition	9000			
Amount of water in opening	None			
Evidence of past flooding?	10			
Observed length of internal passage	-6'			
Distance to nearest water source	930'			
% Canopy Cover at entrance	100%			
Foraging Signs? (e.g., moth wings)	No'			
Are any portals suspected or known to be a second of the floor of the	e vithin a cave in a es, or caves can be e of toxic gases. Saf oes not authorize or thile implementing s	35,1°F Joe 1 Jo. extremely dang ety or health prequire anyon surveys. These	Lange e	There as a result intial equire any

⁸² Provide coordinates for each opening.



Terrestrial Habitat Assessment

July 2023

US 6219, Section 050

Transportation Improvement Project

Meyersdale, PA to Old Salisbury Road, MD







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1.0 INTRODUCTION

1.1 Project History

The "US 219, I-68 (Maryland) to Somerset, Pennsylvania Needs Analysis", prepared by the Pennsylvania Department of Transportation (PennDOT) in 1999, identified two projects with independent utility and logical termini on US 219. These projects were: US 219, Section 019 (currently Section 050) (from I-68 in Maryland to the southern terminus of the Meyersdale Bypass in Pennsylvania) and US 219, Section 020 (from the northern terminus of the Meyersdale Bypass to Somerset, Pennsylvania).

Preliminary engineering and work towards a Draft Environmental Impact Statement (DEIS) for US 219, Section 019, originally began in 2001 by PennDOT and the Maryland Department of Transportation/ Maryland State Highway Administration (MDOT/SHA) but was put on hold in 2007 due to funding constraints. Since that time, PennDOT has completed construction of US 219, Section 020, Meyersdale to Somerset, which opened to traffic in 2018.

The US 219, Section 020 project involved construction of a new 11 mile, four-lane, limited access roadway extending from the northern end of the Meyersdale Bypass of US 219 (a four-lane limited access roadway) to the southern end of the existing four-lane limited access US 219, south of Somerset.

The US 219 Section 050 project was re-started in 2014 as a Planning and Environmental Linkage (PEL) study. The study was completed in July 2016 and recommended two alignments that could move forward into the National Environmental Policy Act (NEPA) process: Alignments E and E-Shift. The PEL study also identified an independent, standalone breakout project within these two alignments in Maryland: from I-68 to Old Salisbury Road. This 1.4 mile project was advanced, and construction was completed in 2021.

1.2 Study Area Description and Location

This project was re-started in 2020 and includes the proposed construction of an eight mile (six miles in Pennsylvania and two miles in Maryland) four-lane limited access facility on new alignment from the end of the Meyersdale Bypass in Somerset County, Pennsylvania to the newly constructed portion of US 219 in Garrett County, Maryland.

The study area extends approximately eight miles from the southern end of the Meyersdale Bypass in Somerset County, Pennsylvania south to US 40 in Garrett County, Maryland. The study area encompasses portions of Elk Lick and Summit Townships in Somerset County, Pennsylvania, and the northeastern corner of Garrett County, Maryland. The Borough of Salisbury, Pennsylvania is also located within the central portion of the study area, as shown in Appendix A: Project Location Map. The study area is mostly rural, with residential and small commercial facilities, as well as larger amounts of forested areas and farmland.



This terrestrial habitat assessment was a joint effort between RETTEW and the Markosky Engineering Group, Inc. (Markosky). Markosky performed the habitat assessment of the Pennsylvania portions of the alignment and RETTEW performed the habitat assessment of the Maryland portions, following each state's respective guidance and accepted methodologies.

1.3 Project Purpose & Need

The purpose of the US 219 Section 050 Meyersdale to Old Salisbury Road project is to complete Corridor N of the Appalachian Development Highway System (ADHS), to improve the system linkage in the region, provide safe and efficient access for motorists, and provide a transportation infrastructure to support economic development within the Appalachian Region.

The project needs identified for this project are that existing US 219 does not provide efficient mobility for trucks and freight, there are numerous roadway and geometric deficiencies present along the existing US 219 alignment, and the existing roadway infrastructure is a limiting factor in economic development opportunities in the Appalachian Region.



2.0 DETAILED ALTERNATIVES

2.1 Segment Overview

The proposed project alternatives have been divided into three segments; Segment 1, Segment 2, and Segment 3. Segment 1 is also known as Segment 1 DU-E. Segment 2 has segment options, Segment 2 DU and Segment 2 E, and Segment 3 has two segment options, Segment 3 DU-E and Segment 3 DU-E Shift. When combined, these segments make up the four alternatives under consideration. These four alternatives, along with the No Build Alternative, are being evaluated for the project. A map depicting the segments is included in Appendix B: Detailed Alternatives Mapping. The alternatives under consideration include:

No Build Alternative

Segment 1 DU-E + Segment 2 DU + Segment 3 DU-E

Segment 1 DU-E + Segment 2 DU + Segment 3 DU-E Shift

Segment 1 DU-E + Segment 2 E + Segment 3 DU-E

Segment 1 DU-E + Segment 2 E + Segment 3 DU-E Shift

Segment 1 DU-E, Segment 2 DU, Segment 2 E, Segment 3 DU-E, and Segment 3 DU-E Shift are each being evaluated with a consistent roadway layout, also known as a typical section. The typical section for each segment provides a four-lane divided limited access highway with 12 feet wide travel lanes, 8 feet wide inside shoulders, and 10 feet wide outside shoulders. The width of the median between the inside edges of northbound and southbound travel lanes is 60 feet. In cut sections, where excavation will be required for construction, a proposed swale is located 15 feet outside the edge of the roadway shoulder. The backslope of the swale extends for 5 feet at a 4:1 slope, then continues at a 2:1 slope, until intersecting the existing ground. In fill sections, where fill must be placed for construction, a 10:1 slope extends from the outside roadway shoulder for 6 feet, then continues at a 2:1 slope until intersecting existing ground.

2.2 No Build Alternative

The No Build Alternative involves taking no action, except routine maintenance, along US 219. The existing two-lane alignment of US 219 between Meyersdale, Pennsylvania and Garrett County, Maryland would remain. No new alignments or additional roadway would be constructed. The No Build Alternative does not meet the approved Purpose and Need for the project.

2.3 Segment 1 DU-E

Segment 1 DU-E is a three mile portion of the proposed alternative, beginning in the northern end of the study area, at the existing Meyersdale interchange. The segment includes portions of the existing US 219 roadway and the surrounding area, including



along Mountain Road and Hunsrick Road. The segment continues to the south of Hunsrick Road, where it diverges from existing US 219 and crosses Clark Road. The segment then turns slightly west, minimizing impacts to the Pennsylvania State Gamelands 231. The segment then traverses along the bottom of Meadow Mountain. Stormwater management facilities have also been incorporated into the design.

As part of this segment, portions of several local roadways will be improved. These local improvements include: Improvements to the existing US 219 roadway (Mason-Dixon Highway), Hunsrick Road Extension, Mountain Road, and Clark Road. These are proposed as part of the construction of Segment 1 DU-E. These improvements are intended to ensure that local traffic has continued access. The scope of these proposed improvements is outlined below.

2.3.1 Mason-Dixon Highway

The Mason-Dixon Highway (T-355) will be improved between Hunsrick Road and the US 219 Meyersdale Interchange in accordance with PennDOT's Resurfacing, Restoration, and Rehabilitation (3R) design criteria, using a design speed transfer from 55 MPH to 35 MPH. The improvement corridor is roughly 1.3 miles in length, starting at the south near Hunsrick Road and ending at the US 219 Meyersdale Interchange.

Prior to the opening of the Meyersdale Bypass, Mason-Dixon Highway carried US 219. After the Meyersdale Bypass opened, PennDOT transferred ownership and maintenance of Mason-Dixon Highway to Summit Township. Following completion of the new US 219 alternative, ownership of Mason-Dixon Highway is to be transferred back to PennDOT as part of re-routed traffic patterns in the area.

2.3.2 Hunsrick Road Extension

Improvements made to tie the new US 219 alternative into existing US 219 necessitates the removal of the existing Hunsrick Road Bridge (SR 2102). Due to geometric and intersection sight distance constraints at the intersection of Hunsrick Road (T-355) and Mason-Dixon Highway (T-355), it was determined not to replace the Hunsrick Road Bridge and terminate Hunsrick Road on the east side of US 219.

As a result of the Hunsrick Road Bridge removal, a new roadway will be constructed; identified as the Hunsrick Road Extension. This new roadway will connect existing Hunsrick Road with Fike Hollow Road (T-363) and generally runs parallel to the new US 219 alternative along the eastern side. This new connector roadway will provide access from Hunsrick Road to US Business Route 219 (SR 2047) near the Meyersdale Interchange.

The proposed typical section for Hunsrick Road Extension includes 2- 10 feet travel lanes and 4 feet outside shoulders. The design speed is anticipated to be 25 miles per hour.

2.3.3 Mountain Road

Mountain Road (T-824) currently extends north from the intersection with Hunsrick Road to a cul-de-sac adjacent to existing US 219. With the associated improvements of the



Hunsrick Road Extension, the northern end of Mountain Road will be connected to Hunsrick Road Extension and the existing cul-de-sac will be removed. The existing intersection of Mountain Road with Hunsrick Road will be maintained.

To avoid the steep grade (14%) on the existing Mountain Road, a portion of Mountain Road is to be closed to traffic. Access to property along Mountain Road will be maintained and cul-de-sacs will be placed where the road will be closed. As noted above, the northern segment of Mountain Road will be accessible from the Hunsrick Road Extension while the southern segment of Mountain Road will be accessible from the existing intersection with Hunsrick Road.

2.3.4 Clark Road

Clark Road (T-353) extends west from Mountain Road (T-824) to existing US 219. Due to topographical and geometric constraints, providing a grade separated crossing of the new US 219 alternative was not practical. It was determined Clark Road should be bisected where it crosses the new alternative of US 219. A cul-de-sac will be placed at each end of the roadway where it intersects the US 219 right-of-way. The eastern side of Clark Road will maintain access to US Business Route 219 near the Meyersdale Interchange via Mountain Road, Hunsrick Road Extension, and Fike Hollow Road.

2.4 Segment 2 DU

Segment 2 DU turns west from Segment 1 DU-E, towards existing US 219 (Mason-Dixon Highway), and is sited between existing US 219 and Segment 2 E for about three miles. Segment 2 DU runs west across Piney Run Road and Piney Creek until it crosses Greenville Road, about 0.5 miles southeast of Salisbury Borough, and turns south. Segment 2 DU rejoins Segment 2 E at the Pennsylvania/Maryland border. From the Pennsylvania/Maryland border, Segment 2 DU and Segment 2 E continue south and west towards existing US 219. About 0.1 mile north of the Pennsylvania/Maryland border, there are preliminary plans for a PennDOT maintenance facility along Segment 2 DU, on the western side of the proposed US 219 alternative, with access to US 219 from the southbound lanes. Stormwater management facilities have also been incorporated into the design as appropriate.

2.5 Segment 2 E

After separating from Segment 1 DU-E, Segment 2 E continues southwest for approximately one mile before spanning Piney Run Road. As Segment 2 E crosses Piney Creek and Greenville Road, it continues west towards existing US 219 and Segment 2 DU for 1.3 miles. Subsequently, Segment 2 E rejoins Segment 2 DU at the Pennsylvania/Maryland border. Segment 2 E and Segment 2 DU follow approximately the same path for approximately 0.8 miles, from the Pennsylvania/Maryland border until the beginning of Segment 3. Approximately 0.1 mile north of the Pennsylvania/Maryland border, there are preliminary plans for a PennDOT maintenance facility along Segment 2 E, along the eastern side of the proposed alternative, with access to US 219 from the



northbound lanes. Stormwater management facilities have also been incorporated into the design.

2.6 Segment 3 DU-E

Segment 3 DU-E continues the proposed alternative south of the Pennsylvania/ Maryland border and ties back into the newly constructed section of US 219, south of Old Salisbury Road. The Segment 3 DU-E alternative is located approximately 0.05 miles east of Old Salisbury Road.

2.7 Segment 3 DU-E Shift

Segment 3 DU-E Shift is situated slightly southwest of Segment 3 DU-E. This segment ties into the newly constructed section of US 219 at the same location as Segment 3 DU-E. However, Segment 3 DU-E Shift is shifted slightly eastward, farther from Old Salisbury Road. This shift avoids or minimizes impacts to the Little Meadows Historic District to the extent possible.



3.0 PENNSYLVANIA METHODOLOGY

3.1 Anderson Method

A Land Use and Land Cover Classification System for Use with Remote Sensor Data (Anderson, et. al., 1976) (Anderson) was utilized to classify habitat units in the project area. The Anderson Method allows for classification to four levels of detail, Level I being the least detailed and Level IV being the most detailed. The target of this study was to classify terrestrial habitat in the study area to a Level III. The Land Use Classification types identified within the study area are shown in Table 1: Anderson Land Use Classifications.

This method begins with an identification of land cover types within the study area utilizing readily available aerial photography. For this study, the ESRI World Imagery aerial photography dated October 24, 2022 was used. Land cover types were classified to Level II utilizing aerial photography and a draft Anderson terrestrial habitat map was created. This map was utilized by field crews for a ground truthing. Field crews then walked the project area to confirm the Level II classifications and further classify the habitats within the study area to a Level III classification. Field work was conducted on numerous days between the spring of 2022 and spring of 2023. The results of the field investigations and land cover classifications were then used to develop final Level III Anderson mapping.

3.2 Fike Method

Terrestrial and palustrine plant communities of Pennsylvania (Fike, 1999) method was used for the second part of the terrestrial habitat assessment. Markosky environmental scientists utilized the methodologies described in this classification method to identify different plant communities within the project study area. The Fike method divides the state into 11 Ecological Regions of Pennsylvania. The project site is located within the Western Allegheny Mountains region. The differing plant communities were recorded with GPS survey technology with sub-meter accuracy and recorded on hard copy field maps. Finally, a specific habitat type appropriate for the region was assigned to each area.

3.3 Wildlife Crossing Study

The scope of this project also called for the identification of well used wildlife trails. The wildlife trail information will be used to determine the appropriate placement of wildlife highway crossing structures along the alignment. During field reconnaissance, any highly used wildlife trails, scat, etc, which were observed, were located with GPS. To better help evaluate the best potential wildlife crossing areas, only highly used wildlife trails were delineated. Additional field visits to the site also took place after prolonged snow cover which allowed for easier identification of well used trails in the winter months. These GPS points along with field notes were used to create a wildlife trail drawing (Appendix E).



4.0 MARYLAND METHODOLOGY

4.1 Regulatory Context and Methods- Terrestrial Habitat

Terrestrial habitats identified within the project alternatives include forest land, agricultural land, and urban or built-up land. Wetlands exist within the project alternatives however they are discussed in the Wetland Identification and Delineation Report.

Forest land is the most common terrestrial habitat within the project alternatives boundaries. The Code of Maryland Regulations (COMAR) defines a forest as, "a biological community dominated by trees and other woody plants covering a land area of 10,000 square feet or greater. It includes areas that have at least 100 live trees per acre with at least 50 percent of those trees having a 2-inch or greater diameter at 4.5 feet above the ground and larger, and forest areas that have been cut but not cleared (8.19.03.01)." State Funded highway construction projects that involve cutting and clearing of forest land are regulated under the Maryland Reforestation Law, a regulation that protects Maryland's forests from removal without adequate replacement. If the total area of forest cut or cleared as a result of the project equals 1 acre or more, the constructing agency shall locate an equivalent area of State owner or other publicly owned land to be reforested. Replacement of forest land cleared for highway construction must be accomplished on an acre-for-acre, one to one ratio on public lands and within two years or three growing seasons of the completion of the project.

The detailed study area for the terrestrial habitat investigation consisted of the proposed limits of disturbance for the project alternatives. Vegetative communities within the study area were identified and mapped via aerial mapping using Anderson's Land Use and Land Cover Classification System for Use with Remote Sensor Data (Anderson et al., 1976) level II rationale. Terrestrial level II land use / land cover types that qualified as wildlife habitats included deciduous forestland, evergreen forestland, herbaceous rangeland, scrub/shrub rangeland, and agricultural land. As part of the study a review of historic aerial photographs was conducted to identify any historic changes in land use / land cover. Aquatic land use / land cover types were identified during the aquatic resources investigations and included on the terrestrial mapping. Urban built-up land was identified as part of this investigation but were not considered as wildlife habitat. Field verification was conducted to verify cover types and boundaries. Detailed forest stand data was collected within each forested cover type using randomly located 1/10-acre plots, with a minimum of one plot per 4-acres of forest stand area. The dominant and codominant tree species within each plot were recorded, including the total number dominant and codominant by species and the total number of trees per size class. Percent canopy closure was determined using a Model A spherical densiometer and basal area was determined using a 10x prism. Common understory species, herbaceous species, percent of invasive species, and successional stage were noted. Forest stand characterization datasheets are compiled in Appendix H, and representative photographs of each land use / land cover type are compiled in Appendix I.



Specimen trees, defined as those trees having a diameter at breast height (DBH) of 30 inches or greater, or trees having 75% or more of the diameter of the current state champion tree, were identified in the field, measured using a dbh tape, and located and mapped using a Global Positioning Survey (GPS) receiver.

Rangeland and cropland cover types were characterized based on dominant species. Field datasheets are compiled in Appendix H, and representative photographs of each compartment are compiled in Appendix I.

Common species of wildlife were identified in the field by visual sightings, songs, calls, tracks, and other marks or indicators (scat, nests, cavities, etc). A list of wildlife sightings, by compartment, is provided in Appendix J.

The presence of forest conservation easements was investigated through the Maryland iMAP ArcGIS Online for Maryland, Maryland Protected Act – Forest Conservation Easements dataset and the Maryland Department of Natural Resources (MD DNR), Maryland Environmental Resource & Land Information Network (MERLIN) online GIS system. No forest conservation easements were identified.

4.2 Regulatory Context and Methods- Terrestrial Wildlife

Terrestrial wildlife species in Maryland are regulated under several provisions. The protection of all migratory birds is governed by the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712), under which it is illegal to "take, kill, possess, transport, or import migratory birds or any part, nest, or egg of such bird: unless authorized by a valid permit (16 U.S.C. 703) A list of migratory birds protected by the MBTA is included in 50 CFR 10.13, and includes most species within Maryland. However, on December 22, 2017, the Solicitor of the Department of Interior issued Solicitor's Memorandum M-37050 that declares that only activities deliberately intended to kill or take migratory birds may be subject of regulation or enforcement under the MBTA.

Although the bald eagle is no longer a listed species under the Endangered Species Act, it is still protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c). The Bald and Golden Eagle Protection Act prohibits the take, possession, sale, purchase, barter, transport, export, or import of any bald or golden eagle (alive or dead), including any part, nest, or egg without a valid permit issued by the Secretary of the Interior (50 CFR 22.3). The Act prohibits disturbing any bald or golden eagle, which includes agitating or bothering "to a degree that causes, or is likely to cause, based on scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior."

Forest Interior Dwelling Bird Species (FIDS) are regulated as a protected resource within the Chesapeake Bay Critical Area (Critical Area) (COMAR 27.01.09.04). Although there are no Critical Areas within or near the US 219 Corridor, and FIDS are not specifically regulated outside of the Critical Area, MD DNR encourages avoidance of impacts to FIDS habitat throughout the state. FIDS habitat includes documented FIDS breeding areas



within existing riparian forests that are at least 300 feet in width and that occur adjacent to streams, wetlands, or the Chesapeake Bay shoreline, and other forest areas used as breeding areas by forest interior dwelling birds.

A detailed wildlife habitat study was conducted by L. Robert Kimball & Associates, Inc. and McCormick Taylor, Inc. for the US 219, Section 019 (Meyersdale, Pennsylvania to I-68 in Maryland) between 2003 and 2005. Data on types of wildlife habitats and likely and observed wildlife species from this study was reviewed and verified to still be applicable to the current overall project study area. Although direct and indirect observations of wildlife were noted during the terrestrial fieldwork conducted for the current US 219 Improvement Study, no additional specific field assessment of terrestrial wildlife was completed during the current study.



5.0 FINDINGS PENNSYLVANIA

5.1 Anderson Method

The completion of the Anderson Method with the alignment determined that nineteen (19) Anderson Level III habitat types are located within the proposed alignment. A summary of the total acreage of each is provided below.

Table 5.1: Anderson Land Use Classifications

Level 1	Level II	Level III	Acreage
1. Urban or Built-up Land	11. Residential	111. Single Family Units	37.8
	14. Transportation, Communications, and Utilities	141. Highway ROW	51.3
		145. Roadway ROW	13.2
		151. Commercial Complex	1.9
	17. Other Urban or Built-up Land	171. Sediment Pond (Water Control Structure)	0.7
2.	21. Cropland and Pasture	212. Pastureland	2.2
Agricultural Land		213. Hayfield	12.9
3. Rangeland	31. Herbaceous Rangeland	312. Early Succession Old Field	46.1
	33. Mixed Rangeland	331. Moderate- Dense	17.2
		332. Grazed or Thin	40.2
4. Forest Land	41. Deciduous Forest Land	415. Mature Stage, Shrub Moderate- Dense	178.1
		416. Mature Stage, Shrub Grazed or Shrub Sparse.	141.3
	42. Evergreen Forest Land	425. Mature Stage, Shrub Moderate- Dense	11.4
	43. Mixed Forest Land	435. Mature Stage, Shrub Moderate- Dense	217.6
		436. Mature Stage, Shrub Grazed or Shrub Sparse	116.4
5. Water	51. Streams and Canals	511. Streams	11.9
7. Barren Land	75. Strip Mines, Quarries, and Gravel Pits	751. Strip Mine Total	21.7
	76. Transitional Areas	761. Fill Slope Total	1.6
NA	Wetland	Wetland	17.5
		Total	941.1

Mapping showing the Anderson Level III classifications is included in Appendix C.



5.2 Fike Method

The completion of the Fike Method with the alignment determined that nine (9) Fike habitat types are located within the proposed alignment. A summary of the total acreage of each is provided below.

Table 5.2: Fike Classifications

Fike Habitat Type	Acreage
Aspen/ Gray (Paper) Birch Forest	1.2
Dry Oak- Heath Forest	49.8
Dry Oak- Mixed Hardwood Forest	152.4
Hemlock- Northern Hardwood Forest	51.3
NA* (No Fike Category)	258.9
Red Maple Terrestrial Forest	190.3
Red Maple Terrestrial/ Red Oak- Mixed	69.4
Hardwood Forest	
Red Oak- Mixed Hardwood Forest	150.3
Wetland	17.5
Total	941.1

^{*} NA indicates that no applicable Fike Habitat category is available for these areas.

Mapping showing the Fike classifications is included in Appendix D.

5.3 Wildlife Crossing Evaluation

The evaluation of potential wildlife crossings in the Pennsylvania sections revealed a widespread variety of species and concentrations throughout the study area. Wildlife use of the entire project area is evident from observation of individuals and scat as well as through the observation of wildlife trails. Deer, bear, rabbit, fox, coyote, and raccoon track were the dominant species tracks observed during field work. Large portions of the study area are open forest and the concentration of wildlife trails is sporadic in these areas. Trails appear in confining areas such as rhododendron stands, steep valleys or along field edges only to dissipate as the trails return to open forests. The location of the heaviest wildlife trails are presented on Wildlife Crossing map in Appendix E.



6.0 FINDINGS MARYLAND

6.1 Existing Conditions Terrestrial Wildlife

The Maryland section of the project is located east of US 219 and north of US 40. Areas adjacent to US 219 and US 40 are dominated by residential, commercial, and institutional uses. As shown on the Anderson Terrestrial Habitat Mapping (Appendix C) the project alternatives are dominated by forests and managed agricultural fields. A review of historical aerial photographs from 1960 to 2017 revealed evidence of surface mining and logging throughout the study area from approximately 1967 through the mid-1990s. Review of the 2004, 2008, and 2013 aerial photographs showed that the study area looked much the same during those time periods as it did when fieldwork was conducted in summer of 2022 and the spring of 2023 (Appendix K).

The following non-habitat land use / land cover types were identified within the project alternatives: residential, commercial, and transportation/communication and are described below.

Residential/Commercial/Services (Anderson land cover classifications 111/151) – Residential, commercial, and service areas are located along US 219 on the southern portion of the project area. Residential areas consist of single-family homes with manicured lawns, landscape plantings, and small forest stands that do not meet the COMAR definition of a forest. One, small, commercial complex was identified on the west side of old US 219, as well as one service provider, the Cherry Grove Church of the Brethren, east of old US 219 and south of Old Salisbury Road. Residential/Commercial/Services accounts for 3.8 acres within the detailed study area.

Transportation/Communication (Anderson land cover classification 141) – This cover type consists of the areas of old US 219, the newly constructed 4-lane US 219, and a cellular tower in the southern portion of the alternative alignments. Transportation/communication accounts for 19.9 acres within the detailed study area.

The following wildlife habitat land use / land cover types were identified within the project alternatives: agricultural cropland; herbaceous and shrub-brush rangeland; deciduous forestland, evergreen forestland, and mixed forestland and below is a brief description.

Agricultural (Anderson land cover classification 211 and 213) – Agricultural land is located throughout the study area, totals 78.6 acres and comprises approximately 43 percent of the detailed study area. These areas consist of active farmland and current crops include soybean, corn, oats, and hayfield.

Herbaceous Rangeland (Anderson land cover classification 312) – This land cover type is located in the central portion of the study area. The area is in a transitional state between a hayfield and an old field community and is dominated by naturally occurring grasses and forbs. This cover type consists of 0.8 acres within the study area and is dominated by grasses (*Poa spp.*), goldenrods (*Solidago spp.*), (*Cirseum spp.*) thistle, and



Queen Anne's lace (*Daucus carota*). Herbaceous rangeland comprises less than 1 percent of the detailed study area.

Shrub-Brush Rangeland (Anderson land cover classification 331) – This land cover type is in a transitional state between and old field and a pioneer forest and is located at the southern portion of the alternatives adjacent to the newly constructed 4-lane section of US 219. This cover type consists of 1.6 acres and includes naturally occurring grasses and forbs with patches of saplings throughout the area. The common tree saplings include red maple (Acer rubrum), green ash (Fraxinus pennsylvanica), black cherry (Prunus serotina), and Eastern white pine (pinus strobus). The herbaceous layer is comprised of grasses, goldenrods, and various other species. Shrub-brush rangeland comprises less than 1 percent of the detailed study area.

Forested land represents approximately 40 percent, 74.1 acres, and is the second highest percentage of land cover within the study area. Deciduous forestland accounts for 71.5 acres, mixed forestland accounts for 0.7 acres, and evergreen forestland accounts for 1.9 acres. Thirteen distinct Anderson land use / land cover compartments were identified within the alternative alignments, nine deciduous, three evergreen, and one mixed. In addition, 28 specimen trees were identified. These trees are mostly concentrated in the northern portion of the study area. Forest cover compartments are described below and the locations of compartments and specimen trees are located in Appendix C.

Compartment 416-1 is a deciduous forest stand consisting of 43.3 acres within the project alternatives. This stand is a Sugar Maple/Red Maple/Black Cherry Association located in the northern portion of the study area. This early-mid successional forest is dominated by sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), and black cherry (*Prunus* serotina) with inclusions of mockernut hickory (*Carya tomentosa*), yellow birch (*Betula alleghaniensis*), basswood (*Tilia americana*), and green ash (*Fraxinus pennsylvanica*). Canopy closure is approximately 85 percent and the dominant size class ranges from 2.5 to 20-inch DBH. The common understory species include sugar maple, red maple, spicebush (*Lindera benzoin*), and witch hazel (*Hamamelis virginiana*). Common species in the herbaceous layer include hay-scented fern (*Dennstaedtia punctiloba*), Christmas fern (*Polystichum acrostichoides*), wood nettle (*Laoprtea canadensis*), maple-leaf viburnum (*Viburnum acerifolium*), and jack-in-the-pulpit (*Arisaema triphyllum*). There was evidence of past logging and several trees have recently been girdled. The forest is in good condition and portions of this compartment are being used for maple syrup production. Invasives are minimal.

Compartment 416-2 is a deciduous forest stand consisting of 8.2 acres within the project alternatives. This stand is a Sugar Maple/Black Cherry Association and is located north of Old Salisbury Road. This early-mid successional forest is dominated by sugar maple and black cherry with inclusions of red oak (*Quercus rubra*) and cucumber tree (*Magnolia acuminata*). Canopy closure is approximately 80 percent and the dominant size class ranges from 2.5 to 20-inch DBH. The common understory species include sugar maple, striped maple (*Acer pensylvanicum*), and black cherry. Common species in the herbaceous layer include hay-scented fern, violets (*viola spp.*), zigzag goldenrod



(Solidago flexicaulis), sessile-leaf bellwort (*Uvularia sessilifolia*), wild yam (*Dioscorea villosa*), sedges (*Caerx spp.*), and jack-in-the-pulpit. The forest is in good condition and most of the trees are of the same size. Invasives are minimal.

Compartment 415-3 is a deciduous forest stand consisting of 13.1 acres within the project alternatives. This stand is a Sugar Maple/Black Cherry/Red Oak Association and is located east of Old Salisbury Road. This early successional forest was recently logged of oaks and cherry and is currently dominated by young sugar maple. Canopy closure is approximately 25 to 40 percent and the dominant size class ranges from 2 to 12-inch DBH. The common understory species include sugar maple, black gum (Nyssa sylvatica), yellow birch, and black birch (Betula Lenta). Common species in the herbaceous layer intermediate wood fern (Dryopteris intermedia), Canada mayflower (Maianthemum canadense), blackberry (Rubus spp.), pokeweed (Phytolacca americana), and hay-scented fern. The forest is disturbed due to recent logging with piles of brush throughout. Invasives are minimal.

Compartment 415-5 is a deciduous forest stand consisting of 4.8 acres within the project alternatives. This stand is a Hawthorne/Black Locust Association and is located east of the new US 219 4-lane section on a hillslope. This mid-late successional forest is dominated by hawthorns and black locust with inclusions of black cherry and white ash. Canopy closure is approximately 75 to 90 percent and the dominant size class ranges from 2 to 30-inch DBH. The common understory species include Hawthorne (*Crataegus spp.*). Common species in the herbaceous layer include white snakeroot (*Ageratina altissima*), garlic mustard (*Alliaria petiolata*), goldenrod, Canada germander (*Teucrium canadense*), white aster (*Symphyotrichum ericoides*), and wild basil (*Clinopodium vulgare*). This compartment has had recent disturbance along the western edge by the building of the new 4-lane 219, however overall, the forest is in good condition with minimal invasives.

Compartment 415-6 is a deciduous forest stand consisting of 0.2 acres within the project alternatives. This stand is a Red Maple/Black Birch Association and is located at the southern portion of the alternative alignments east of the new US 219 4-lane section. This mid-late successional forest is dominated by red maple and black birch with inclusions of black cherry and green ash. Canopy closure is approximately 80 percent and the dominant size class ranges from 2 to 20-inch DBH. The common understory species include red maple, black birch, and Chinese privet (*Ligustrum sinense*) and covers approximately 50 percent of the understory. Common species in the herbaceous layer include green ash, bigleaf aster (*Eurybia macrophylla*), and multiflora rose (*Rosa multiflora*). The herbaceous layer is dense and covers approximately 90 percent of the ground. The forest is in good condition with minimal invasives.

Compartments 415-7 and 416-8 are deciduous forest stands consisting of 1.2 and 0.1 acres within the project alternatives. These stands are a Red Maple/Black Birch Association and are located at the southern portion of the alternative alignments east of the new US 219 4-lane section. This early-mid successional forests are dominated by red maple and black birch with inclusions of Hawthorne species and black cherry. Canopy



closure is approximately 77 percent and the dominant size class ranges from 2 to 20-inch DBH. The common understory species include red maple, Hawthorne species, and autumn olive (*Elaeagnus umbellate*) and covers approximately 44 percent of the understory. Common species in the herbaceous layer include Solidago species, grasses, and garlic mustard. The forest is in good condition with minimal invasives.

Compartments 416-9 and 416-10 are deciduous forest stands each consisting of 0.3 acres within the project alternatives. These stands are a Red Maple/Black Cherry Association and are located at the far eastern limits of the alternative alignments in the middle of the study area. These mid-late successional forests are dominated by red maple and black cherry with inclusions of Hawthorne species and black locust. Canopy closure ranges from 70 – 90 percent and the dominant size class ranges from 2 to 20-inch DBH. The common understory species include Hawthorne species, autumn olive, and rubus species and covers approximately 24 percent of the understory. Common species in the herbaceous layer include Solidago species, grasses, garlic mustard and stinging nettle (*Urtica dioica*). The forest is in good condition with minimal invasives.

Compartments 426-1, 426-2, and 426-3 are evergreen forest stands consisting of 0.9, 0.5, and 0.5 acres within the project alternatives. These stands are Eastern White Pine Associations and are located east of the new US 219 4-lane roadway on the north facing ridge slope. These late successional forests are dominated by eastern white pine (*Pinus* strobus) and Scots pine (*Pinus* sylvestris). Other species include black locust (*Robinia* pseudoacacia) and white ash although these areas are heavily dominated by pines. Canopy closure is approximately 80-85 percent and the dominant size class ranges from 2 to 30-inch DBH. The common understory species are minimal and include green ash, Hawthorne species, and black locust. Common species in the herbaceous layer include wood fern, spotted jewelweed (*Impatiens capensis*), green ash, goldenrod, aster, black raspberry (*Rubus occidentalis*), common burdock (*Arctium minus*), and garlic mustard. These areas had numerous standing dead trees and invasives are minimal.

Compartment 436-1 is a mixed forest stand consisting of 0.7 acres within the project alternatives. This stand is a Maple/Birch/Pine Association is located east of the new US 219 4-lane roadway on a south facing slope of the hillside. This early-mid successional forest is dominated by Scots pine, jack pine (*Pinus banksiana*), black birch, red maple, and black locust. Canopy closure is approximately 65-70 percent and the dominant size class ranges from 2 to 12-inch DBH. The common understory species include red maple, jack pine, eastern white pine, green ash, black locust, arrowwood (*Viburnum dentatum*), and black poplar (*Populus nigra*). Common species in the herbaceous layer include goldenrod, lowbush blueberry (*vaccinium angustifolium*), and aster. Herbaceous cover was between 81-100 percent. The forest is in good condition and no invasives were observed.

The table below provides a summary of the land use / land cover types within the study area.



Table 6.1: Anderson Land Use / Land Cover Type Summary

Level 1	Level II	Level III	Acreage
1. Urban or Built-up Land	11. Residential	111. Single Family Units	3.1
	14. Transportation, Communications, and Utilities	141. Highway ROW	19.9
		145. Roadway ROW	0.0
		151. Commercial Complex	0.8
	17. Other Urban or Built-up	171. Sediment Pond (Water	0.0
	Land	Control Structure)	
2. Agricultural Land	21. Cropland and Pasture	211. Cropland	47.9
		213. Hayfield	30.7
3. Rangeland	31. Herbaceous Rangeland	312. Early Succession Old Field	0.8
	33. Mixed Rangeland	331. Moderate- Dense	1.6
		332. Grazed or Thin	0.0
4. Forest Land	41. Deciduous Forest Land	415. Mature Stage, Shrub Moderate- Dense	19.4
		416. Mature Stage, Shrub Grazed or Shrub Sparse.	52.1
	42. Evergreen Forest Land	426. Mature Stage, Shrub Grazed or Shrub Sparse.	1.9
	. Mixed Forest Land	435. Mature Stage, Shrub Moderate- Dense	0.0
		436. Mature Stage, Shrub Grazed or Shrub Sparse	0.7
5. Water	51. Streams and Canals	511. Streams	1.0
7. Barren Land	75. Strip Mines, Quarries, and Gravel Pits	751. Strip Mine Total	0.0
	76. Transitional Areas	761. Fill Slope Total	0.0
NA	Wetland	Wetland	1.7
		Total	181.5

Specimen Trees

A total of 31 trees of specimen size were found within the study area during field reconnaissance. None of these trees are considered champion trees or are within 75 percent of the state champion tree for a given species. Specimen trees identified are summarized in Table 6.2 and located on Anderson Terrestrial Habitat Mapping located in Appendix C. A total of six different species were identified and the largest tree found was a sugar maple with a 48-inch DBH measurement. Photographs of specimen trees are located in Appendix L.



Table 6.2: Specimen Trees within the US 219 Study Alternatives

Common Name	Scientific Name	# of Specimen (≥30" DBH)	Compartment
Red Maple	Acer rubrum	4	416-1
Sugar Maple	Acer saccharum	13	416-1
Black Cherry	Prunus serotina	5	416-1
Northern Red Oak	Quercus rubra	6	111-1, 416-1
American Basswood	Tilia americana	1	416-1
Cucumber Tree	Magnolia acuminata	2	416-1
Tot	al	31	

6.2 Existing Conditions Terrestrial Wildlife

Terrestrial wildlife expected within the project study area reflect the availability of various natural and man-modified habitats. The US 219 Improvement Project Maryland study area is dominated by forests and agricultural fields; however, residential lots are located directly along US 219 where the proposed alternatives tie into existing US 219. While many of the more natural areas remain forested, all the forested habitats have been fragmented by agricultural lands. Terrestrial habitats within the project corridor have not changed considerably since the earlier field studies, and the terrestrial habitats within the US 219 Improvement Project study area are representative of the habitats described for the previous US 6219, Section 019 Project. Appendix J provides a list of observed wildlife species encountered during the US 6219, Section 019 studies.

As noted in Section 6.1 above, the forested areas range from early successional to midlate successional and contain varying levels of disturbance. Many of these forests are surrounded by agricultural fields and provide habitat for primarily edge adapted and disturbance tolerant wildlife species.

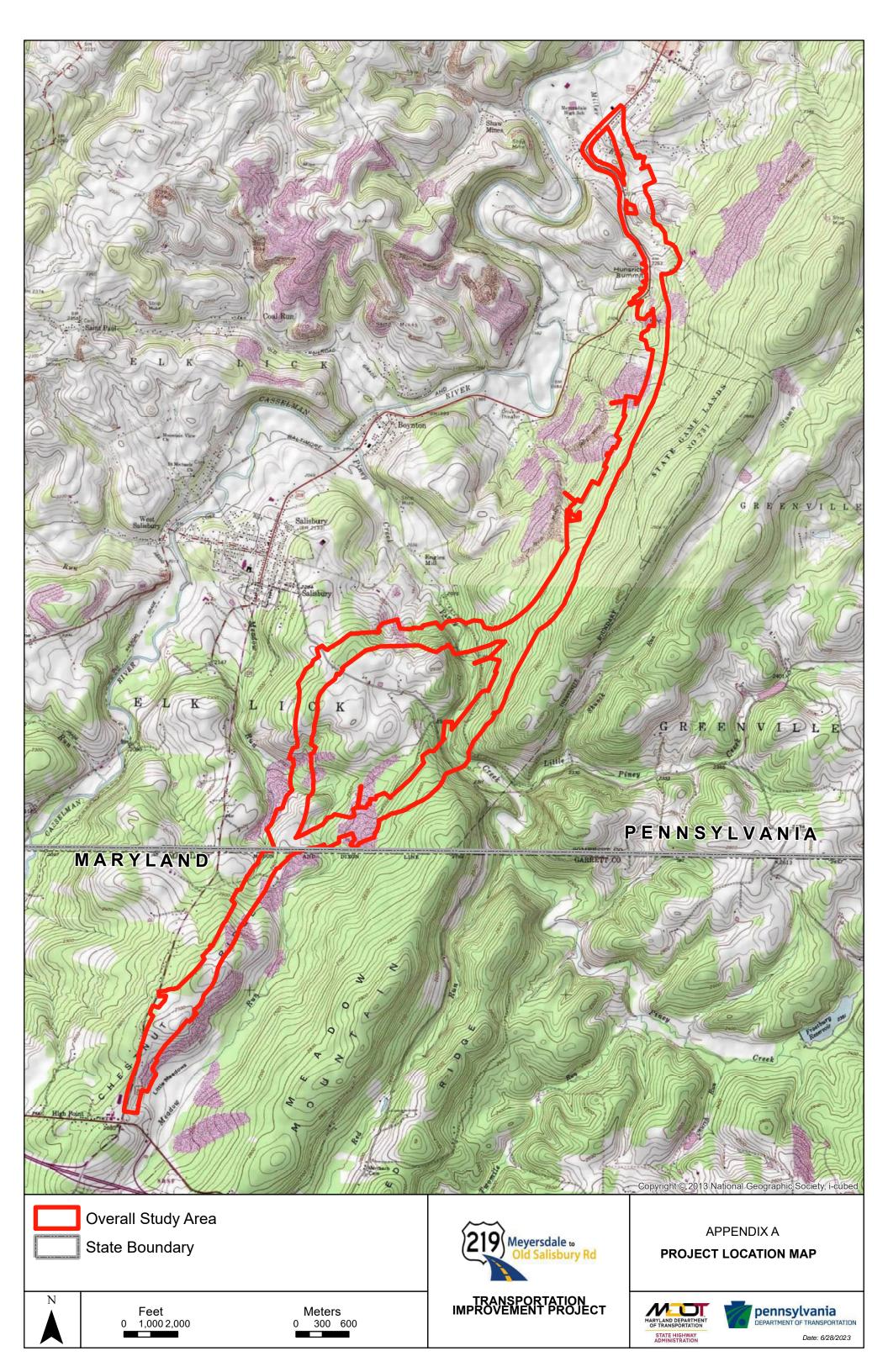
Less disturbed and larger contiguous forests can provide habitat for FIDS. DNR recognizes 25 species of FIDS in Maryland. FIDS require larger forest patches to successfully maintain viable populations. A review of the Maryland Living Resources – Forest Interior Dwelling Species ArcGIS Online indicates that potential FIDS habitat is present within the study area. This data is the result of modeling depicting where FIDS habitat might occur based on certain criteria and has not been field tested. Using ArcGIS,



a FIDS analysis for the project area was conducted by identifying interior forested areas that are 300 feet, or greater, from the nearest forest edge. This resulted in the identification of two potential areas located within compartment 416-1 (Appendix C). FIDS Area #1 is located just south of the Maryland/Pennsylvania line and the FIDS habitat consists of approximately 1.0 acre of deciduous forestland. FIDS Area #2 is located approximately 700 feet to the south and the FIDS habitat consists of approximately 8.0 acres of deciduous forestland.

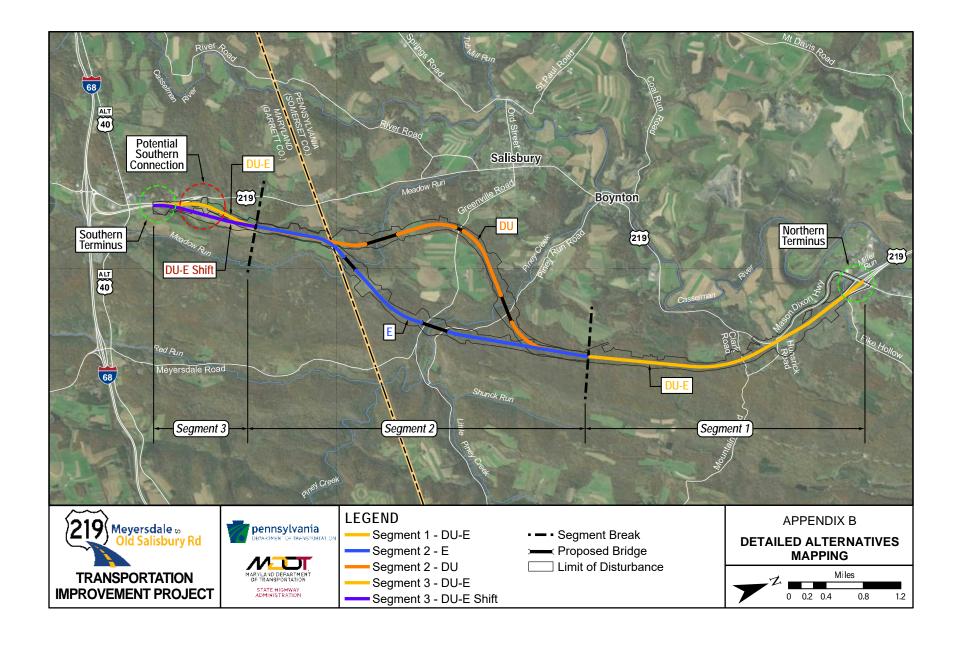


APPENDIX A PROJECT LOCATION MAP



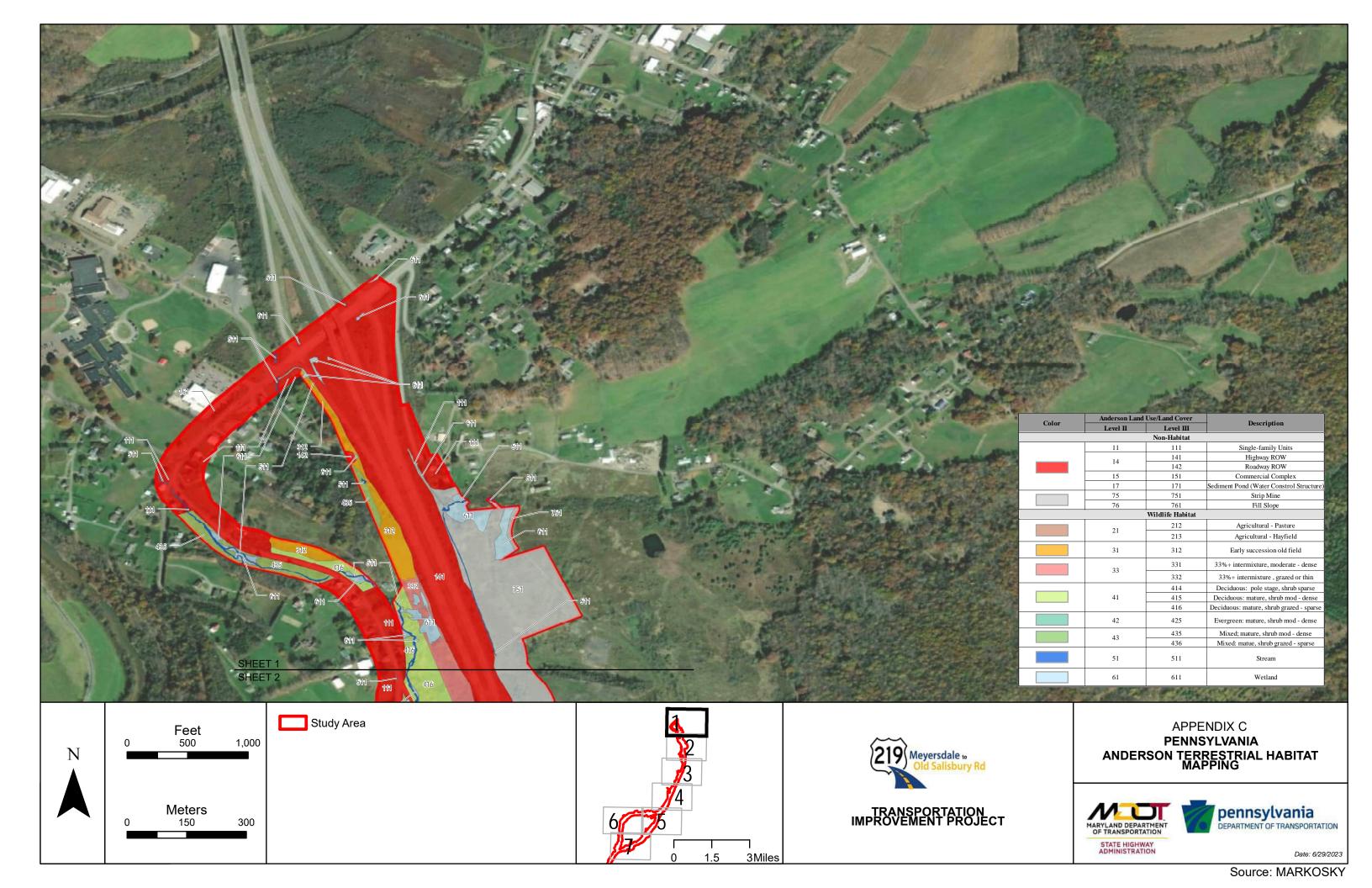


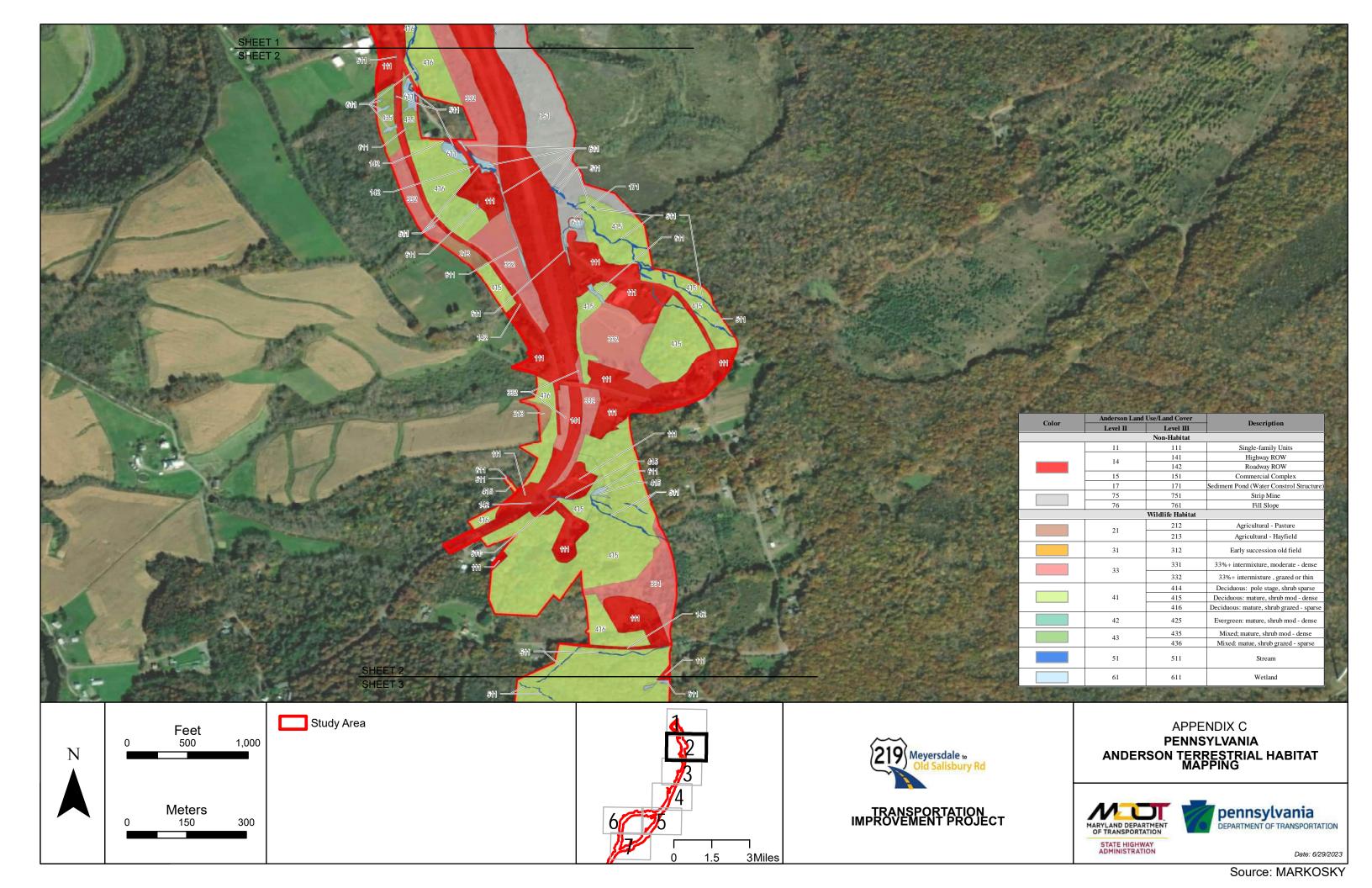
APPENDIX B DETAILED ALTERNATIVES MAP

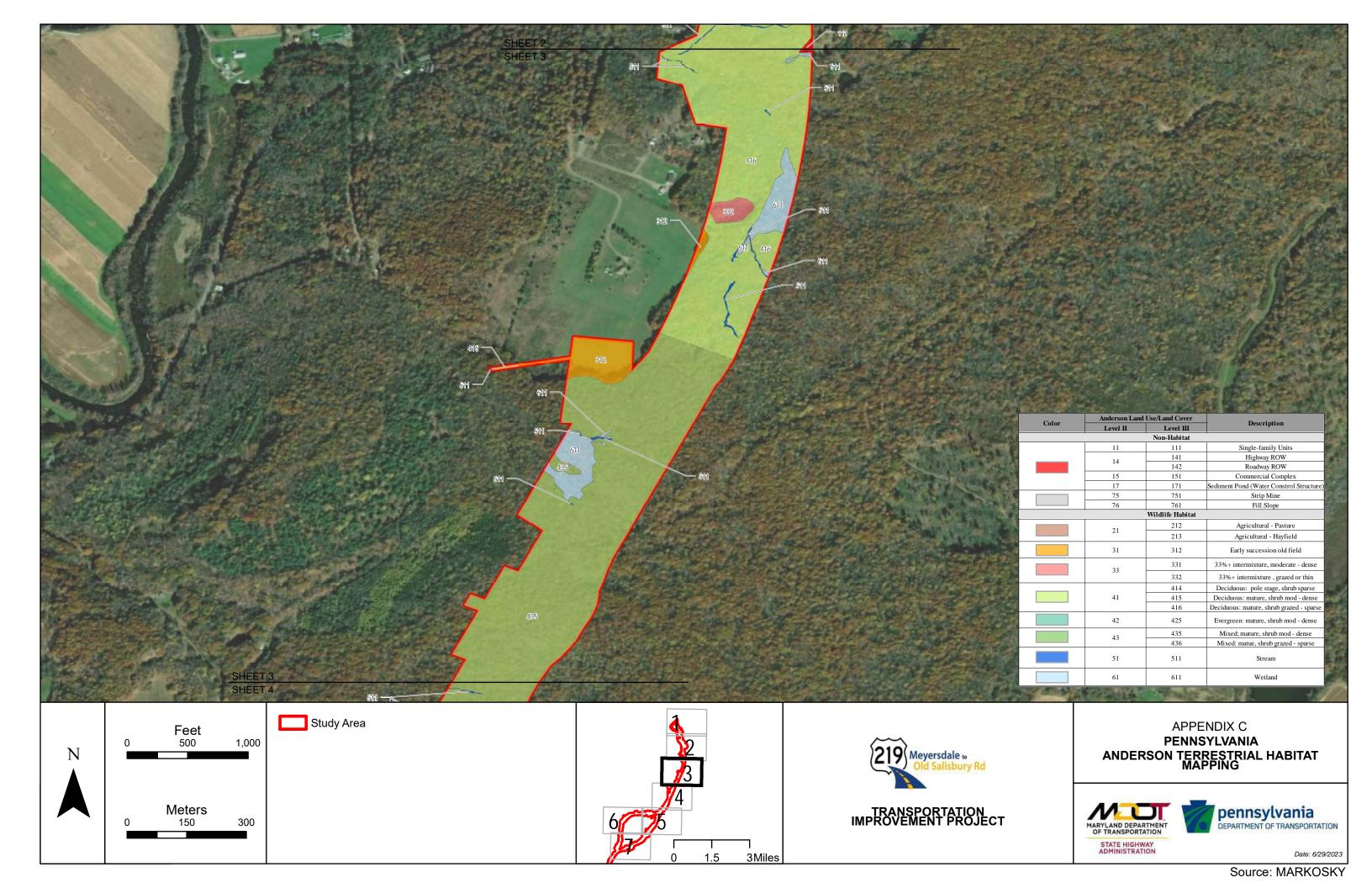


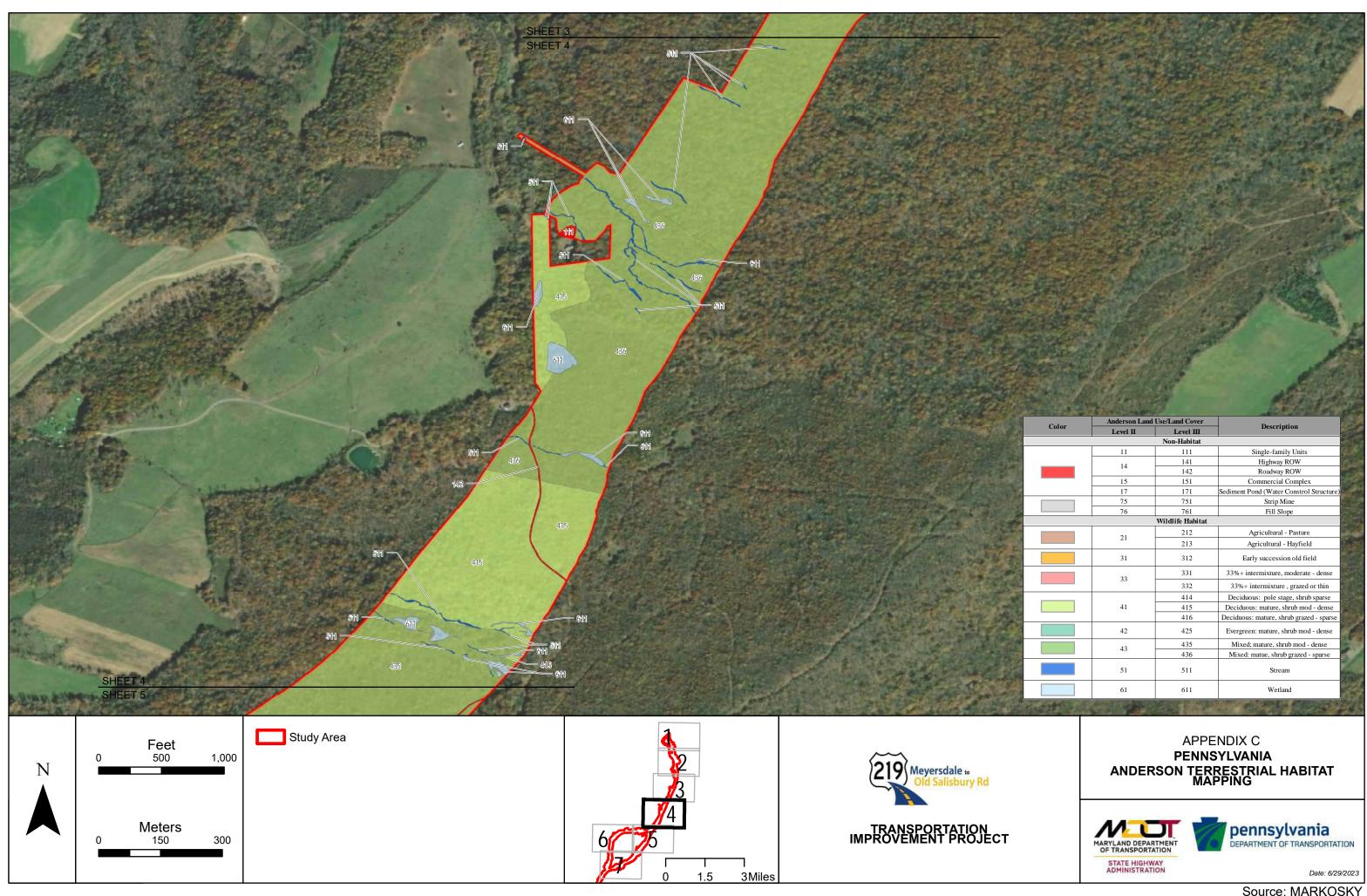


APPENDIX C ANDERSON TERRESTRIAL HABITAT MAPPING

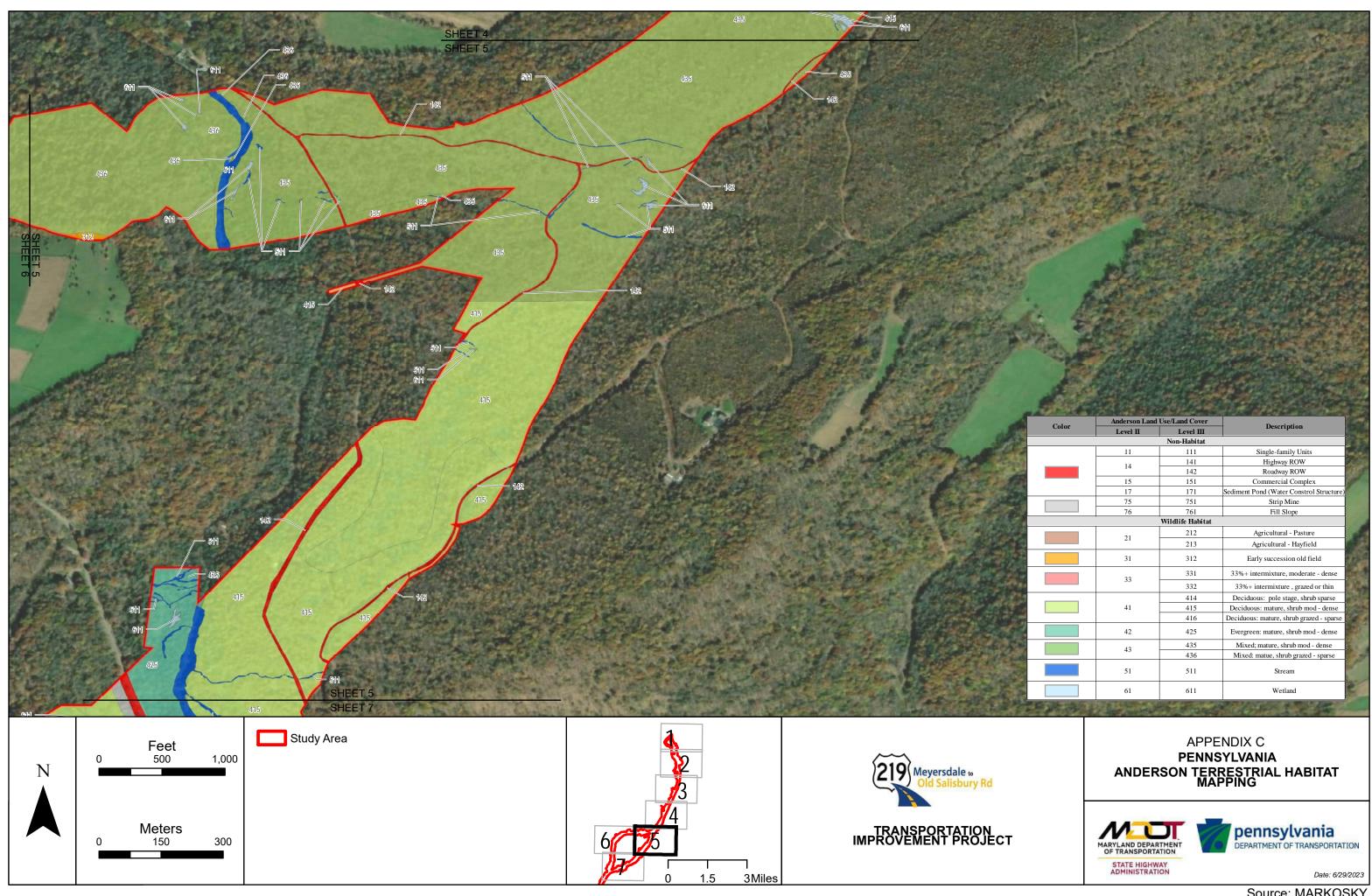




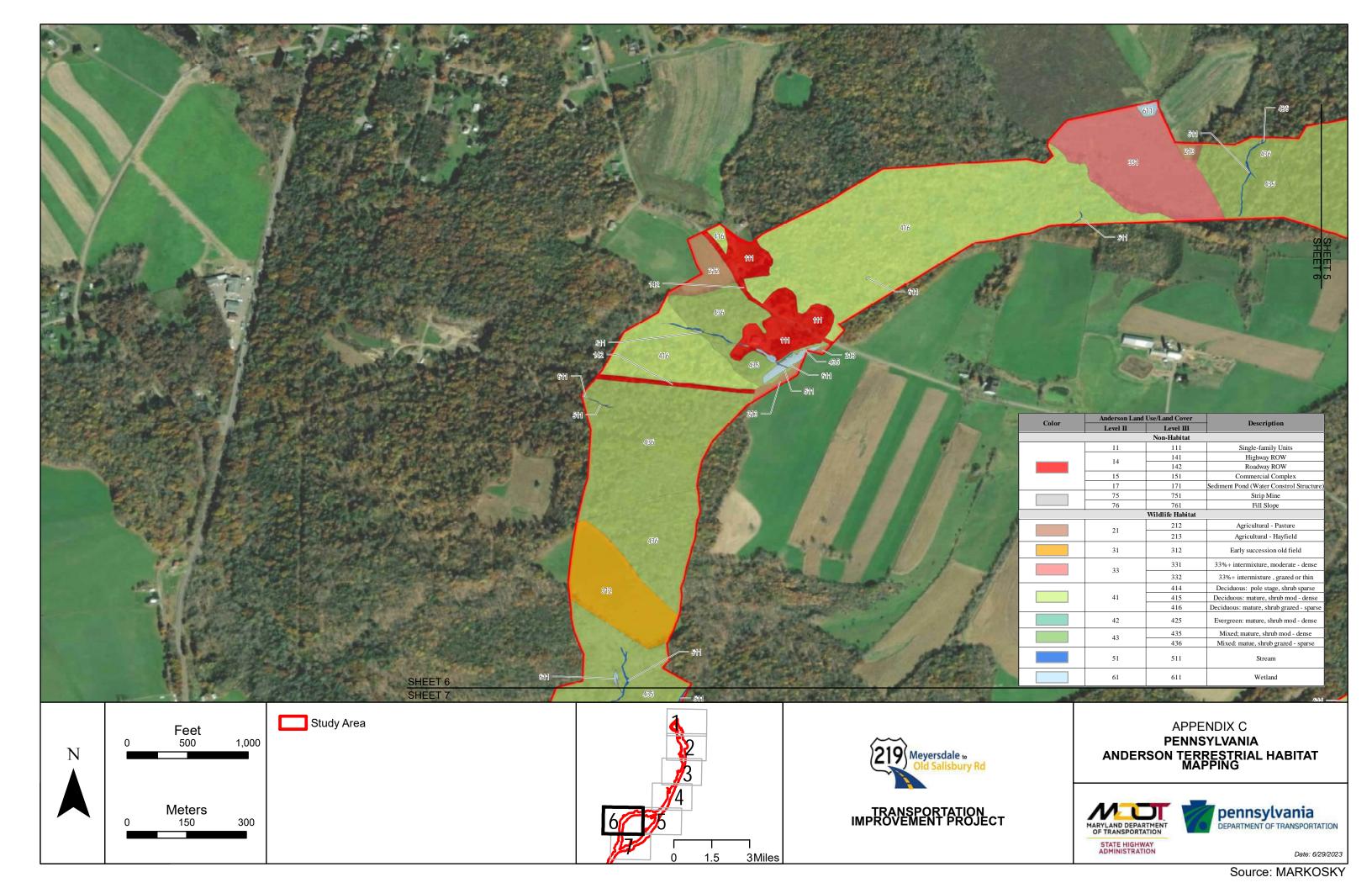


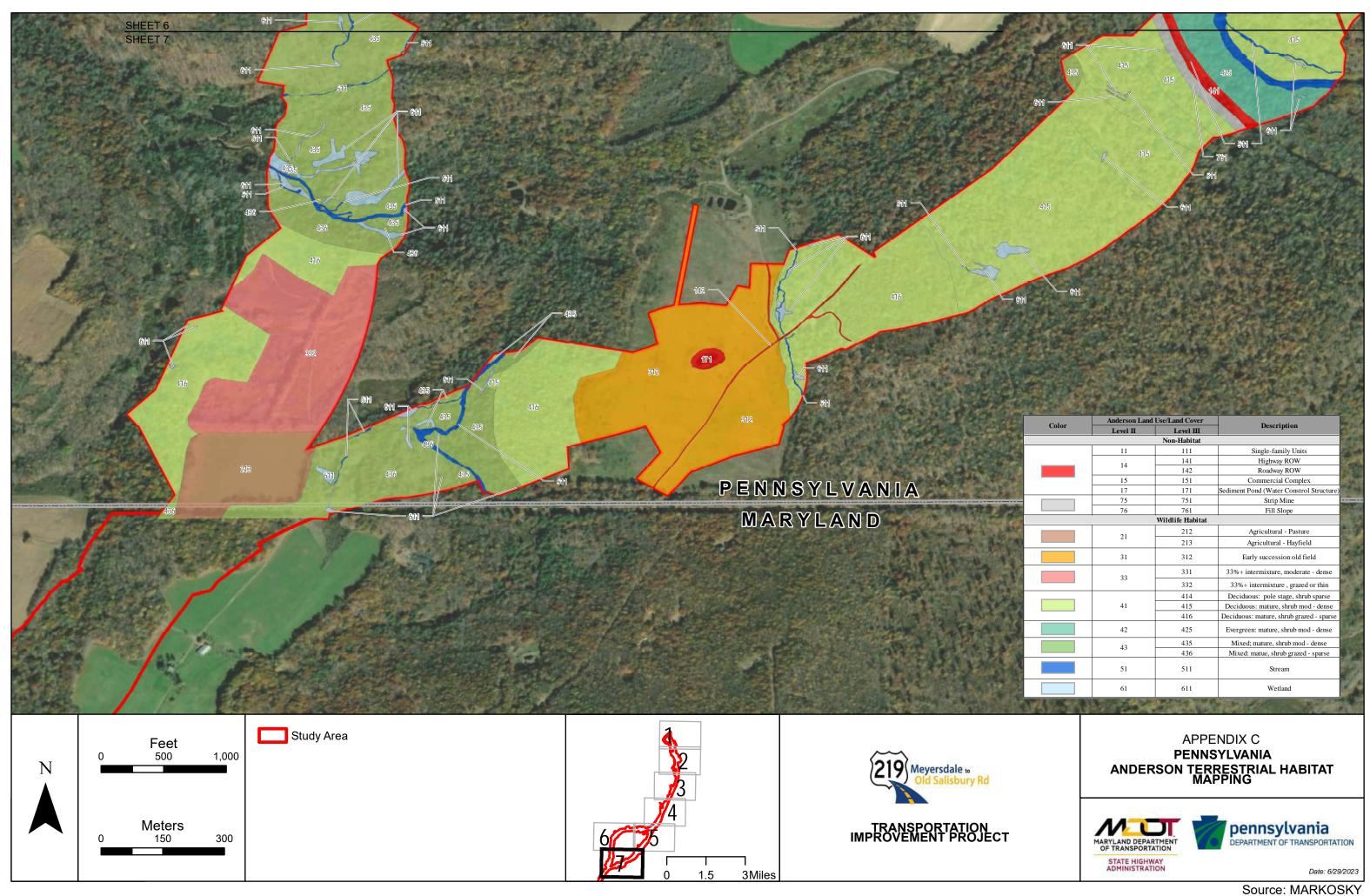


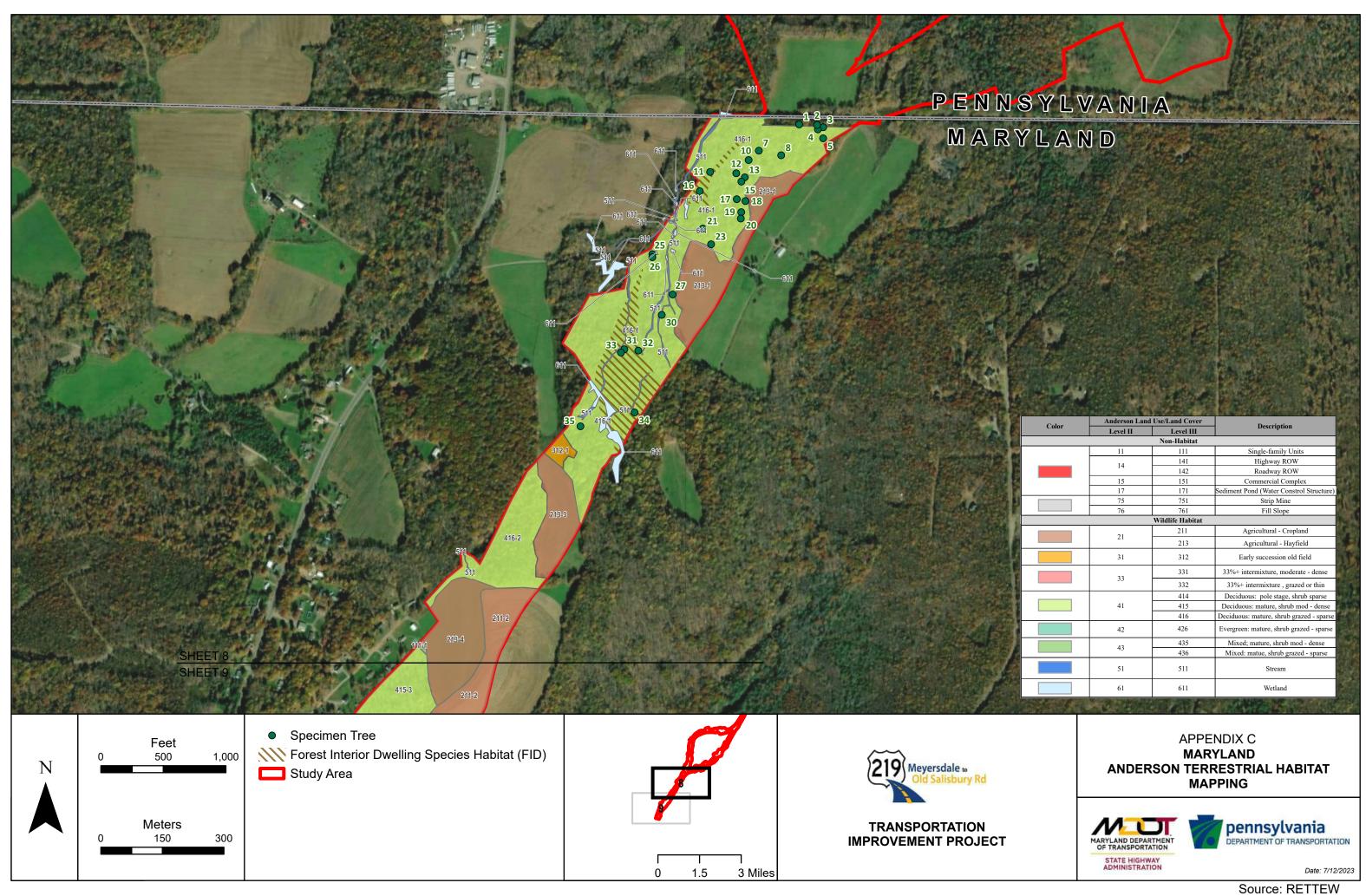
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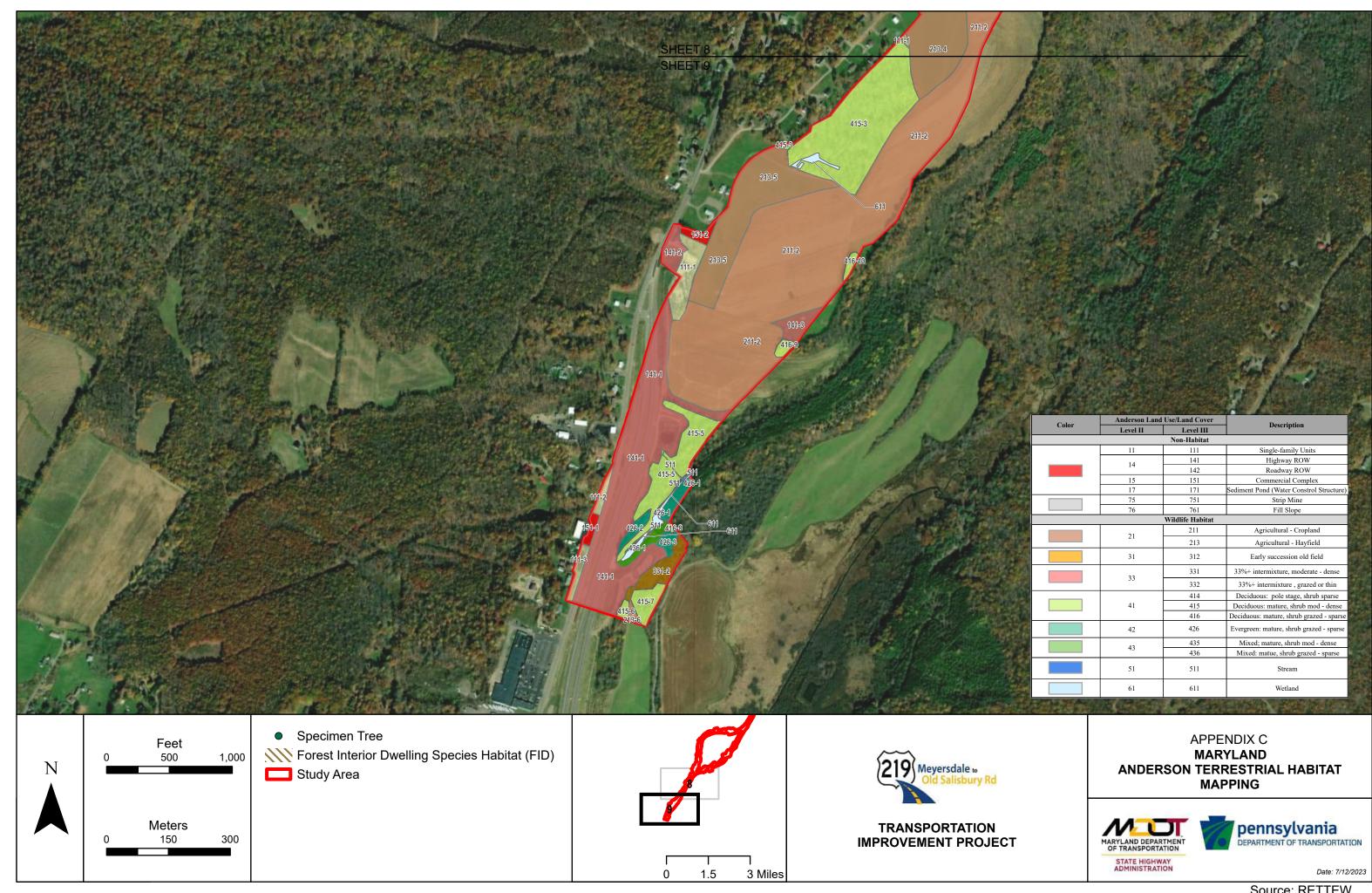


Source: MARKOSKY





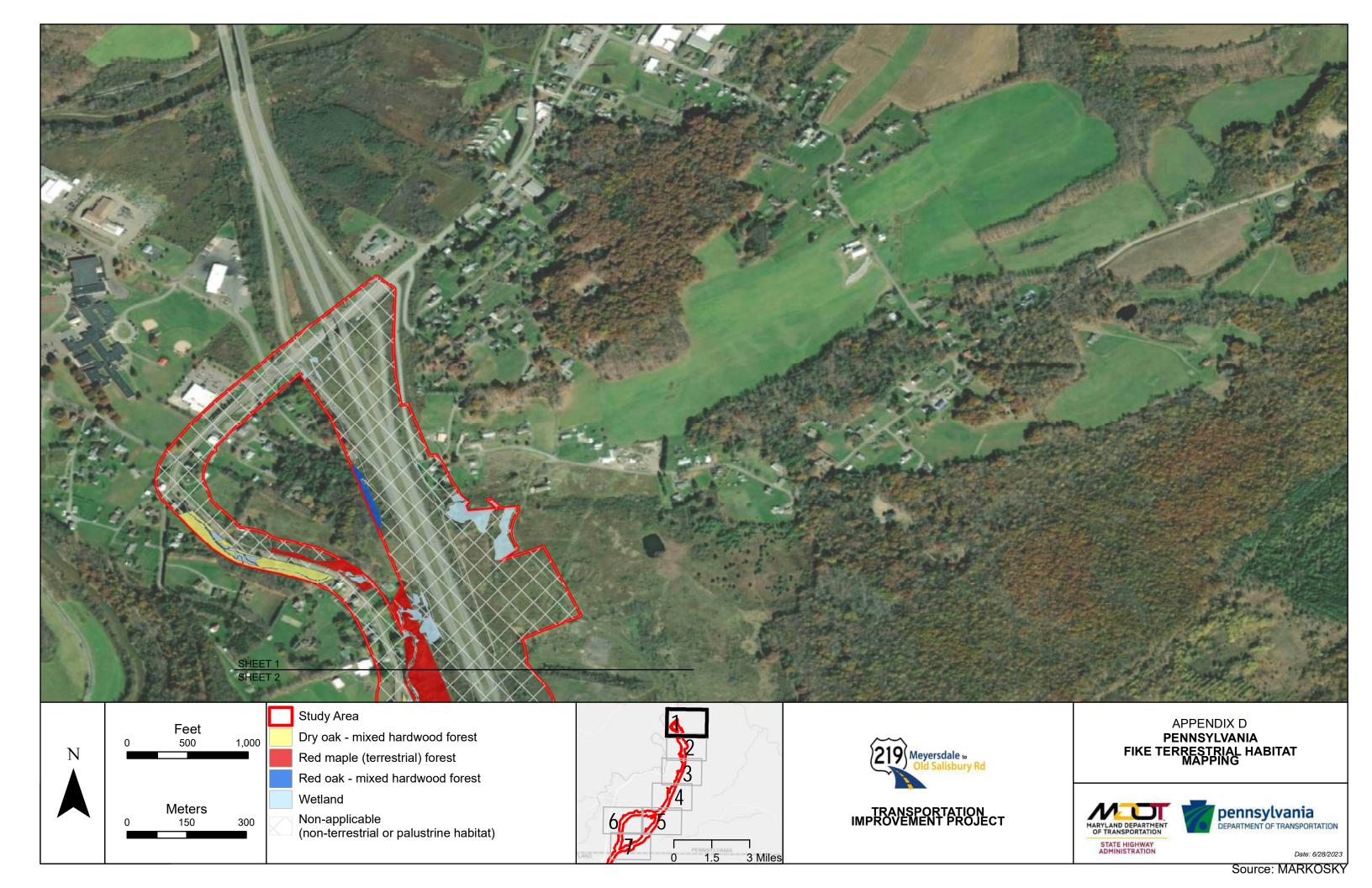


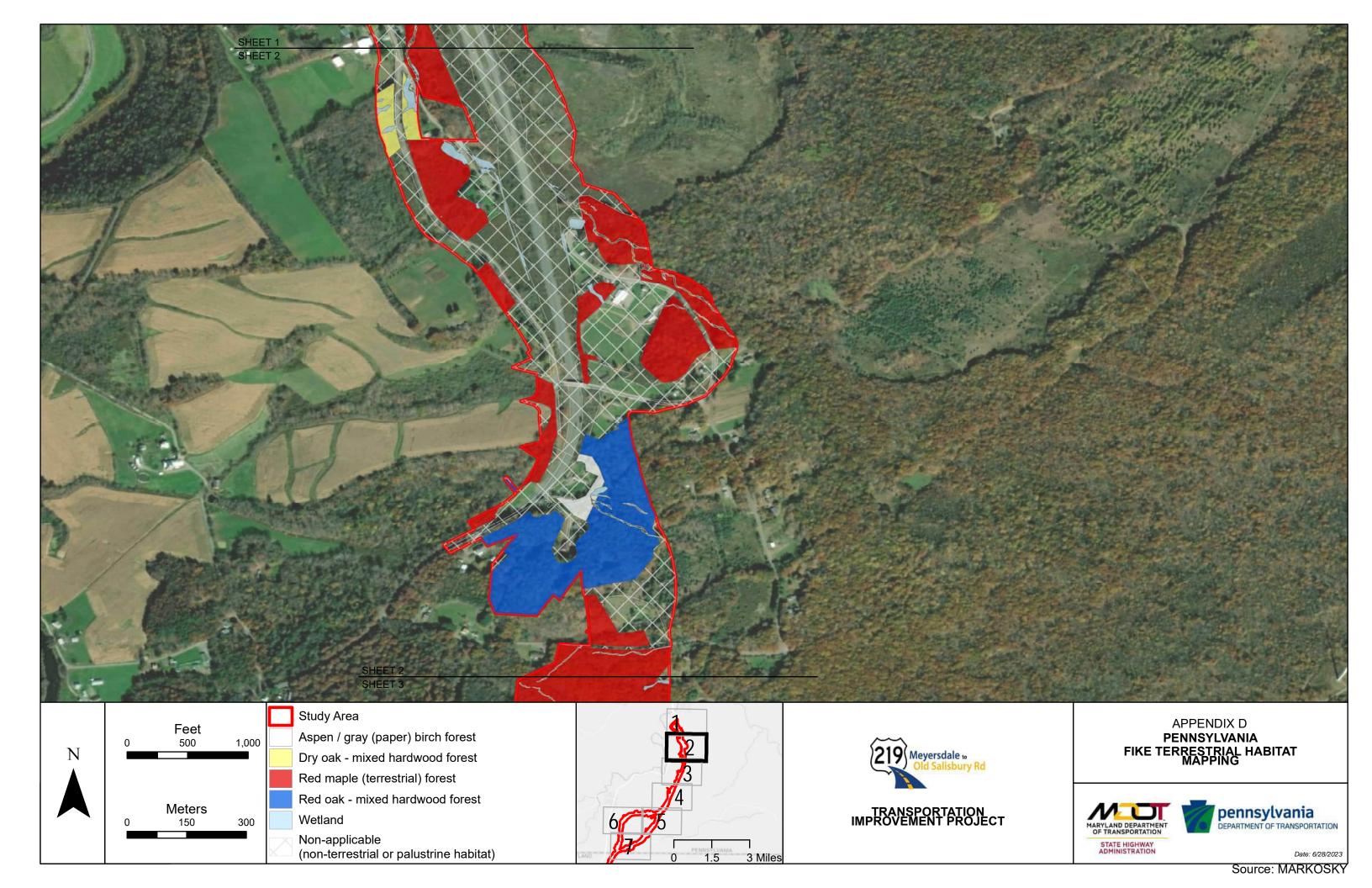


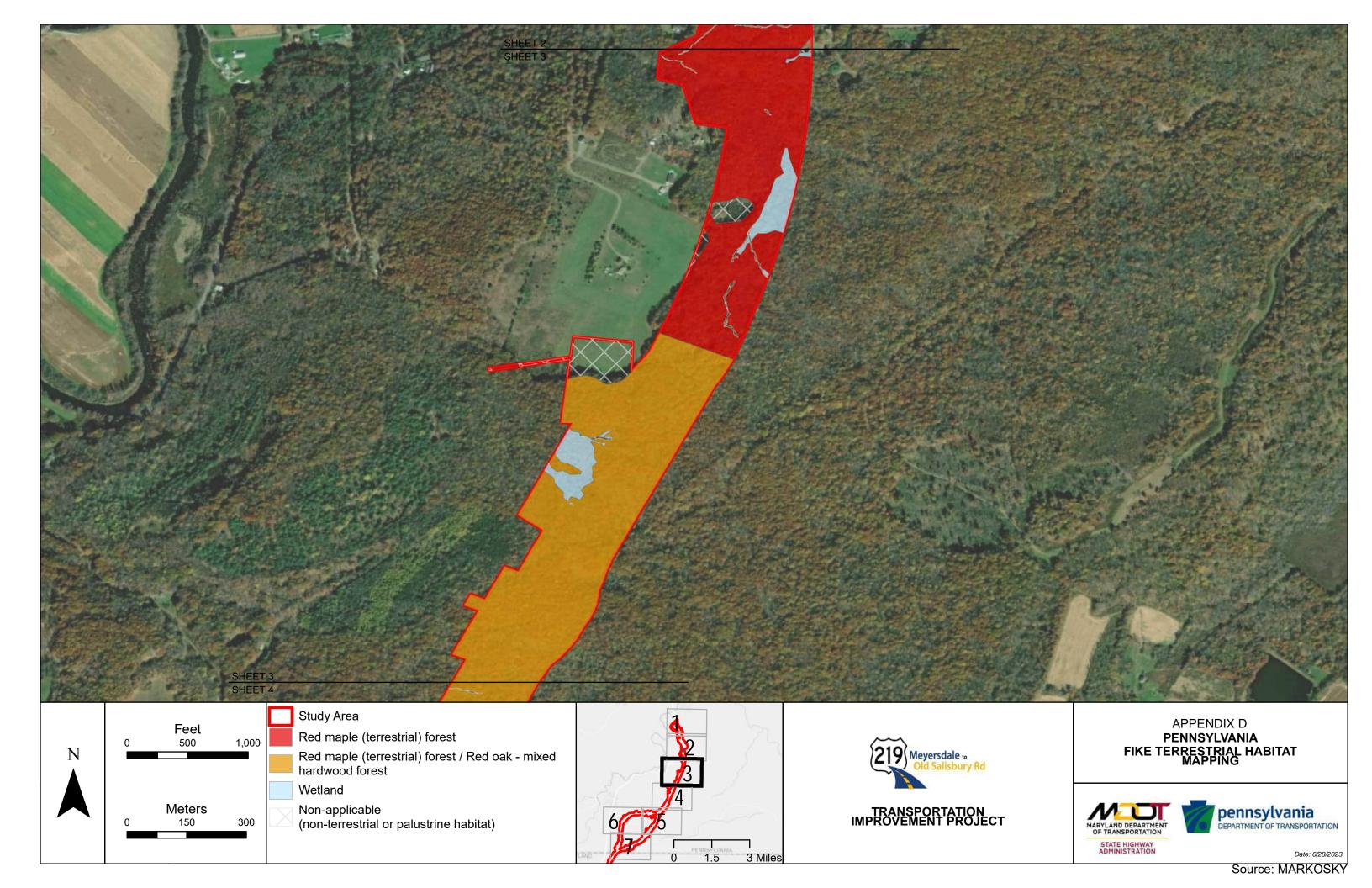
Source: RETTEW

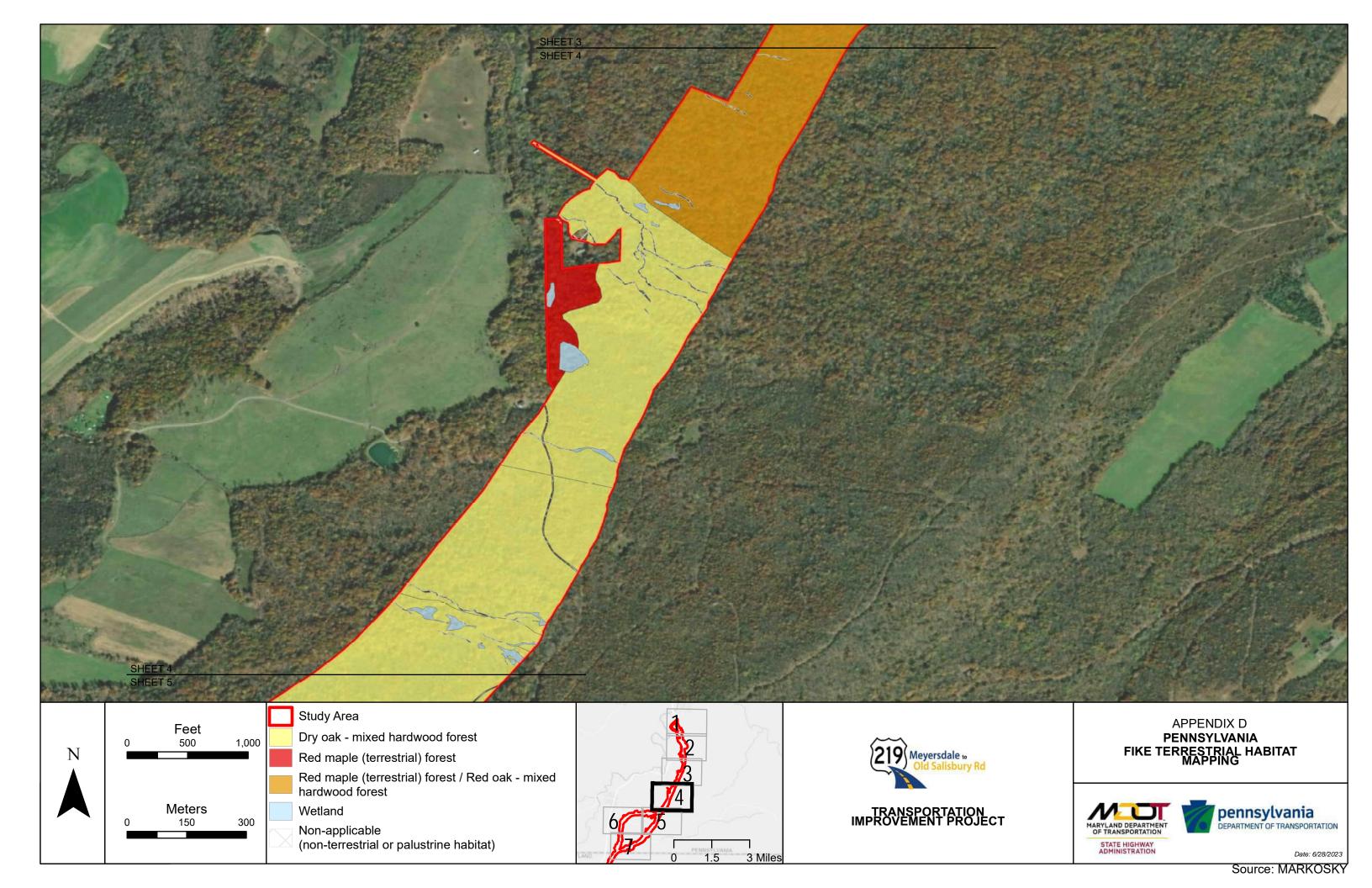


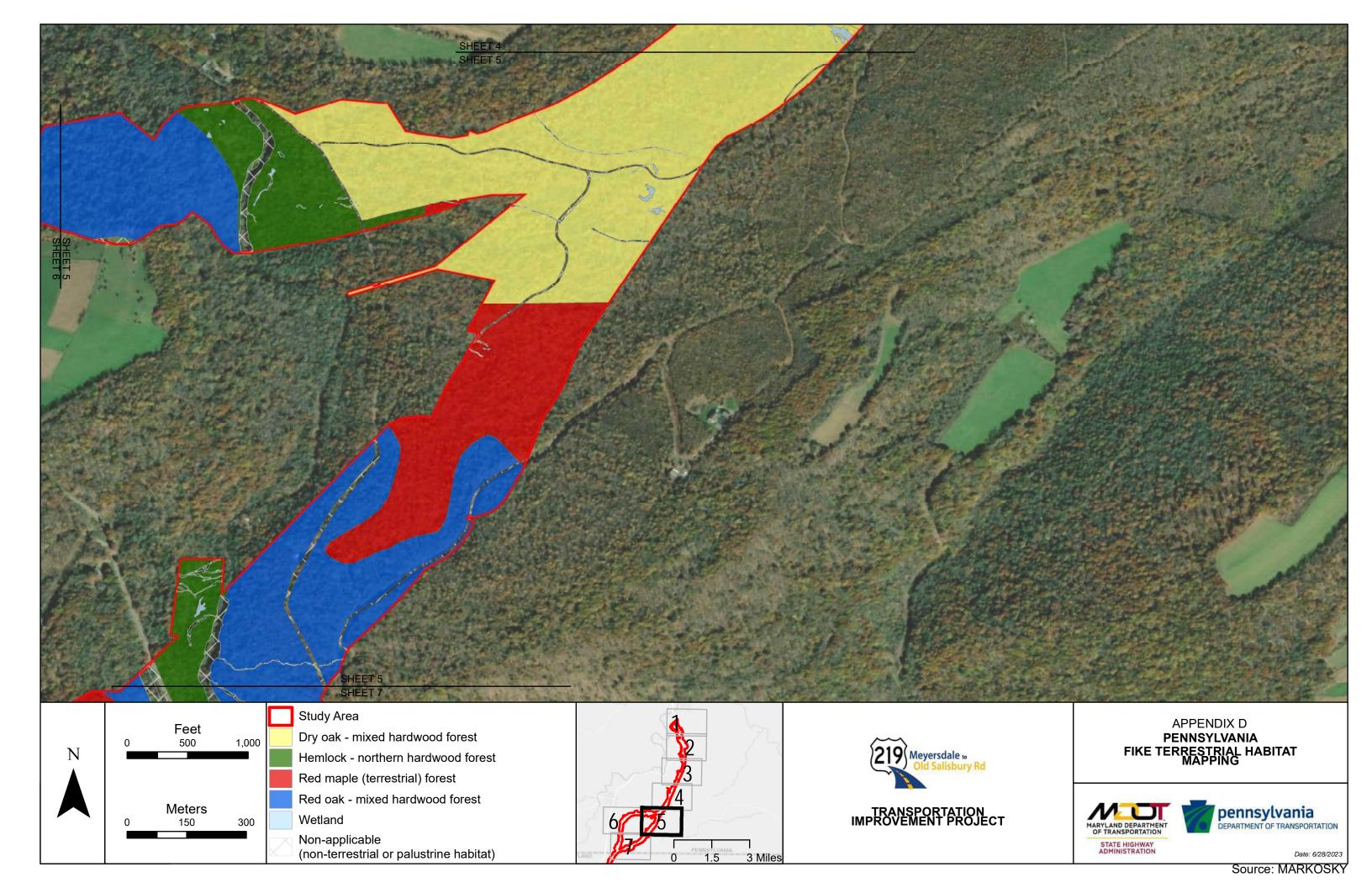
APPENDIX D FIKE TERRESTRIAL HABITAT MAPPING

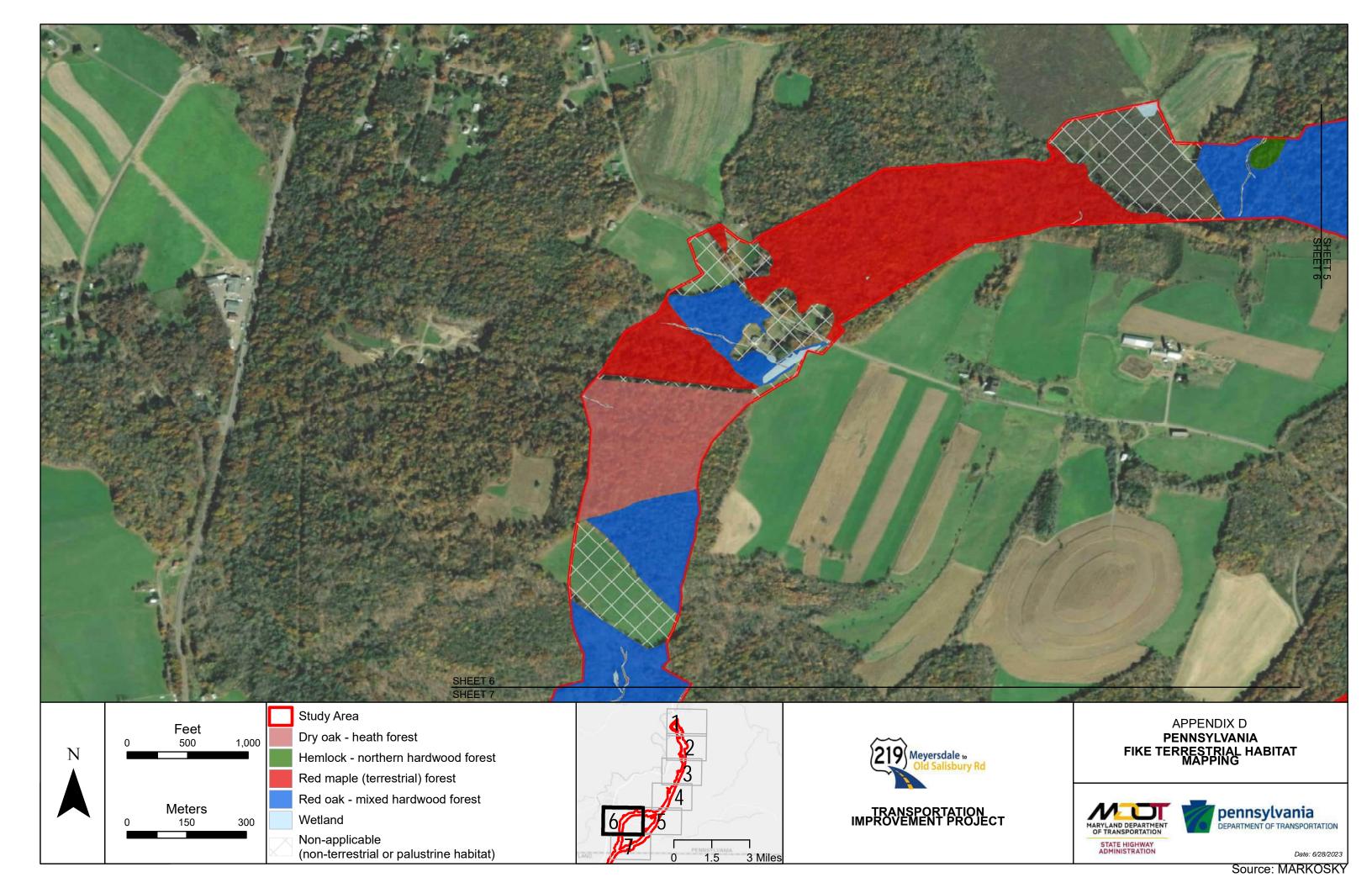


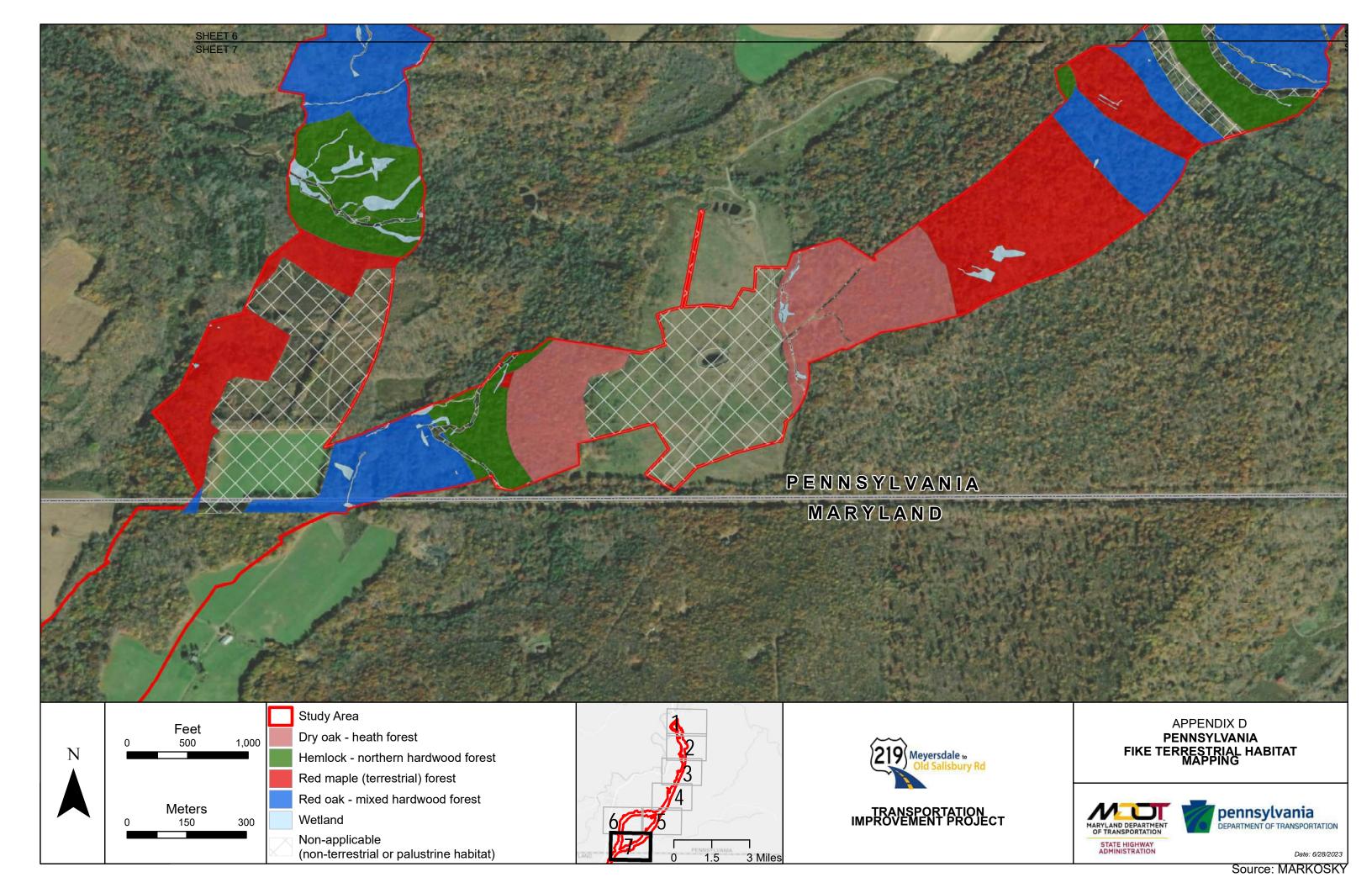






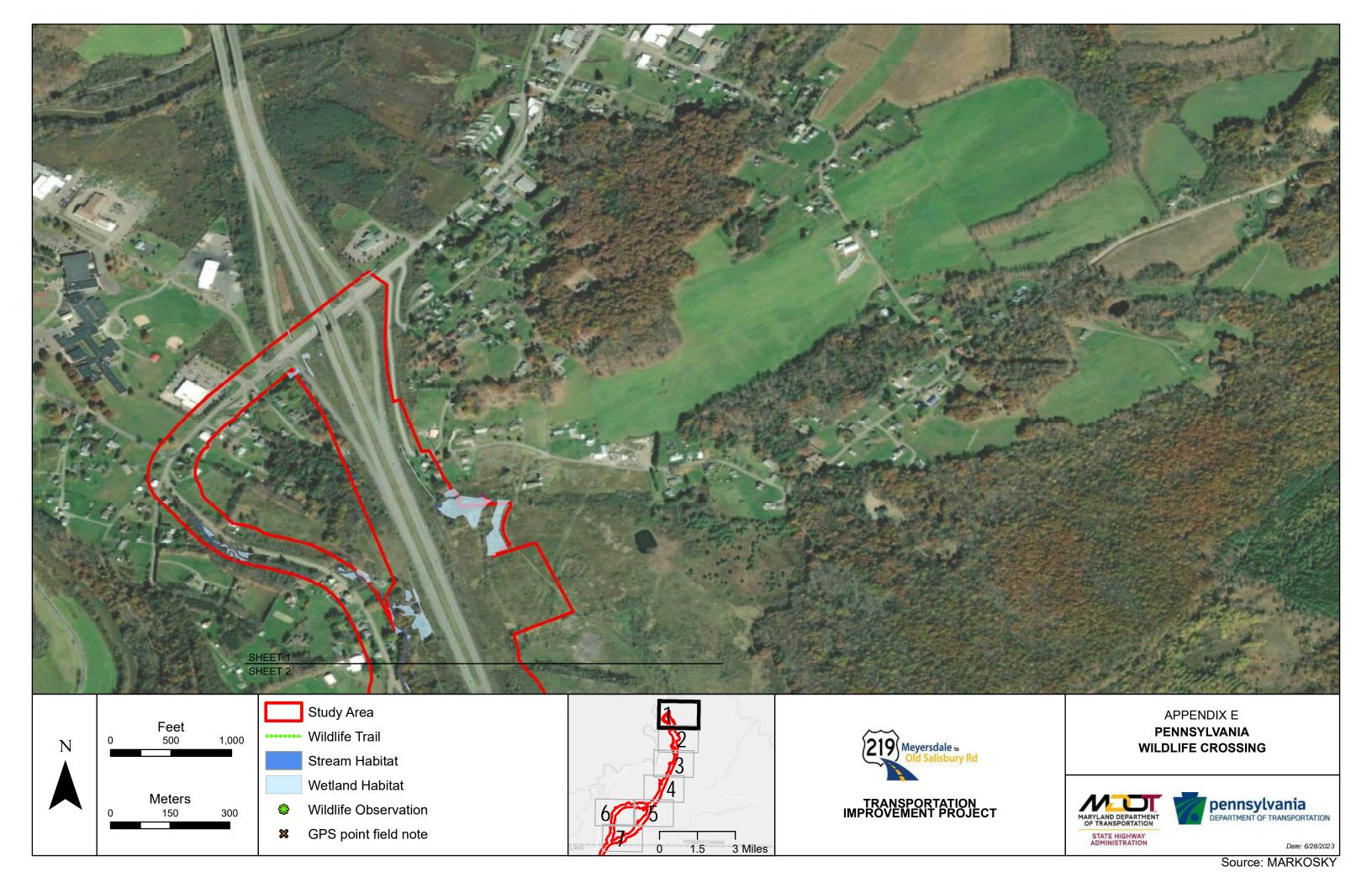


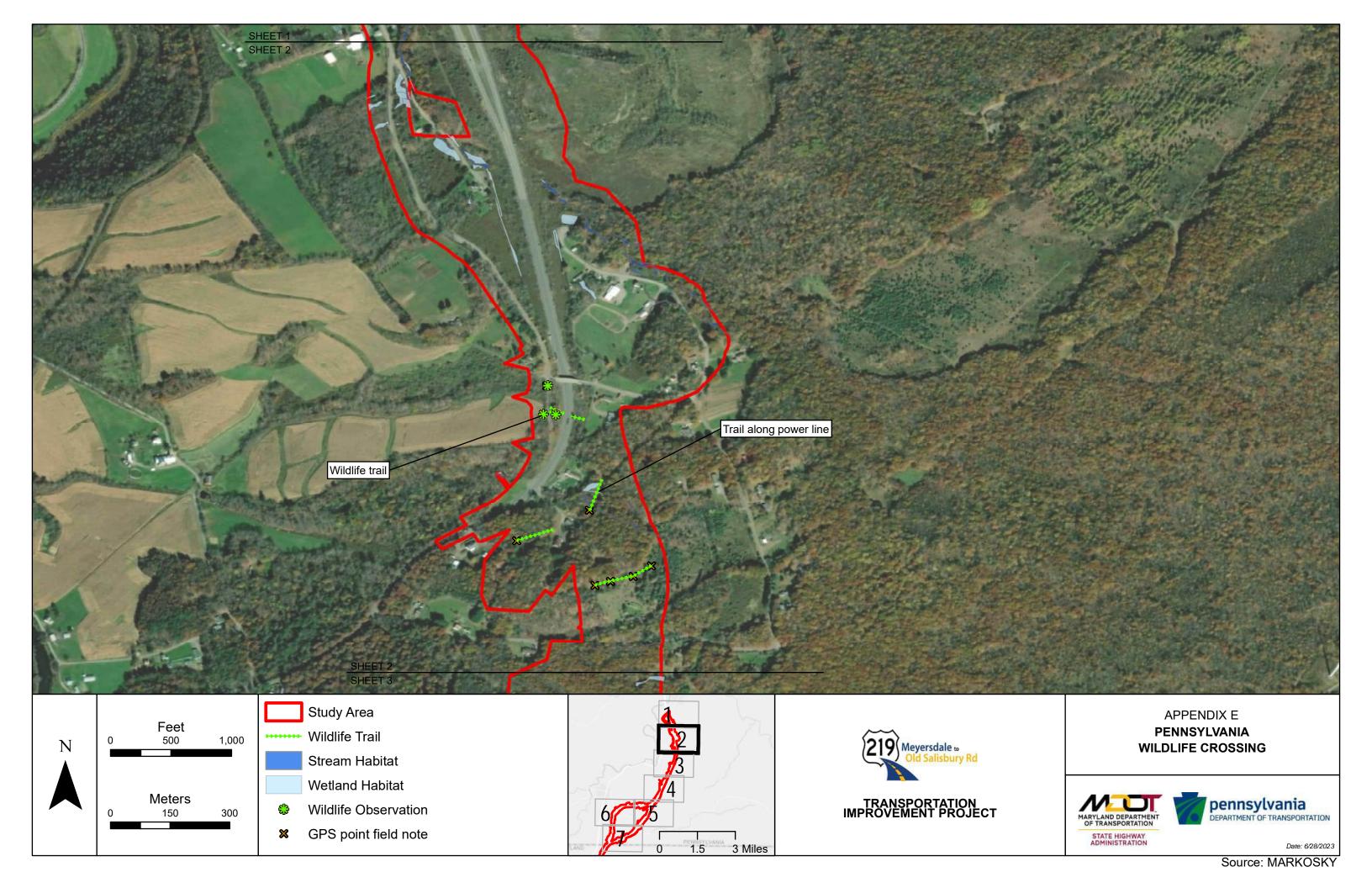


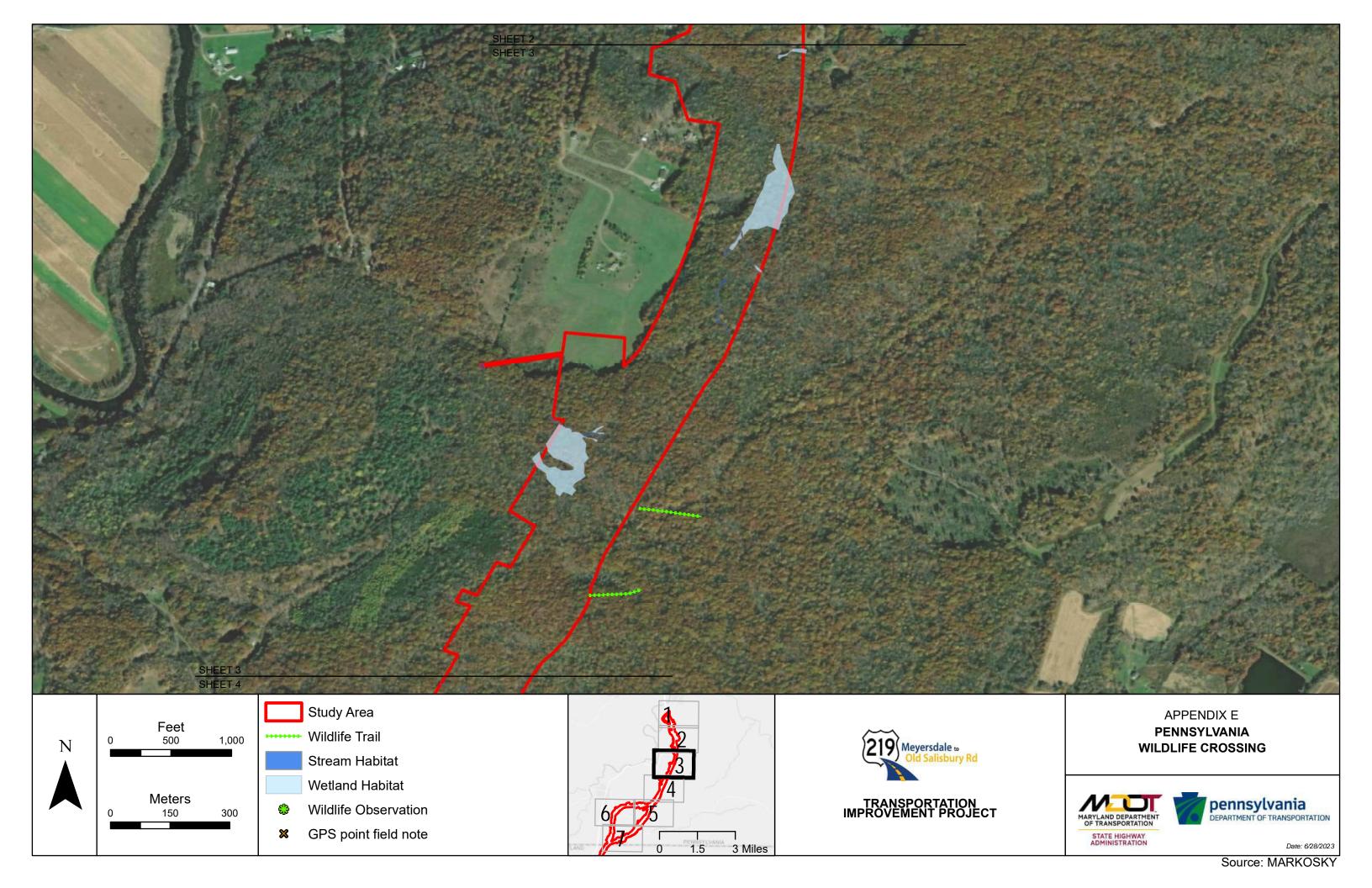


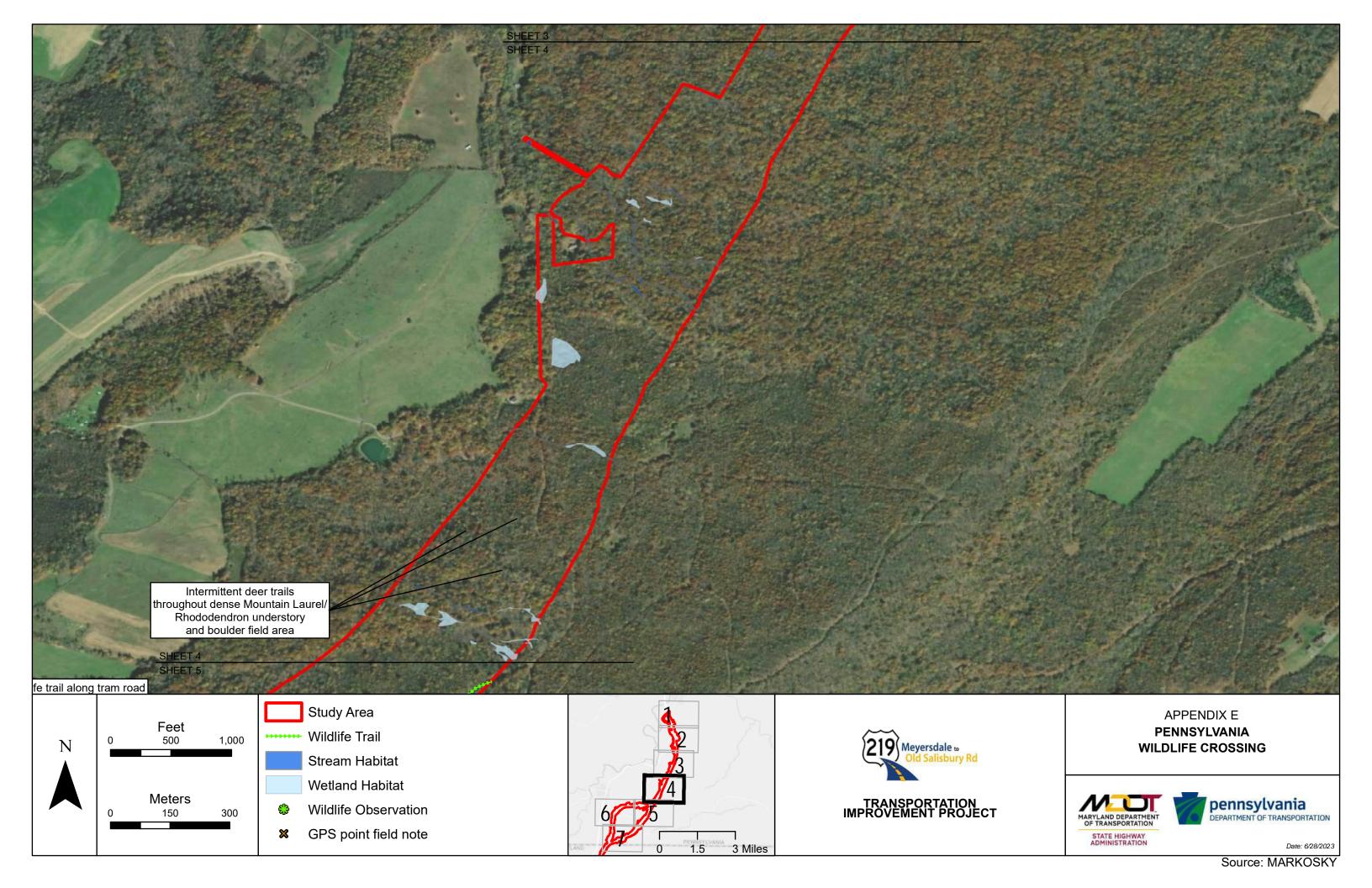


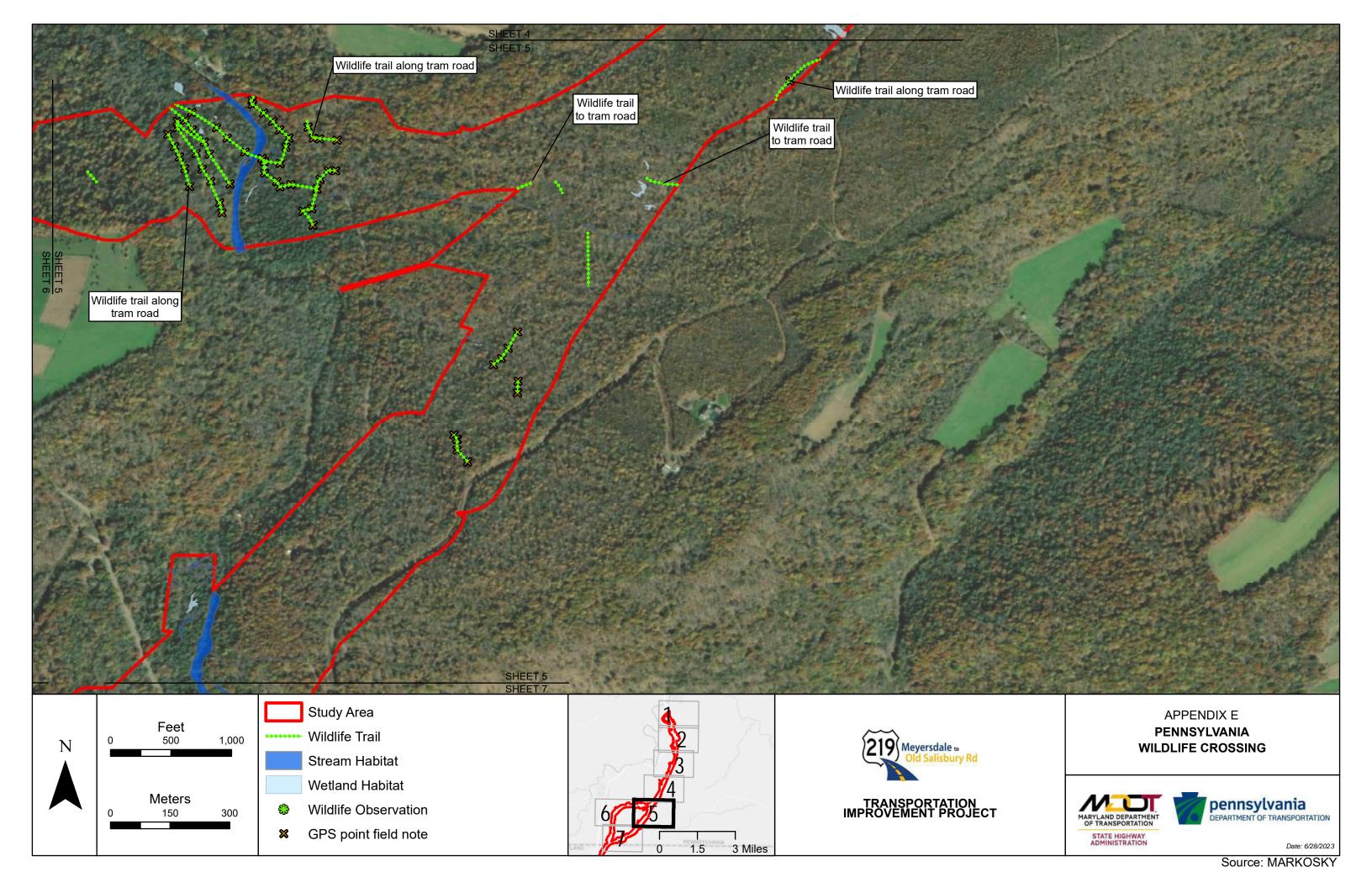
APPENDIX E WILDLIFE CROSSING

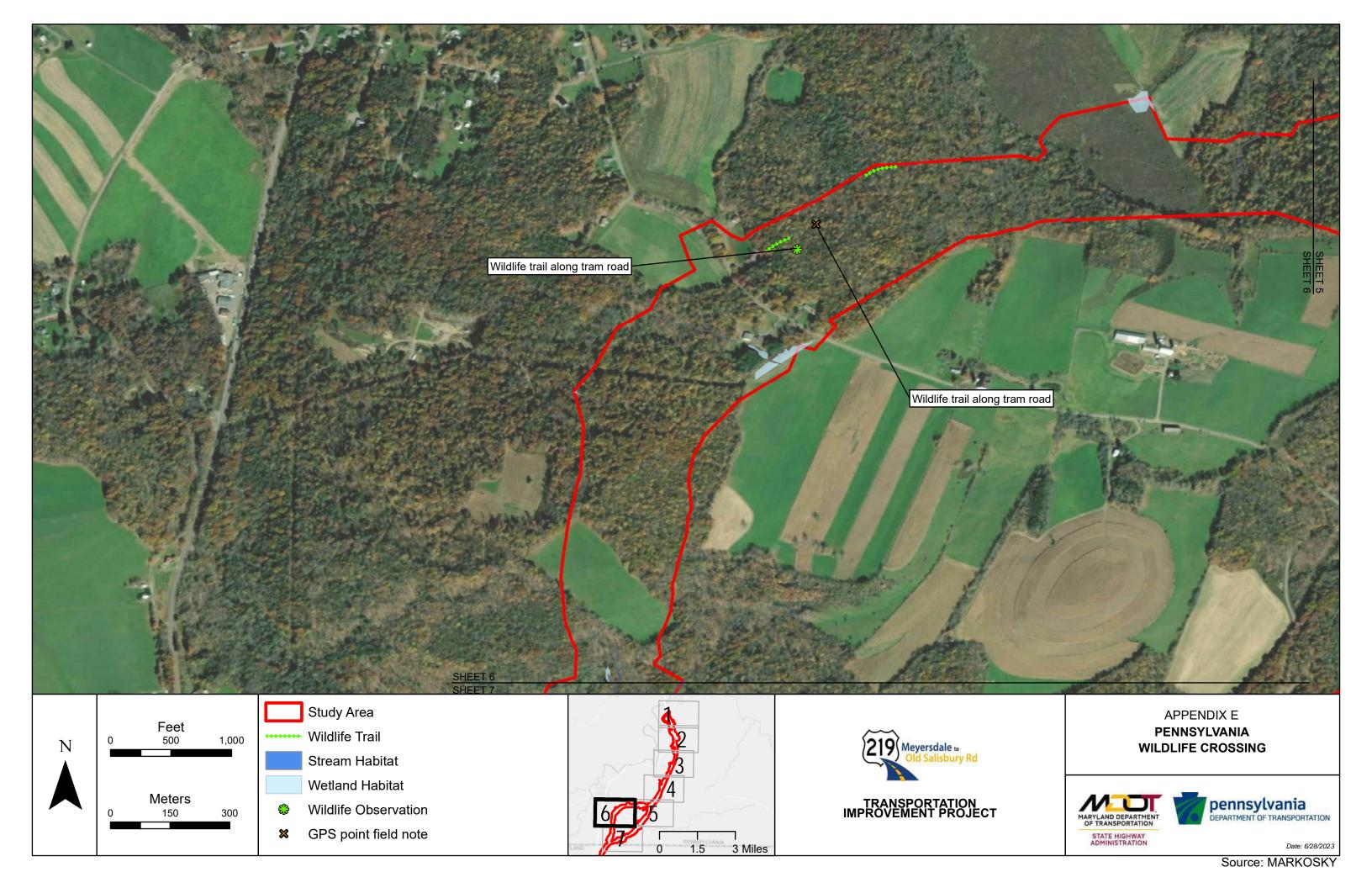


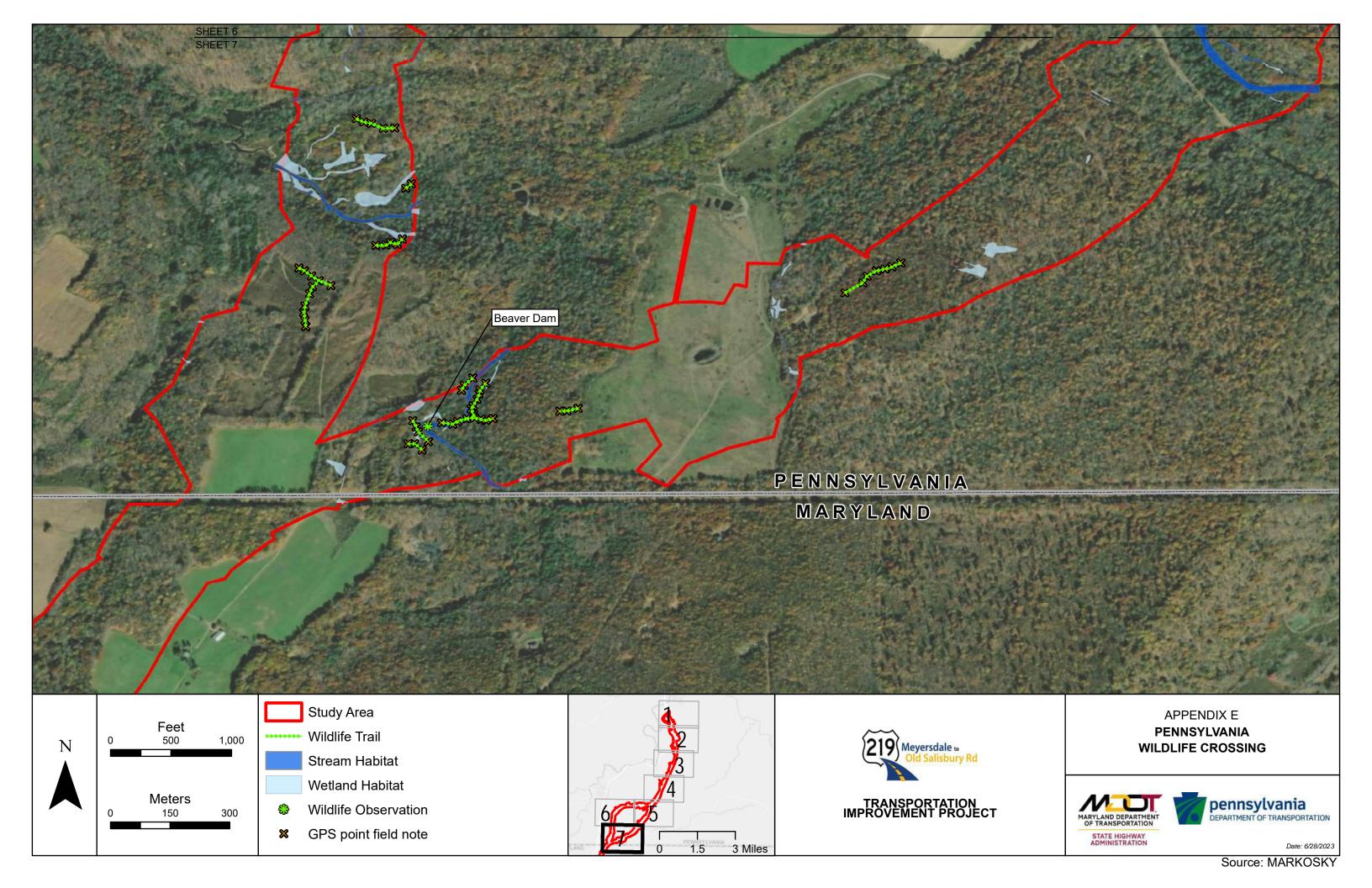














APPENDIX F PHOTOS



Photo 1: Field (no Fike Habitat), Facing west (06.23.2023)



Photo 2: Beaver Dam, Facing east (06.23.2023)





Photo 3: Heavily Used Crossing, Facing east (06.23.2023)



Photo 4: Dry Oak Heath Forest, Facing west (09.15.2022)





Photo 5: Dry Oak Heath Forest, Facing north (09.15.2022)



Photo 6: Red Maple Forest, Facing north (06.23.2023)





Photo 7: No Fike habitat, Facing west (06.23.2023)



Photo 8: Red Oak Mixed Hardwood, Facing north (09.16.2022)





Photo 9: Dry Oak Heath Forest, Facing north (09.16.2022)



Photo 10: Red Maple Terrestrial Forest, Facing north (09.16.2022)





Photo 11: Red Oak Mixed Hardwood Forest, Facing east (09.16.2022)



Photo 12: Red Maple Terrestrial Forest, Facing east (09.16.2022)





Photo 13: Red Oak Mixed Hardwood Habitat, Facing west (09.16.2022)



Photo 14: Red Oak Mixed Hardwood Habitat, Facing east (06.23.2023)





Photo 15: Dry Oak Mixed Hardwood Forest, Facing north (07.20.2022)



Photo 16: Dry Oak Mixed Hardwood Forest, Facing northeast (07.20.2022)





Photo 17: Red Maple/Red Oak Mixed Forest, Facing north (06.09.2022)



Photo 18: Red Maple Forest, Facing north (07.20.2022)





Photo 19: Red Maple Forest, Facing south (07.20.2022)



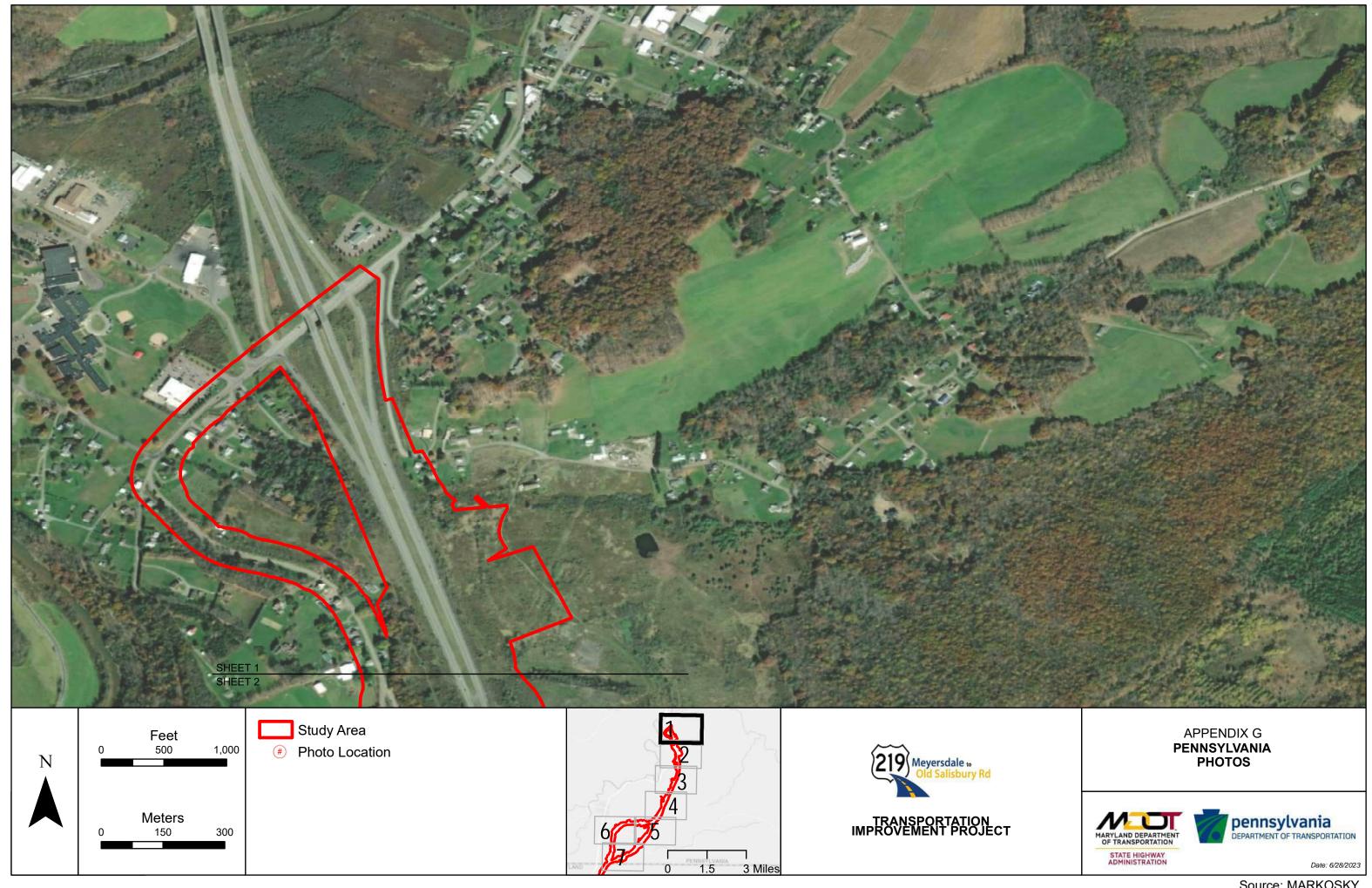
Photo 20: No Fike habitat, Facing north (06.23.2023)

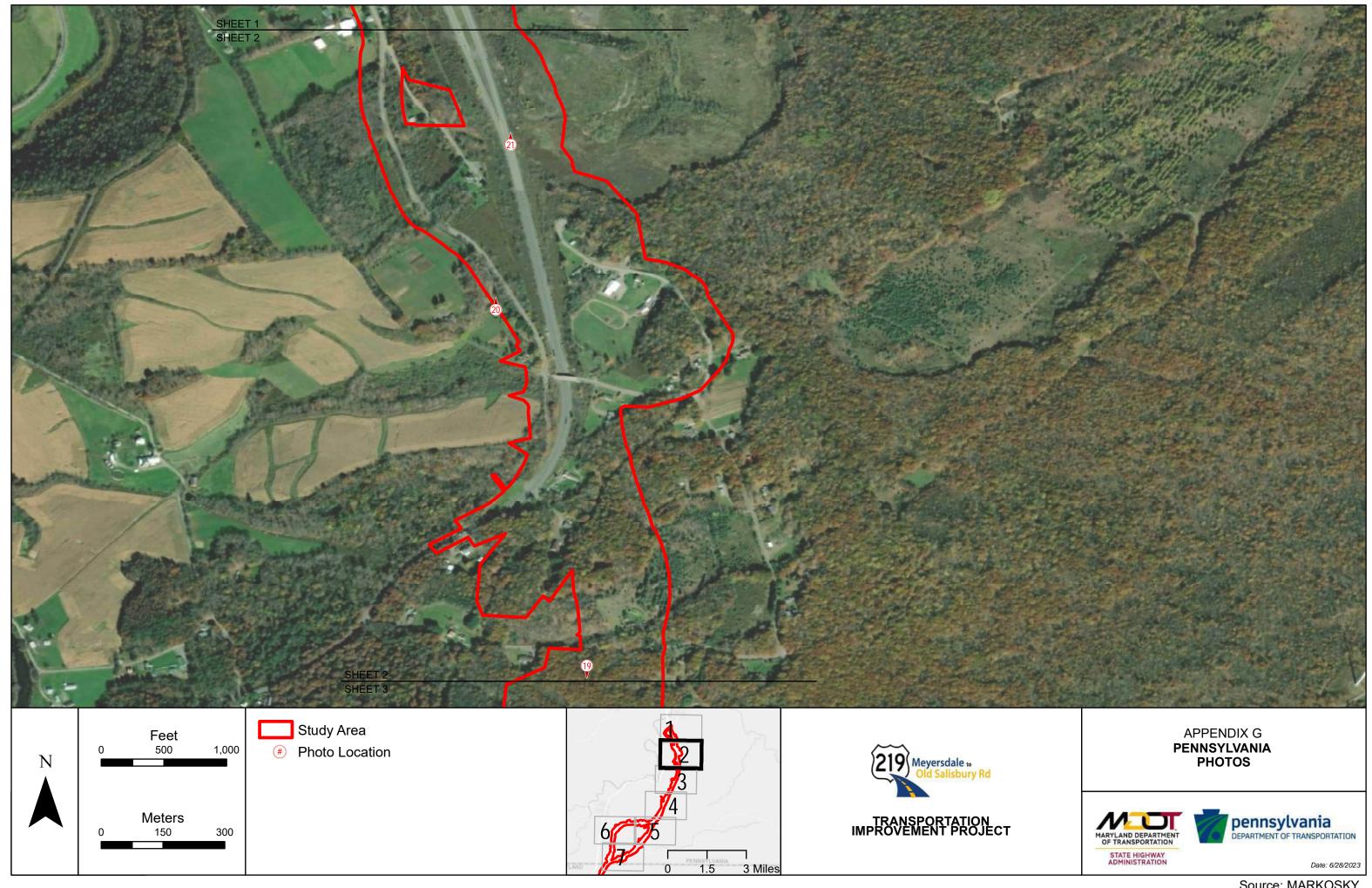


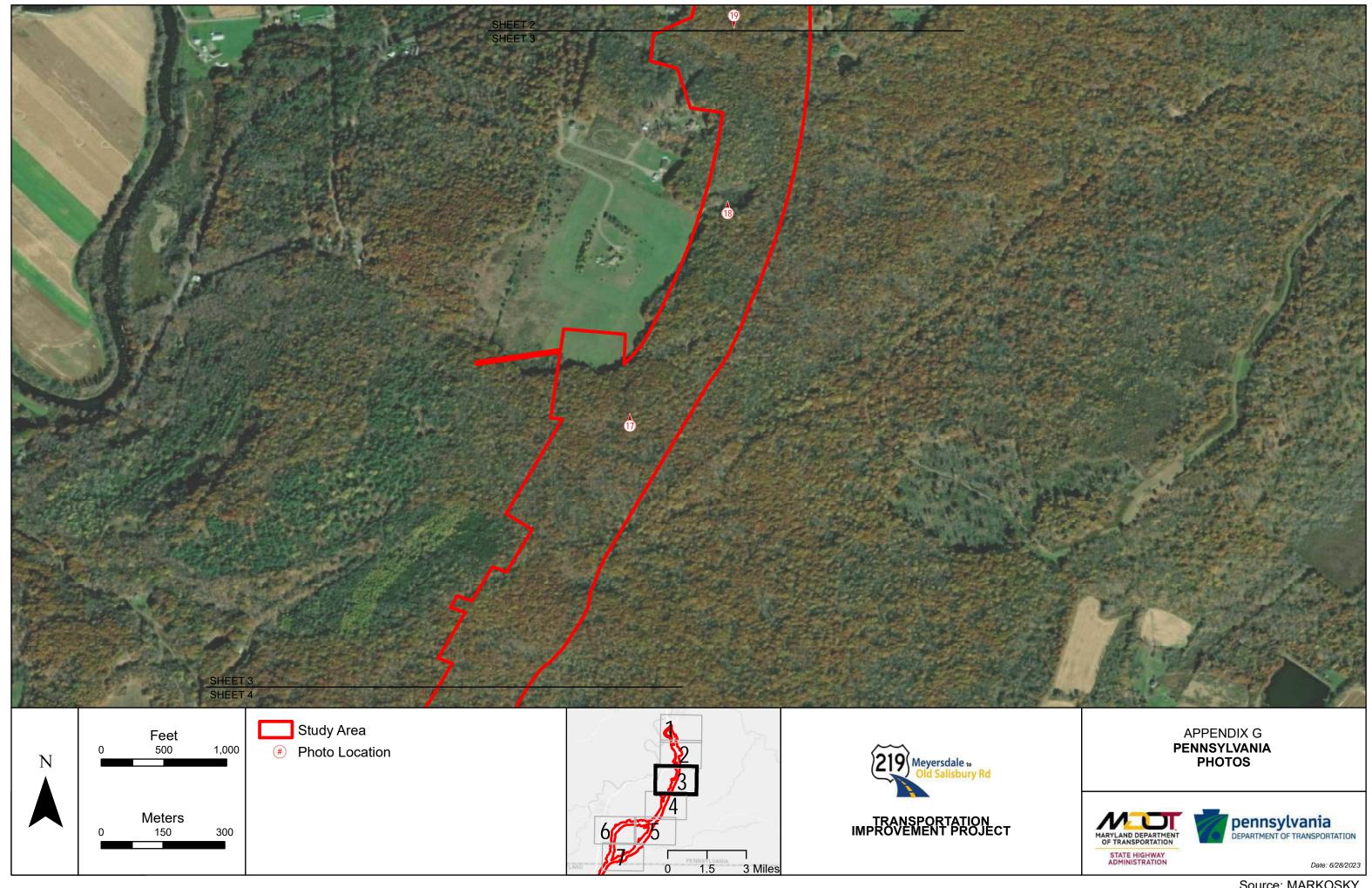


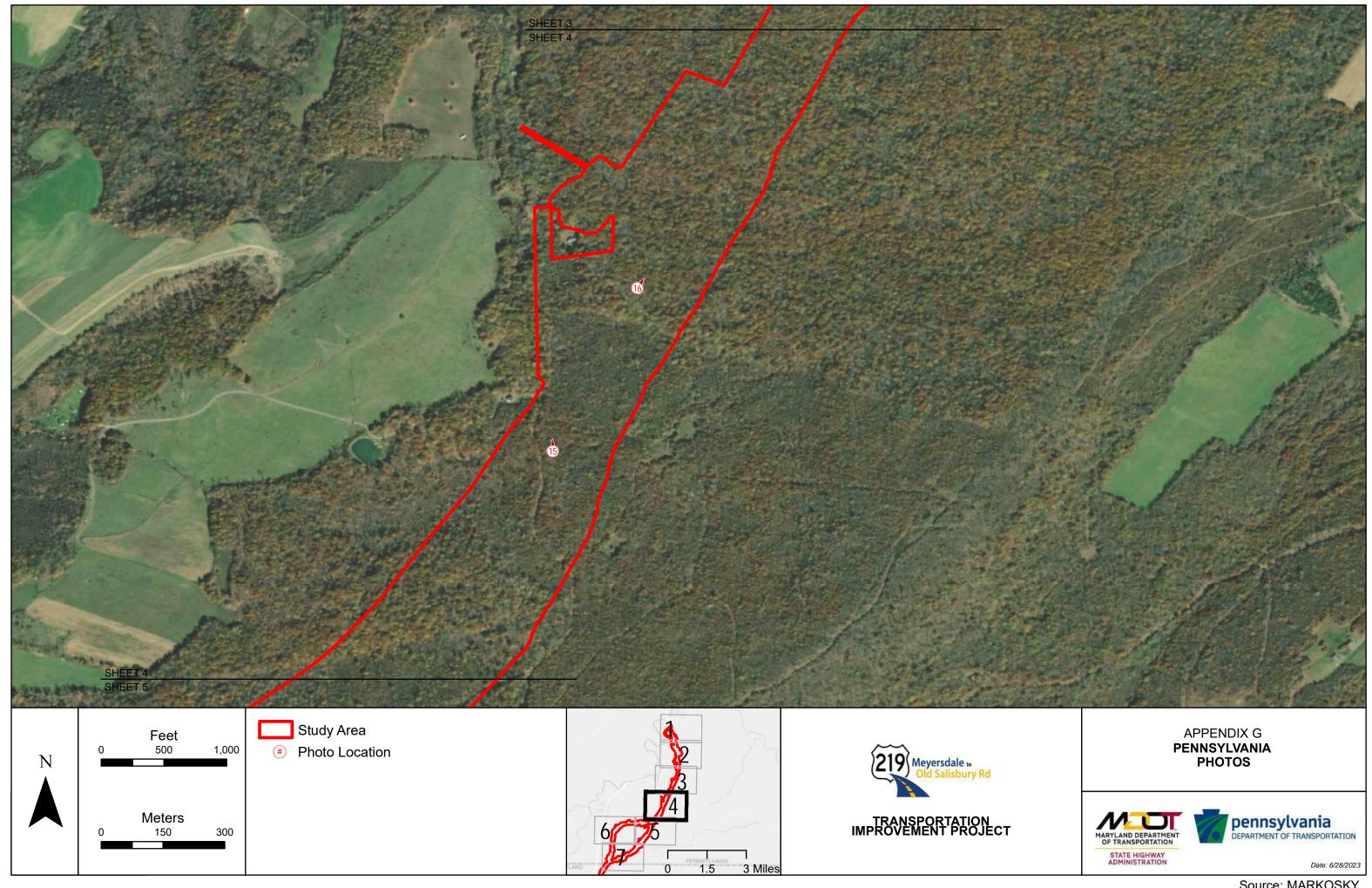
Photo 21: No Fike habitat, Facing north (07.20.2022)

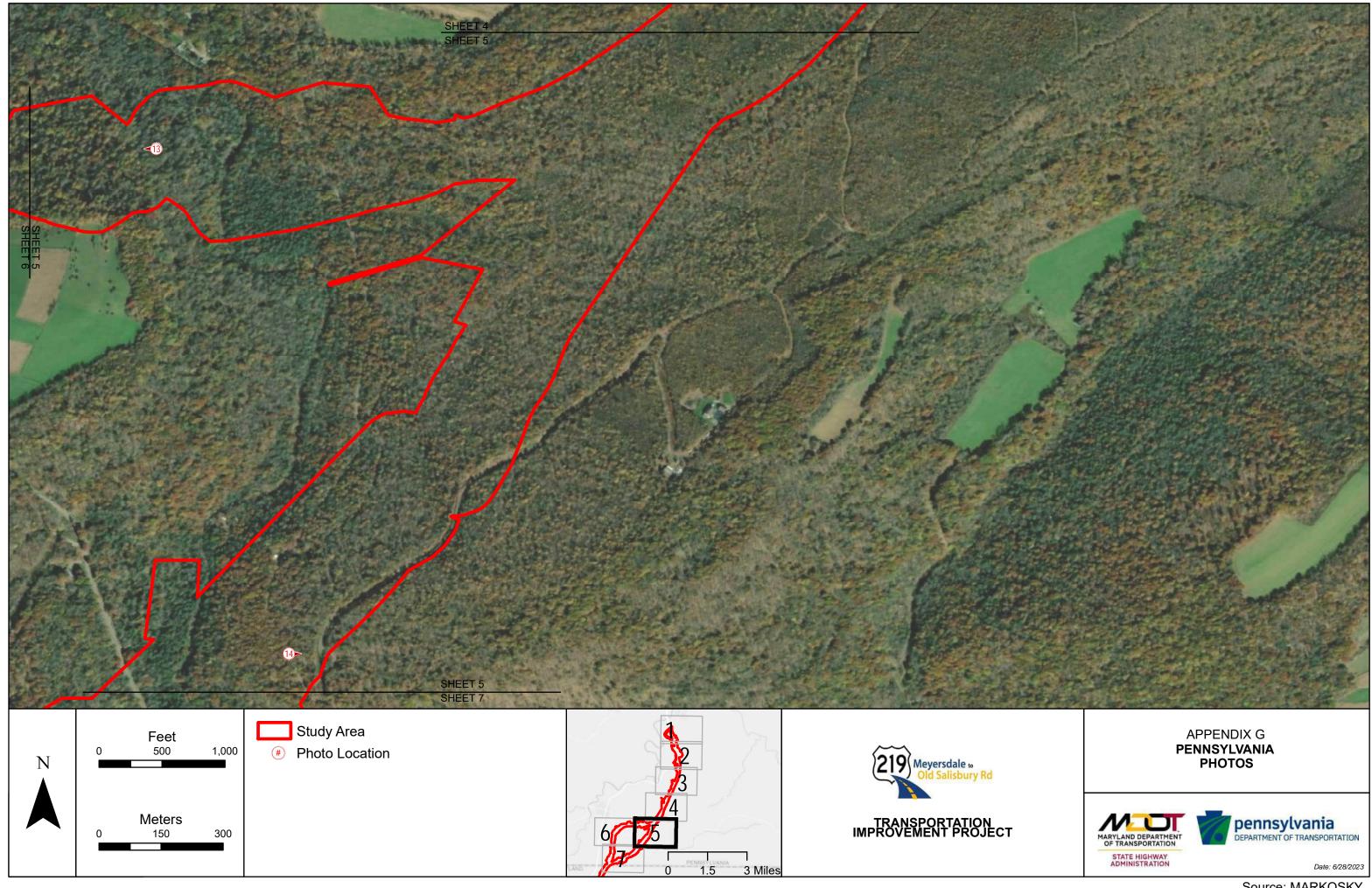


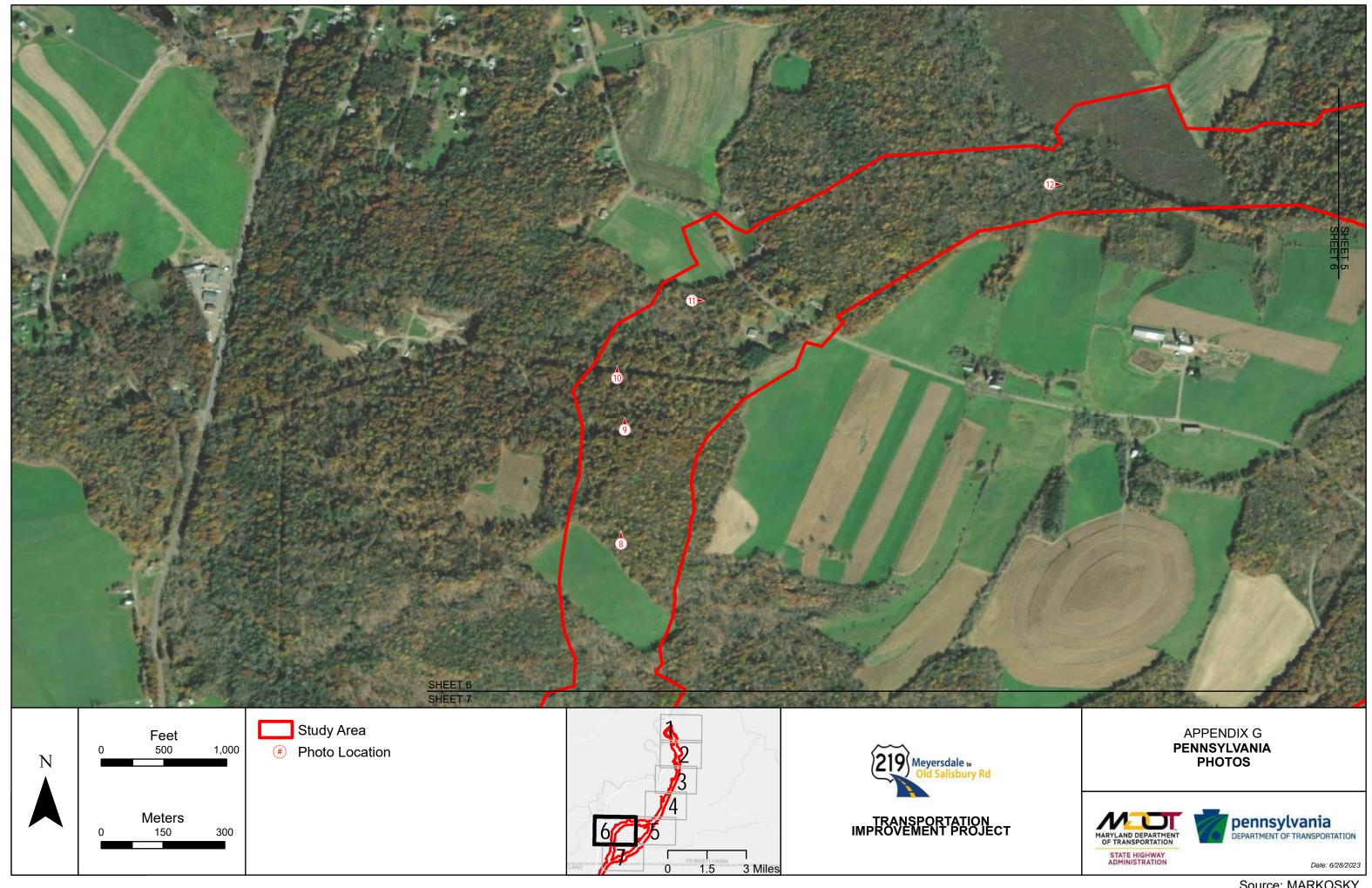


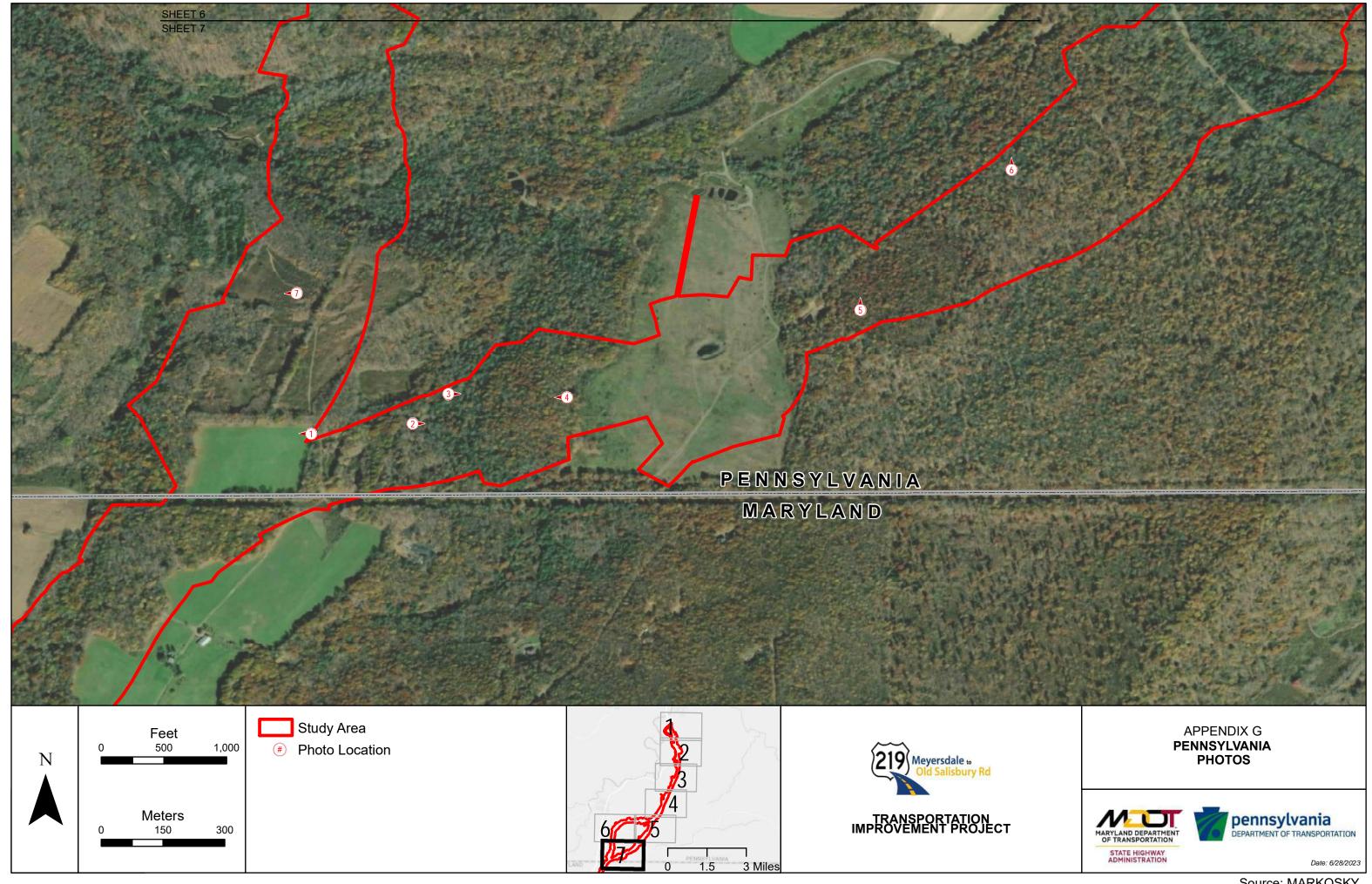














APPENDIX G FIELD DATA SHEETS

Basal Area in sf/acre:				Size	class	of tre	es >	20' he	eight v	vithin	samp	le plot				
Tree Species		of Tre -5.9" d			of Tre			of Tre -19.9"			of Tree			of Tre 30" d		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
Black Cherry							4									+
Red maple		1		١	1											3
Sugar. maple		2		1				,								3
Vellow				1												
in.																
Total Number of Trees per Size Class		3			4	,		4								11
Number & Size of Standing Dead Trees								1				,				1
List of Commo					:		%	of Can	opy Clos	sure		Cover	nt of Inv per Plo		Plot S Stage:	uccessional
Yellow bi	rch,	red	mapl	e		83	N 74	E 76	s 77	w 78	Total 78	Layers): one		earl mid	4-
List of Herbace	eous S	pecles	0'-3':				% Ur	dersto	ry Cove	r 3'-20'		T	И	H		
Hay-scer Canada v	nted.	fern				CO	Sa	EO	S	w	Total					
carabay	nay-	Howe	-1				% of H	erbace	ous Co	ver 0'-3	3'					
						90	NO	95	95	% 5	Total 77					
fern layer except for wooder Sheet of	ack of sor	cher lockume o rea, ume	ry-v subsalong Tree	maple strate wood s ha	le co e, M ls vo ve b	mmu esic l ad th een o	eniti fores at ru girdl	t. Go	pen for	slopi east hout	with my tores fores in the	pograpection led as	phy.	Noi ent May s.	nvasi ire le on-D	+ dense ves, ngth ixon
Forest S							110	1,	-							C:1

Property: 실역 Stand #: 닉	5219	Alte	rnation	18 E	a DU	Plot \$	Prepize:_	oared	By B	MS _i Dat	BJS, e: 9/	EMA 7/22	· _		_	
Basal Area In sf/acre: 70				Size	class	of tre	es >	20' he	eight v	vithin	samp	le plot		_		
Tree Species		of Tre -5.9" d			of Tre			of Tre -19.9"			of Tree			of Tre > 30" d		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
Sugar		7	1	3												11
Hawthorne			1													١
Black			1													١
Total Number of Trees per Size Class		10			3											13
Number & Size of Standing Dead Trees		1														1
List of Common						С	% I	of Can	opy Clos	w	Total	Percer Cover Layers	per Plo	(All	Stage:	ly-
						76	78	82	86	79	80	_			mi	d
List of Herbace				Heavy			T	T	ry Cove		100 B	1	u	14	-	
Violet, graphinger	perr	1) as	, naw iter,	-thoi i	10)	CO	N	E	15	10	Total 6			_		
sensitive	fer	'n					% of H	erbace	ous Co	ver 0'-3	3'					.,
						c ₂	× 5	E	s 5	W	Total 3					
Comments The Mesic are Linuman di plot inclu Sheet of	is s ea v stur udir	ection with band	spar spar spanes	fore se i here e ba	st i und are rber	s ad ersto sovi ry,	jace rya	nd h Nas	o ha erbai	yfie Cnor	slay nein	Evider ers. (plot)	iles in	of lo	oggin ocks nityo	g. f
Forest Sa	amp	ling	Data	Wo	rksl	neet	-									C:1

Property: 네 Stand #: 닉)	5219	Plo	ernati	ve E	a Du	Plot S	Prepize:	ared hoth	By B	MS, E Dat	35, E e: 9/	MA 7/22	_		-	
Basal Area in sf/acre:				Size	class	of tre	es > ;	20' he	eight v	vithin	samp	le plot				
Tree Species		of Tre -5.9" d			of Tre			of Tre -19.9"			of Tree 0-29.9 d			of Tre 30" d		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dam	CoD	Other	
Sugar maple		29	*	3												32
witch hazel		١														1
,																
1. m. J.,		30 3														
Total Number of Trees per Size Class		30 3														33
Number & Size of Standing Dead Trees																
List of Commo					;		% (of Can	opy Clos	sure		Percer Cover Layers	per Plo		Stage:	
witchhaz	el, jo	zpane	se ba	rber	ry*	86	× 85	53	89	w 86	Total 80		30/0		Ear	ı V
List of Herbace	eous S	pecles	0'-3':		1		% Ur	dersto	ry Cove	r 3'-20'		T	u	H		
christmas maple - leat pulpit.	fern f vib	, hau	m, jo	ited f	n-	c 50	40	E 20	s 15	W 15	Total 20		3			
Paipin.								erbace	ous Co	ver 0'-3	3'				<u> </u>	
						c 50	N 10	E 50	s 30	W	Total 30					
Comments * area adja multiflora (extensive) Sheet_of_	vose) In s	lot a	prese	ent t	hrone hrone	is M ghout	esic thi	s ar	eais	a 5	ugar	bush.	- col			
Forest S	amp	ling	Data	. Wo	rksl	neet										C:1

Property: U.s Stand #: 41	5 219	Plo	ernati	Ve E	a Du	Plot S	Prepize:	oared / ₁₅ +h	By Br	MS, E	355 <u> </u>	EMA /7/2:	2_		-	
Basal Area in sf/acre:				Size	class	of tre	es >	20' h	eight v	vithin	samp	le plot				
Tree Species		of Tre -5.9" d			of Tre			of Tre -19.9"			of Tree		115	of Tre 30" d		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
sugar		2		2			1									5
Witch hazel		2														2
Mockernut hickory							/									1
4.																
Total Number of Trees per Size Class		4			2			2								8
Number & Size of Standing Dead Trees															1	
List of Common	n Unde h, ha	ustory wtho	Species	3'-20'	ry		%	of Can	opy Clos	sure	,	Percer Cover Layers	per Plo		Stane:	uccessional y - mid.
						69	N 72	64	5 72	w 7/	Total 70		1%			
List of Herbace	ous Sp	ecles	0'-3':	caral			% Ur	dersto	ry Cove	r 3'-20'		T	u	H	-	T
christmas hayscentee	1 fei	in, h	ge, gi	lova	rose	Co	NO	40	20	10	Total	0	0	1		
white woo	das	ter					% of H	erbace	ous Co	ver 0'-3	3'					
						c 15	N 30	E 30	s 45	W 30	Total 26					
comments Fa and moder some mul-					oale paceo	r-hic ousla	Kory yer,	Gen:	mun Hysk	ity.	Roale	y wit	h 50	me u esic	anders area	tory, with
Sheet of	#=	In√	asiv	Ε.				i	E .							
Forest Sa	amp	ling	Data	Wo	rksh	neet										C:1

Property: US Stand #: 4/	5 219	Plo	ernal	IVE E	Q + D	૫ Plot S	Prep ize:_	ared Yio +h	By B	MS, Dat	втз _, е:_9,	17/22			-	
Basal Area In sf/acre:				Size	class	of tre	es > :	20' he	eight w	vithin	samp	le plot				
Tree Species		of Tre -5.9" d			of Tre			of Tre -19.9"			of Tree			of Tre > 30" d		Total
Crown Pasition	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dam	CoD	Other	
maple	25			2												27
Black				1												1
Mockernut hickory	4		1													5
Yellow Birch	4 1 2															7
Basswood				2											-	2
Total Number of Trees per Size Class	36 6														42	
Number & Size of Standing Dead Trees																
List of Common							% (of Cano	opy Clos	sure			nt of Inv per Plo		Stage:	
grape, wi			k.		.10	c 77	N 73	E 77	s 77	w 69	Total 75	D			Ear	14-
List of Herbace				-			% Un	dersto	ry Cove	3'-20'		T	u	H		Т
Hay-scent fern, woo	ed f	rem	chri	stma	S	80	N 75	80	S 60	W	Total					
viburnum	y gn	und i	Map.	JE-166					ous Co	ver 0'-3	3"					
			4			c b	N 30		s 20	w	Total 34					
Comments Pa	rt of	F Su Disti	gar h with	napli	ng a	reals. De	(suga	sapi	ish),	your	y blow	elecher xt to	stre	suga eam	· Grac	le dually
Forest Sa	amp	ling	Data	ı Wo	rksh	neet				-						C:1

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Property: <u>US</u> Stand #: <u>41</u>	5 219	A 14	ernati ot#:_	ve E	4 D	L Plot S	Prepize:_	ared loth a	By B	MS, E Dat	3J5, 4 e:9,	EMA 17/22			-	
Basal Area In sf/acre:						of tre										
Tree Species		of Tre			of Tre			of Tre -19.9"			of Tree			of Tre > 30" d		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
Black locust				2			1									3
sugar maple	8			1												9
Green				1												1
RED maple																
Black		8 6 1														
Total Number of Trees per Size Class																15
Number & Size of Standing Dead Trees		1)			3											
List of Common	Unde	erstory	Species	s 3'-20'	;		%	of Can	opy Clos	sure		Percer	per Plo	t (All	Plot S Stage:	uccessional
sugar ma	ple,	japo			erry	C 64	N 70	E 73	5	w 72	Total 69	Layers): 10	0/0	ear mi	ly-
List of Herbace							% Ur	dersto	ry Cove	r 3'-20'		T	u	Н		
Sedge, h				ern,		20	N ID	E 15	s 10	w	Total		10	0		
219 2009	gold	enro	d				1		eous Co	ver 0'-3						
						c 75	N 60	E 60	s 60	w 75	Total 66					
comments fr winds the on them. Sheet of u	Mos	tof	the a.		sta	rea re m	nex	+ to	pone	d an	d we					
Forest Sa	amp	ling		20.0												C:1

Property: US Stand #: 4/				-						- 1.2		le plot				
Basal Area In sf/acre: LpD				3126	Cidos	01 116	03 -	20 110	orgine v	vicinii	Jamp	io pioi				
Tree Species		of Tre -5.9" d			of Tre -11.9" (of Tre -19.9"			of Tree			of Tre 30" d		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	C ₀ D	Other	Dom	ÇoD	Other	Dam	CoD	Other	
sugar maple	9						2									11
Mockernut				1												/
Black cherry		1	4	1												2
**																
Total Number of Trees per Size Class		10			2			a								14
Number & Size of Standing Dead Trees		5			1							,				6
List of Commo				s 3'-20'	;		%	of Can	opy Clos	sure		Cover	nt of Inv per Plo		Stage:	
sugar ma	ue,	grape				c 70	N 73	E 3	s 76	w 78	Total 76	Layers	60/s		ear	1
List of Herbace	ous S	pecies	0'-3':				% Ur	dersto	ry Cove	r 3'-20'		T	и	Н	1	
wood nettl hayscente	1 fer	n, k	lue c	ohos	ih,	c/	25	E 0	s 15	w 10	Total					
violet, so	dge,	chr	stmo	as fer	n		% of H	erbace	ous Co	ver 0'-3	3'		_			
sweet cia	ely,	but fflo	not s	sure.		c 5	30	£ 35	s 20	W 30	Total 24			L		
Comments R herbaceo	nh.	mesi	c ari	ea w	ith g	gradu ple-	al to	pogr	aphy	. Fai	irly of	pen a idy	ith	diver.	se, de	nsei
Sheet _ of		_														
Forest S	amp	ling	Data	a Wo	rksl	neet										C:1

Property: <u>US</u> Stand #: <u>41</u> -	219	Alte	rnati	Ve E B	- DU	Plot S	Prepize:	pared 10 th a	Ву <u>6</u>	Dat	855, 8 te:9	EMA /7/20				
Basal Area in sf/acre:				Size	class	of tre	es >	20' h	eight v	vithin	samp	le plot				
Tree Species		of Tre -5.9" d			of Tre -11.9" o			of Tre -19.9"			of Tree			of Tre > 30" d		Total
Crown Pasition	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
Sugar maple		4		6			2									12
Basswood		1					3			/						5
Green. ash												1	1			1
Total Number of Trees per Size Class		5			6			5			2					18
Number & Size of Standing Dead Trees		2						2								4
List of Common		erstory	Species	3'-20'	:		%	of Can	opy Clo	sure	,		nt of Inv per Plo s):		Plot S Stage:)
						80	N 75	65	s	68 68	Total 69)	00/0		11110	
List of Herbace	ous Sp	pecies	0'-3':				% Ur	dersto	ry Cove	r 3'-20'		T	u	14		,
Christmas	feri	n, ga	rlicn	nusta	rd*	c ₅	N ₂	E 2	s ₂	w	Total			10		
blue con			nern	Shor-	+ hus *				eous Co		3'			1		
hay-scent						C,	N 5	E_	s	W	Total 5					
Comments to forest with ponded of Sheet of	= in th li areo	vasiv itle	E. M under Gace	esic stor	y ar	ily of a s	area Spar	with se l	h sev	lera	1 deas	ed as	h. O Area	open S/o	sechi pest	on of boward
Forest Sa	amp	ling	Data	Wo	rksh	neet										C:1

Property: 4:41:	5 219	Plo	ernat	ive L	= o+ A	Plot S	Prepize:_	ared //o#h	By BI	Dat	e:	EMA 3/8/2	2_		-	
Basal Area in sf/acre:				Size	class	of tre	es >	20' he	eight v	vithin	sampl	le piot				
Tree Species		of Tre -5.9" d			of Tre			of Tre -19.9"			of Tree 0-29.9 d	AT 2	-	of Tre		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
Sugar maple		9		4			1			/						15
in the second se																
1.07. 4.																
Total Number of Trees per Size Class	9 4 1														9	15
Number & Size of Standing Dead Trees					3							,				3
List of Commo							%	of Can	opy Clos	sure			nt of Inv		Plot S Stage:	uccessional
Sugarn	rapl	e, 91	ape			c 79	N 81	E 83	s 72	w 75	Total 78	. Layers): / *	%	М	id
List of Herbace	ous S	pecles	0'-3':		0		% Ur	dersto	ry Cove	r 3'-20'		T	и	H		
Hay-scen- wood net	ted f	ern, 110le	Newy t, ja	lork f	ern, n-	30	N 50	E 15	s	y	Total			10%		
pulpit.	,						% of H	lerbace	ous Co	ver 0'-3	3'					
						c,	40	50	\$ 40	w 30	Total 32				L	<u></u>
comments Si rocky to girdled to Sheet_of_	errai hrove the	n, mannann,	ple f no 15t t the Wood	and com	rice part ad a	ith a h. M Iment goes	inim. M.	um ost o	y slop invasi of tre	oing is ite is	topog plant that u Japan	raphi sere	Manuard gird	parse y tred led a erry	e und es hav re bu - invo	erstory le beerf lack sive -
Forest S		101			25											C:1

Property: 4 Stand #: 4	5 219	Plo	ernat	34	E a D	Plot S	Prepize:_	ared 10th	By B	M S Dat	BJ5	18/2:	A 2_		-	
Basal Area in sf/acre:				Size	class	of tre	es >	20' h	eight v	vithin	samp	le plot				
Tree Species		of Tre -5.9" d		1.00	of Tre -11.9" ∢			of Tre -19.9"			# of Tree 0-29.9 c			of Tre 30" d		Total
Crown Pasition	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
Sugar	13						2									15
Red.							2									2
chestnut Oak							2									2
Black Cherry		5														
Large 1		13 5 6														
Total Number of Trees per Size Class																24
Number & Size of Standing Dead Trees		4			1											5
List of Commo		-					%	of Can	opy Clos	sure		Cover	nt of Inv	I (All	Stage:	
black the	erry	21111	red m	арсе	·)	80	N 78	80	s 77	% 85	Total 80	Layers	s): 6	6	Ear mia	1
List of Herbace							% Ur	dersto	ry Cove	r 3'-20'		T	W	H	_	
hay-scent	ed f	ern,	groun	d cec	dan	CO	N ₅	E 6	S	w	Total					
early lowbu	2 N DI	reper	ry ₀ 5	edge	3			-	ous Co	ver 0'-3	3'					
						C		E 85		w 55	4 1					
Comments My forest will about the Sheet of	th li	the	unde	rstor	und	ense	nerl	0000	Xeri eous	c. s	Some er, C	oradi	ky o	slope	s. Op	en I trees
Forest Sa	amp	ling	Data	ı Wo	rksł	neet										C:1

Basal Area in sf/acre:				Size	class	of tre	es > 2	20' he	eight w	vithin	samp	le plot				
Tree Species		of Tre -5.9" d			of Tre			of Tre			of Tre 0-29.9	- T	1 22	of Tre > 30" d		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	C ₀ D	Other	Dom	CoD	Other	Dam	CoD	Other	
Black cherry	5			4					53.7	2						11
Sugar		6			1											7
Red.	1	2			2			Į								5
Cucumber tree					١											. 1
lart.											i					
Total Number of Trees per Size Class		13	1 0	4 Mi	8			- 1			2					24
Number & Size of Standing Dead Trees		5			1											6
List of Commo			Specie	s 3'-20'	:		%	of Can	opy Clos	sure			nt of Inv per Plo s):		Stage:	iuccessional
o i i jed i	a(pu					c 86	N 83	80	86	w	Total 82	Non	ne		do 1	and the second s
List of Herbace	ous S	pecles	0'-3':		0		% Ur	dersto	ry Cove	r 3'-20'		T	И	H		
Hay-scente bellwort, s	ed fo	2m, 5	gzag	golde	enrod	30	N	15	S	W	Total 18					
bellwort, s starflow jack-in-	er, I	it.	et, u	1119 6	Jam,		% of H	lerbace	ous Co	ver 0'-3	3'					
						ca	x 5	E _15	S \O	8 3	Total 5					
Comments Me	y. A.	Nood	land	Wit to a	n ma	eny y	ouna	sax fiel.	olings d. N	s. B1	lacko	hern Ve pk	1- si	obs	maple	2
Sheet of																
Forest S																C:1

Property: 이 Stand #: 식기	521	9 A	terno	svit	E	Plot S	Prepize:_	ared 10 ++	By B	M≤, Dat	BJS, e:_9/	EMA 18/22)			
Basal Area In sf/acre:				Size	class	of tre	es > :	20' he	eight w	vithin	samp	le plot				
Tree Species		of Tre			of Tre			of Tre -19.9"			of Tree			of Tree	-	Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	Ç ₀ D	Other	Dom	GoD	Other	
Sugar maple				2												2
striped	1															1
Red. maple				1												1
1-a															4	
Total Number of Trees per Size Class		1 3														4
Number & Size of Standing Dead Trees												,				
List of Commo					•		%	of Can	opy Clos	sure			nt of Inv per Plo		Stage:	
yerrow br		1				C	27	39	s 25	w 24	Total 25	Layers		10	Ear	14
List of Herbace							% Ur	dersto	ry Cove	r 3'-20'		I	u	H		
Intermed Yellowbin	iale	, wa Can	ada n	n) naufl	01095	CO	N	E 5	S	w 25	Total			1		
blackbe	rry.	POI	Kews	Ed			% of H	lerbace	eous Co	ver 0'-3	3'		i i			
						c 5	N 20	E D	s 60	w 30	Total 25					
Comments Re Piles th Cinvasive p Sheet of	went i d	L'ann	+. \A7	NP	ath	MOP	sth	roug	000	nter	, Or	ental	LAG)	Trices	1110	ush
Forest S	amp	ling	Data	a Wo	rksl	neet										C:1

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Property: U	5 219	Plo	ernat	2	E+I	Plot S	Prep ize:	ared	By B	MS, I	855, e:_9	EMA 18/2	2_		-	
Basal Area in sf/acre: 20	Size class of trees > 20' height within sample plot															
Tree Species		of Tre -5.9" d			of Tre 11.9" o			of Tre -19.9"		# of Trees 20-29.9 dbh				of Tre 30" d		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
Sugar maple		1		2	Ç.											3
																- 4
* .															,	
100													_		-	s.
9.																
Total Number of Trees per Size Class		T			2											3
Number & Size of Standing Dead Trees																
List of Common	Unde	rstory	Species	s 3'-20' ™			% (of Cano	opy Clos	sure			nt of Inv per Plo		Stage:	
7						26	29	E 74	s 25	% 36	Total 38	,	Non	2	Earl	4
List of Herbace				Li le son			% Un	dersto	ry Cove	r 3'-20'	1	T	u	H		1
Hay-scen pokews	ted to	ern	heat	- DEY	, 4)	CO	215	10	S	w	Total 5					
							% of H	erbace	ous Co	ver 0'-3	3'					
						c 75	N 100	95	s 90	w 95	Total					
Comments Restanding.	cen-	ry l se h	ogge	d oc	ik-c slav	hern Jer. t	1-m	aple	con	nmu	nity	with	t,	y me	aples	still
Sheet of																
Forest Sa	amp	ling	Data	ı Wo	rksh	neet										C:1

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Property: 45 Stand #: 41-	3	Plo	ernat	3	EAL	Plot S	Prepize:_	oared (Loth	By B	M ≤₁ Dat	BJ5	8/22	4		_	
Basal Area In sf/acre: 40	Size class of trees > 20' height within sample plot															
Tree Species		of Tre			of Tre						# of Trees 20-29.9 dbh			of Tre 30" d	Total	
Crown Position	Dom CoD Other Dom CoD						Dom CoD Other			Dom	Dom CoD O		Dom CoD		Other	
Sugar, maple	1			4												5
Modernut hickory				1												t
1/2																
		,									_					
9																
Total Number of Trees per Size Class		l			5								6			
Number & Size of Standing Dead Trees																
List of Common		erstory	Species	3'-20'	:	% of Canopy Closure							Cover per Plot (All Stage			
1, 3, 3, 4						c 52	250	E 42	s 50	w 21	Total 43	,	5	0/0	Ea	rly
List of Herbace	ous S	pecles	0'-3':				% Ur	dersto	ry Cove	r 3'-20'	T	u	H			
Wild lettuce sedge, V	ario	usg	russe	black S, Y	chern	90	N 2	E 20	S	w	Total 6	0	0	5		
fox tail gr lady thum	6 X	, 0	rient	al			% of H	erbace	ous Co	ver 0'-3	3'					
,						°15	60		5 70	50	-A F					
Comments *	= Ir	was	ive.	Reco	enth	iding	, G	ood	bir	With	rabbi	ch p t ha	bita	thro	nghr	ut.
Sheetof			-													,
Forest Sa	amp	ling	Data	a Wo	rksl	neet										C:1

Property: Stand #:_!	45 1 1-4	برام Plo	Alten ot #:_	ative	E+	OU Plot S	Prep Size:_	oared Vio a	By_	<i>N</i> Da	ws , te:	NRU 9/8/2	7			
Basal Area In sf/acre:	Size class of trees > 20' height within sample plot															
Tree Species		of Tre			of Tre		# of Trees 12-19.9" dbh				# of Tre					Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	her Dom	CoD	Other	
Sugar	447 (1 1447 (1			Utt			JHT 11	1		1						28
White Ash		(III														4
				ı												
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1															,	
Total Number of Trees per Size Class		0			5		7			_				.1"	32	
Number & Size of Standing Dead Trees													1-30	-	Di 4 G	2
List of Common	n Under	rstory :	Species	3'-20':		% of Canopy Closure 15.6 32.74 29.12 18.72 26 C N E S W Total 84.4 67.74 30.88 81.28 74 75.66						Cover per Plot (All Layers):				uccessional
List of Herbace	ous Sn	ecles ()'-3':						y Cove			multipl	ora	(H)	•	
White Snal	Leroot					°5	N 15	E (0	s 10	w 20	Total		6			
While heath	aster						% of He	rbace	ous Co							
						c 55	90	90	5 60	ا لام	71.4				P	dd clastal
Comments ().	ik hil	il'sid	eguijn	rest nent s	dom	inated 5 area	by Herbi	SMS	domi	naple	es. L by who	ocated te snak	pet.	reen	cropin	ypraatad
Sheet _ of _								<u> </u>								C:1
Forest Sa	ampl	ing	Data	Wo	rksh	eet					_ 1					7.2

Property: <u>U</u> Stand #: <u>41</u>	5 ZI -5	Plo	1+e100	u+ive I	EP	DU Plot S	Prepize:_	V10 a	By_^	Dat	e:4/	s 8/27	,		_	
Basal Area in sf/acra:				Size	class	of tre	es > :	20' he	eight w	vithin	sampl	e plot				
Tree Species		of Tre -5.9" d			of Tre			of Tre -19.9"	and the		of Tree 0-29.9 d			of Tre > 30" d		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	C ₀ D	Other	Dom	C ₀ D	Other	Dom	CoO.	Other	
Hawthorne 50.	18			4	12 1,		2	8		2				il il		26
Black		1		Ī	4											5
Blacox		1			1			1								3
white		3														3
(.e.). v.) p								
Total Number of Trees per Size Class		23			٩			3		7	2			C		37
Number & Size of Standing Dead Trees		2			C)	,	0			E)		0		2
List of Common			Species	s 3'-20'	:		%	of Can	opy Clos	sure		The second second	nt of Inv		Plot S Stage:	uccessional
Hawtho	Int	50.				81	N 87	E 92	s 97	w 94	Total 88.2	Layers		asibe	Later	_
List of Herbace	ous S	pecles	0'-3':			01	Maria menor	7.2	ry Cove		1	Garlic	music	.rel (+)	5000	ressional
While sr	OKE					С	N	E	s	w	Total					
White AS Garlic M	nusto	rd				0	14	0	8	18	6.0	<u> </u>	-	\vdash	-	
Garne									ous Co	A.S.		-				ra a a a
						44	40	42	35	W 24	37.4					
Comments (o(al	ed or	adjac	ent t	o rel	pe d ention ated b to A	n bas	sin a hite	rea t snak	tawth -hat croot	was and	recent white	ly pl arh	lante	d wit	h saplings
Forest Sa	amp	ling	Data	a Wo	rksl	neet										C:1

Property: <u>U</u> Stand #: <u>41</u>	5 21a	Plo	e1nat #:	ive 1	= 51	Plot S	Prep ize:_	oared 1/10 0	By_/	Dat	e: 9/	7/2	2_			
Basal Area in sf/acre:											sampl					
Tree Species		of Tre -5.9" d			of Tre			of Tre			of Tree 0-29,9 d			of Tre 30" d		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
Hairthorne Sp.		5				.1										5
Whito Ash		2			1									II.		3
Black- Loinst		3			4	1										7
Sugamaple					13				mi Ser							3
Cerumber Tree					1									7		1
Black cherin								, l								
Total Number of Trees per Size Class		10			9			$\frac{1}{\sqrt{2}}$								20
Number & Size of Standing Dead Trees				7	2											2
List of Common		erstory		s 3'-20'	:	7.5	% 16:		opy Clos	sure			nt of Inv per Plo s):		Stage:	
						26	NI IC.G	E 30,16	s 70.4	w 27,	Total 75.87	10	ne		Mid	
List of Herbace	eous S	pecles	0'-3':	1			5.5 P. 10		ry Cove							
Canadian Canada g						c ₇	N 24	E	s 30	w	Total					
wild basil						7		1	eous Co	ver 0'-	16.4 3'					
while heat	n 05+					С	N	E	s	w	Total					======================================
Comments P	ot is	loca						ge o		100	/00		7			
Sheet _ of _			1	Photo	>3 (2	.) 5	to V	, ~	105							1
Forest Sa	amp	ling	Data	a Wo	orks	heet				2						C:1

14.4

Property: Stand #:4	15 2 1-ce	Iq /	Hemo	tije L	Eþī	Plot S	Prepize:_	ared	By	Na.W	nwe e: 9/	7/22			-	
Basal Area In sf/acre: 100											sampl					
Tree Species		of Tre			of Tre			of Tre -19.9"			of Tree 0-29,9 d			of Tre > 30" d		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	Ç ₀ D	Other	Dom	CoD	Other	
Redie	Ħ			9			4		dr.g.							24
Black Cherry		2			4				-							6
Black Birth		6	ï		3			1								10
Green		2						ı								3
1.00 h												ı				
Total Number of Trees per Size Class		2			16			6			0			0		43
Number & Siza of Standing Dead Trees		١			C			1			0			0	4	2
List of Commo				3'-20'	:		%	of Can	opy Clos	sure		1 a 1 a 1 a 1 a 1 a 1 a 1	nt of Inv		Plot S Stage:	uccessional
Slack Ced m						c 83	N 82	E 80	s 74	w 79	Total 80.6	Cover Layers	mul	+iflora	Late	-mid cessional
List of Herbace	ous S	ecles	0'-3':						ry Cove			chin	ese pr	iral		-c 3510/a/
Green	Ash					C	N SZ	E4	5 43	W	Total					
Biglest Multif	Aste					00	_	-	ous Co	1 1 1 2 1	3'		-			
multif	lunu't	ruse				cq5	N 43	E 78	s q5	w 90	Total		1			
Comments Re	ed m	lay	/Blacer o	и b f 9	irch reen Phot	10 m ash 105 (7	her L)	nity buce Sto	s N, N	to 5'	lookin	ny ove	ر م	+		
Forest Sa	amı	lina	Data	Wo	rksl	neet										C:1

Property: U Stand #: 42 Basal Area In st/acre: 40				Size	class	of tree	es > :	20' he	ight w	ithin	sample	plot				
Tree Species		of Tre			of Tree	·a l	_	of Tree	1 0		of Trees			of Tree	23	Total
Tree openies		-5.9° d			11.9° d			-19.9			0-29.9 db			30" dl		
Crown Position	Dom	CeD	CHI	Dom	CoD	Other	Dom	CeO	Other	Dom:	CeO	Other	Down	CeO	Other	
eastern white pine	1		i i	10			10									21
310CK						i i		2								Z
5000					T											1
Bluck					11											
Total Number of Trees per Size Class		1		1 = ==	17	2		17			0)		C	,	
Number & Siza of Standing Dead Trees	177	2		1 1/5	6		īi ,	2			6)		0		
List of Commo		erstory	Specie	s 3'-20	:		%	of Can	opy Clo	sure			nt of In		Plot S Stage	uccessiona
						C 89	N 80	E 87	s 28	w 81	Total 85.0	1	aj. JO nuasii	re 5	ca 50	te ccessiona
List of Herbace		pecles	0-3:				% U	ndersto	ry Cove	r 3'-20	,					
spotted	cin	velu	reed			c4	N	E _O	S	W	Total					
Greena	sh					<u> </u>		27.00	eous Co	-	1					-
						C46	N	E	s 30	w	Total					
Comments	cohe	ahu	n M	120	orea					42	38.0	1				
Comments										He t	o no	unde.	sory			
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Forest S	amp	ling	Dat	a W	orksl	neet							37.50			C:1
		_														1

Basal Area In				Size	class	of tre	es >	20' h	elaht v	vithin	samp	le plot				
sf/acre: 200				O.E.O	Oluoc				- · · ·			• •				II.
Tree Species		of Tre			of Tre			of Tre			of Tree			of Tre		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
Cartern White pine	1			13			12			\t						27
sugar.		1														1
Scot's Pine	4							1								1
Black					4						/					. 4
ر جار م											1					
Total Number of Trees per Size Class		2		-	17			13			1			0		33
Number & Size of Standing Dead Trees	1	3		12	2		3				0			0		8
List of Common	Unde		Species	3'-20":			%	of Can	opy Clo	sure		Cover	nt of Inv per Plo		Plot S Stage:	uccessiona
G-	arv a	~3 W				c 79	N 87	E 92	s 81	w 78	Total 83.4	Layers	s): one		Le1	essiona
List of Herbace	ous Sp	ecles	0'-3':					ndersto	ry Cove	r 3'-20'						
wood fo						co	NO	E	s	W	Total 2.2					
green as	sh Tew	بواسد	ed						ous Co						<u> </u>	
7/-						С	N	E	s	w	Total					
	-		- 7	-		18	17	12	13	16	1					
Comments							natu	n eo	rstern	wh	ite ps	ne.			F.A.	
	Li.	++1e	to r	~ U	nours	rory.										
Sheet _ of						ZPho	+05	Sto	Ν,	Nto	5					
orest Sa			55 25													

Property: Stand #: <u>47</u>	US	21°	\ A + ot #:_	ernati	ive E	4DU Plot S	Pre Size:_	pared	By_ acre	<i>N</i>	w ⁵ ,/ te:	VRW 1/8/2	, て		_	
Basal Area In sf/acre:						s of tre										
Tree Species	0.5	of Tre			# of Tre			of Tre 2-19.9"			# of Tre 0-29.9			of Tre > 30" c		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
Eastern White Pine					Шт			111			A Company		-			8
Yellow birch					t_								-	-	-	1
Scot's Pine				7 ₈₁ -1	1117			!"								6
Black. Locust		ţμ			11			ı								6
WhiteAsh		ı			b											. 3
Hanthorne sp.		11														2_
Sügarmaple		1			2.5										100	
Total Number of Trees per Size Class		7			14			6								27
Number & Size of Standing Dead Trees	Un			Ш)ı										1621	1)
List of Common		rstory	Species	3'-20'	5	24.9		8.31	opy Clos	12.72		Cover			Stage:	uccessional -Late
How thome St Amus honeys Black locu	- ulkle	-				c 75.04	N 77.12	91.68	5 76.08	81.28	70.74		5%	المام المام		
List of Herbace	ous St	pecles	0'-3':				% Un	dersto	ry Cover	3'-20'		burdoe	K ?	(4)		
Canadian go	.Ident	od				c	Na	E 5	S	W	Total					
Wild basil While health	امداه	,				0			22 ous Co	_	8,2					
Black Lasby							70 OI FI	erbace		No.	Total	-				
						18	95	17	30	5 o	42		1 1	r n'at	brease	San He
Comments Plant D	erway	in Y La	T 40.61	ION C	and t	ne trai	lanteo nsporta	y 100/1	us of Misturk	scots	rea.	easter	n whi	é (viva	11600	isry
Sheet _ of _	mu dei	insend antic	Al Lle [U] ~~slan	۱. ۱	vasiv	re (H)	ρ	hoto	5 (2)	- S	to N	, N+	05			
Forest Sa																C:1
- JS, - TSP)	•	,477														

Basal Area In sf/acre: 140				Size	class	of tre	es > 1	20' he	elght w	ithin	sampl	e plot				
Tree Species		of Tre -5.9" d			of Tre			of Tre -19.9"			of Tree 0-29,9 dl			of Tre 30" d		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
eastern white pine					ľ			3								4
Scotis . pine				5			2									7
Chorechiny		1														1
Black		12		N. T.	2											4
Lashile Ash		4			3											7
34yar		1													1.5	1
Total Number of Trees per Size Class		8			11			5			C)		0		24
Number & Size of Standing Dead Trees	1 -	7		100	4		1.	2			0		-	0	B	/3
List of Common While o Sugar A	n Unde	erstory	Specie	s 3'-20'	:		%	of Can	opy Clos	ure			nt of Inv		Stage:	uccession
Sugar N	napie	*				c 83	N 78	E 90	s 89	w 76	Total 83. Z	Ramb	ler ros	e5%	Suc	cessio
List of Herbace	Section Control	•			1		% Ur	ndersto	ry Cove	3'-20		16		12%	5 ·	00
Solidar White h	reath	uste	nsis			5	N 16	E	s ID	wy	Total 9.0		Ca.			
white			v k					lerbac	eous Co	ver 0'-						
Garlic						69	Ņ	E	S	w	Total					
Comments M	utur	e 54			-				[62 steep	170 hilist						
Forest Sa																_

Property: Stand #:_ <u>U</u>	MS 7 3-1	Plo	Alterno	tive	Et	Plot S	Pre ize:_	pared 1/10	By_ acre	Da	ws, / te:	1/7/	22_			
Basal Area In sf/acre:				Size	class	of tre	es >	20' h	eight v	within	samp	ole plo	t			
Tree Species		of Tre 2-5.9" c			of Tre			of Tre			# of Tre			of Tr > 30"		Total
Crown Position	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
Scotts.	1)	Ut			tı									3.5		5
Earleyn Wite Pine							7		1		ų –				,/	
Jack Pine		Шп			1							1				6
Black Block		411			111											7
4											ĘÌ.					
Total Number of Trees per Size Class		13			6		. 1		'						.11	19
Number & Size of Standing Dead Trees	1			d H					=		Н				ē	1
List of Common hed Maple Jack Pine	n Unde	erstory	Species	3'-20'		31.2			py Clos				it of Inva per Plot):		Plot S Stage:	uccessional
Earten White	Pine					68.8	N 71.92	E 62,56	s 76.08	W 66.72	Total 69.2	10	ne		Ear	ly-Mid
List of Herbace	ous Si	pecles	0'-3':						y Cover							
White Golden						С	N	E	S	W	Total					
Mood Brez Fomprit Al		V.				10	8	5	5	5	67					
	,						% OT H	erbace	ous Cov	72			-			
						i i	13	とこ	s 34	W 15	Total 8	_				-1
Comments M	xed	Lo.	estlan	d be	weer	aw	etlano	lan	d the	distn	rhed	land	Por H	ne in	blo	swale/
retention													•		1-8	
Sheet _ of _						•						plot.				
Forest Sa	mpl				27											C:1

lasal Area in f/acre: 20				Size	class	of tre	es > :	20' h	eight v	vithin	samp	le plot				
ree Species	100	of Tre			of Tre			of Tre -19.9"			of Tree			of Tre > 30" c		Total
rown Pasition	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	Dom	CoD	Other	
RedMiple		(1														3
Black Locust	Ī,	Н			ı	L ²										3
Green Ash		1			<u>I</u>				1						E A	N
Black fire h	-				1											. !
Black Chury		,	1						3) ()							Ī
Total Number of Trees per Size Class		6			4											10
Number & Size of Standing Dead Trees	I			7												i
List of Commo Green Ash Arrowwood Black Pople	Viben	B	Specie lack L	s 3'-20' •chst	•	С	(1,36	17.6	s 62.56	W W	Total G1,64	Cover	nt of Inv per Plo s): ont		Stage:	-Mid
List of Herbac	eous S	pecles	0'-3':			100	% Ur	ndersto	ry Cove	r 3'-20'			_	т	ļ .	
Concdion	Col	الماري	d			CO	N/2	E 0	s /0	W 75	Total 67.66		ia .			÷
White Health	lister						% of F	lerbac	eous Co	ver 0'-	3'					
						C (0)	N	E	s . (00	100	Total				·	
Comments E	dge	com	lay	ol of	ru-le gol	d be	treen d co	we over!	tland bell	oned	fallow slay	Rield er	(,			
Sheet 1 of 1		_	4 8											1401	re, do	+

Compartment Number: 21-1	Investigators: B. Sulor L. Joung, B. Smith,
Date: 9/4/22	

Scientific Name	Common Name
1 Dactylis glomerata	orchard grass (D)
2 Plantago lanceolata	lance-plantain
3 Taraxacum officinale	dandelion
4 Tribolium repens	White clover
5	lang-leaf plantago
6	*
7	
8	
9	
10	
11	
12	
13	
14	
15	

Notes: Hayfield - routinely cut. Cently sloping fields bordered on both sides by forests. Residence with shed/barn also adjacent to field.

(D)= Dominant

Compartment Number: 21-2	Investigators: LY, BMS, BJS, EMA
Date: 9/6/22	

Scientific Name	Common Name
1 Dactylis glomerata	Orchard grass (D)
2 Plantago lanceolata	Lanceleaf plantain
3 Fragaria Virginiana	strawberry
4	Oat
5	Corn
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	

Notes: Part hay and part corn with a sliver of oat. The hauffield is noutinely but. Corna oat doing well a almost ready to be harvested.

Compartment Number: 21-9 (TBD) Investigators: LY, BMS, BJS, EMA

Date: 9/6/22

Scientific Name	Common Name
1 Dactylis glomerata	orchard grass (D)
2 Daucus carota	Queen Anne's lace
3 Plantago lanceolata	Lanceleaf plantain (A)
4 Asclepias syriaca	Common milkweed
5 Coronilla Varia	Crown vetch (D)
6 Taraxacum officinale	Dandelion (D)
7 Schedonorus arundinaceus	Meadow fescue (D)
8 Prunella vulgaris	Heal-all
9	
10	
11	
12	
13	
14	
15	

Notes: Copland-pasture (formerly herbaceous Rangeland 31-1), Hayfield perhaps out one lyear o Gently sloping. Located between forested areas.

Compartment Number: 3 -	Investigators: BMS, LY, BJS, EMA
Date: 9/6/22	

Scientific Name		Common Name
1 Solidago	Spp.	Coldenrod (D)
2 Cirsium sp		Thistle (D)
3 Daulaus	carota	Queen Anne's lace (D)
4 Schedono	rus arundinaceus	Meadow Fescue
5 Lotus cor		Bird's - foot trefoil
6		
7		
8	Х	
9		
10		
11		
12		
13		
14		
15		

Notes: Her baceous - Rangeland (formerly mapped as Shrub & Brush Rangeland 32-1)

Meadow dominated with forbs (wild flowers) including thistle, various species of goldernod, Queen Anne's lace. Some A couple of shrubs.

Many butterflies observed on flowers. Sow one monarch, a couple swallow tails and suffer butterflies. Genty sloping, Borders deciduous forest (41-1) and hayfield (21-?).

(D) = Dominant

Compartment Number: 32 - 2	Investigators: NPW, NWS		
Date: 9/6/22			

H= Herb S=	Shrub/Sapling T= Tree
Scientific Name	Common Name
1 Solidayo rugosa H	Wrinkle-leaf goldenrod
2 Solidago conadensis H	Canadian goddenrod
3 Fraxinus pennylvanica s	Green ash
4 Acer rubrum S	Red maple
5 Prunus Serotina S	Black Cherry
6 Daves Carota H	Queen Anne's-lace
7 Pholoris arundinacea H	Reed Canary grass
8 Rubus argutus H	Saw-tooth blackberry
9 Spiraea alba H	White meadowsweet
10 Pinus strobus 5 \$7	Eastern White pine
11 Clinopodium rulgare H	Wild basil
12 Panicum Virgatura H	Wand panic grass
13 Solidayo bicolor H	White goldenrod
14 Achillen millefolium H	Common yarrow
15 Symphyotichem erichoides A	White heath American-aster

Notes: Fallow field with patches of sapling trees present.



APPENDIX H MARYLAND ANDERSON LU-LC PHOTOS

Client:

Stantec Consulting Services Inc.

Site Name: US 219 Meyersdale to Old

Salisbury Rd

Site Location:Garrett County, MD

Project Number: 019342063

Photo 1

Date Taken: September 6, 2022

Comments:

Looking north at plot 416-1-1, which characterizes a Black Cherry-Maple association forest located in the northern section of the alternatives E & DU.



Photo 2

Date Taken: September 6, 2022

Comments:

Looking south at plot 416-1-2, which characterizes a Sugar Maple dominated forest located in the northern section of the AOI near the Pennsylvania Border.



Client:

Stantec Consulting Services Inc.

Site Name:

US 219 Meyersdale to Old Salisbury Rd

Site Location:

Garrett County, MD

Project Number: 019342063

Photo 3

Date Taken: September 6, 2022

Comments:

Looking north at plot 416-1-4, which characterizes a fairly open maple-oakhickory association forest located in the northern section of the AOI.



Photo 4

Date Taken: September 6, 2022

Comments:

Looking north at plot 416-1-6, which characterizes a Black Locust – Sugar Maple dominated forest located a previously disturbed area next to a pond and wetlands.



Client:

Stantec Consulting Services Inc.

Site Name:

US 219 Meyersdale to Old Salisbury Rd

Site Location:

Garrett County, MD

Project Number: 019342063

Photo 5

Date Taken: September 6, 2022

Comments:

Looking north at plot 416-1-7, which characterizes a Black Cherry-Sugar Maple association forest located in a rich mesic area with dense herbaceous cover.



Photo 6

Date Taken:

September 6, 2022

Comments:

Looking south at plot 416-1-8, which characterizes a Sugar Maple dominated forest located in an open section of forest with a sparse herbaceous layer.



Client:

Stantec Consulting Services Inc.

Site Name:

US 219 Meyersdale to Old Salisbury Rd

Site Location:

Garrett County, MD

Project Number: 019342063

Photo 7

Date Taken: September 6, 2022

Comments:

Looking north at plot 416-1-9, which characterizes a Sugar Maple association forest located in the northern section of the AOI.



Photo 8

Date Taken: September 6, 2022

Comments:

Looking south at plot 416-2-1, which characterizes a mixed Oak-Sugar Maple forest located in the northern section of the AOI.



Client:

Stantec Consulting Services Inc.

Site Name:

US 219 Meyersdale to Old Salisbury Rd

Site Location:

Garrett County, MD

Project Number: 019342063

Photo 9

Date Taken: September 6, 2022

Comments:

Looking north at plot 416-2-2, which characterizes a Black Cherry-Sugar Maple association forest located adjacent to an agricultural field.



Photo 10

Date Taken:

September 6, 2022

Comments:

Looking north at plot 415-3-1, which characterizes a recently logged Sugar Maple dominated forest located in the central section of the AOI.



Client:

Stantec Consulting Services Inc.

Site Name:

US 219 Meyersdale to Old Salisbury Rd

Site Location:

Garrett County, MD

Project Number: 019342063

Photo 11

Date Taken: September 6, 2022

Comments:

Looking south at plot 415-3-2 which characterizes a Sugar Maple dominated forest.



Photo 12

Date Taken: September 6, 2022

Comments:

Looking south at plot 415-3-3, which characterizes a Sugar Maple dominated forest.



Client:

Stantec Consulting Services Inc.

Site Name:

US 219 Meyersdale to Old Salisbury Rd

Site Location:

Garrett County, MD

Project Number: 019342063

Photo 13

Date Taken: September 6, 2022

Comments:

Looking south at plot 41-4-1 which characterizes a hillside Sugar Maple-White Ash association forest.



Photo 14

Date Taken:

September 6, 2022

Comments:

Looking south at plot 415-5-1, which characterizes gentle forested hillslope dominated by Hawthorne located in the southern section of the AOI.



Client:

Stantec Consulting Services Inc.

Site Name:

US 219 Meyersdale to Old Salisbury Rd

Site Location:

Garrett County, MD

Project Number: 019342063

Photo 15

Date Taken: September 6, 2022

Comments:

Looking south at plot 415-5-2 which characterizes a Black Locust-Hawthorne association forest located in the southern section of the AOI.



Photo 16

Date Taken:

September 6, 2022

Comments:

Looking north at plot 415-6-1, which characterizes a Red Maple-Black Birch dominated forest located in the southern section of the AOI.



Client:

Stantec Consulting Services Inc.

Site Name:

US 219 Meyersdale to Old Salisbury Rd

Site Location:

Garrett County, MD

Project Number: 019342063

Photo 17

Date Taken:

September 7, 2022

Comments:

Looking south at plot 426-1-1 which characterizes an Eastern White Pine dominated forest located in the southern section of the AOI.



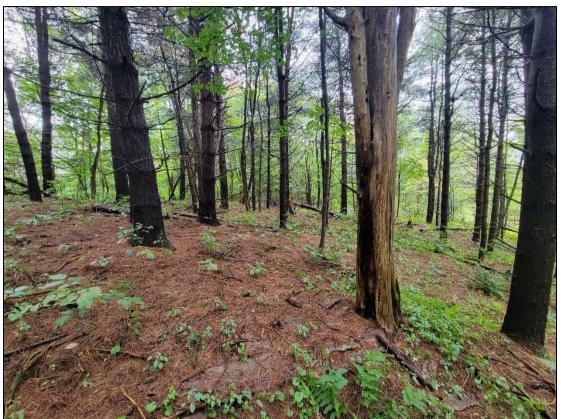
Photo 18

Date Taken:

September 7, 2022

Comments:

Looking south at plot 426-1-2, which characterizes an Eastern White Pine dominated forest located in the southern section of the AOI.



Client:

Stantec Consulting Services Inc.

Site Name:

US 219 Meyersdale to Old Salisbury Rd

Site Location:Garrett County, MD

Project Number: 019342063

Photo 19

Date Taken: September 8, 2022

Comments:

Looking north at plot 426-2-1 which characterizes a mixed forest with planted rows of pines located in the southern section of the AOI.



Photo 20

Date Taken: September 8, 2022

Comments:

Looking north at plot 426-2-2, which characterizes a Mixed forest located in the southern section of the AOI along a sleep slope.



Client:

Stantec Consulting Services Inc.

Site Name:

US 219 Meyersdale to Old Salisbury Rd

Site Location:

Garrett County, MD

Project Number: 019342063

Photo 21

Date Taken: September 7, 2022

Comments:

Looking south at plot 436-1-1 which characterizes a mixed forest of evergreen and deciduous trees located in the southern section of the AOI.



Photo 22

Date Taken: September 7, 2022

Comments:

Looking north at plot 436-1-2, which characterizes an edge forest community along a wetland located in the southern section of the AOI.



Client:Stantec Consulting
Services Inc.

Site Name:US 219 Meyersdale to Old Salisbury Rd

Site Location:Garrett County, MD

Project Number: 019342063

Photo 23

Date Taken: September 7, 2022

Comments: Looking north at plot 32-1.



Photo 24

Date Taken: September 7, 2022

Comments: Typical agricultural field.





APPENDIX I MARYLAND WILDLIFE SIGHTINGS

Wildlife Sightings Observations

Investigator: B. Sulan, B. Smith,	E. Anderson	Date: 9/6/22
Species	Compartment	Notes
tuckey vulture	2 -1	In flight over field
black crow	2.1-1	Inflight over field
Pec wee	41-1	
Hummingbirds	21-5	In flight
turkey	21-1	Flock in field
chipmunks	41-1	
RED SET NEWT	4/1-)	Carled next to Stick
Deel	4-1-	Poppa hearn runnis no trail
Insect (Wood (roch)?	41-1	Ben-philo
RYOTAIL		
Flicker	41-1	
Squiriel	41-1	
Builerally	31-1	Lonnie prodo
Strokbun	41-1	ben photo
white any carrialle	and I want	
HAWK	41-2	Flew from treeedse to
turkey	21-2	
Monarchs	31-1.	Herb/Rangeland on thistle Feathers & sout noticed
Dust or Raptor	21-2/41-2	at edge of field/woods

Wildlife Sightings Observations

stigator: B. Sulon, B. Smith, &	Anderson	Date: 9/7/22
Species	Compartment	Notes ⁻
Blue lay	4.1	
Blue jay turkey	21.1	Flock of 17 using 41-1 who field, flew into 41-1 who many observed near eastern
Ped-eff newls	41.1	
owny wood pecker	41.1	seen along forest edge
Chipmunk	L- 1. \	Several seen foraging & Sh
hickadee	41.1	flock heard in the morning foraging perched at edge
copers hawk	41,1	Perched at edge
lood ants	41.1	colony on basswood
Joolly Caterpillar	41.1	crawling on tree
Snail	41.	at Plot 5
Bullfive	4	Calling. In pond next to
lood pecker	41.1	cavities indead trees (ash) in Plot 8

* Rained most of the day

5550 Valions			
Investigator: B. Sulon, B. Smith, E An	Date: 9/8/22		
Species	Compartment	Notes	
Paras Hairy woodpecker.	41-3	Pair-foraging	
Downy woodpecker	41-3	forasing	
Coldfinch	41-3	foraging foraging in brush piles Flock of approx 5.10	
Yellow spires and	41-3	flock of approx 5.10	
Goldfinch throated vireo Vellow extres and	41-51		

wildlife Signtings Observations

estigator: New NWS		Date: 9/6/12
Species	Compartment	Notes
Sparrow	14-2, 43-1,41-3	Many visibly seen in each
Cathird	43-1	heard bird call
Yellow finch	14-2, 21-2, 41-3	7 visibly seen
Common yellowshood Warbler	14-2	Visibly been
Carolina Chi chadee	14-2, 42-1,43-1	6 visibly seen
whitetail deer	32-2	visibly seen I deer
White mil deer	41-6,43-1,42-1	deer trail
morning dove	14-2,41-3	Zvisibly seen
Sparrow Species	14-2,	Visibly seen
Turkey	43-1, 21-2	feather
Unitetail deer	41-6	deer bed
Leopard Frag	61-1	frog Call
Rauson	41-1	Scat
Turkey	21-2	Tracks along edge of Agfield
Monarch botter Fly	21-2	2 visibly seen
Turkey Vulture	21-2 \$41.3	I visibly san flying over Ag field
5 wallow	21-2	2 visibly Jeen in agfiold
Eussein wood-peemee	41-3	2 visibly seen
Redfail Hawk	21-2, 41-3	1 visibly seem
Con	21-2, 41-3,41-4	S visibly seen in An field an forested an
Cathird	41-3	1 Visibly seen
Ruby-throated hummingbird	21-2,41-5.	3 visibly seen

Wildlife Sightings Observations

Observations			
Investigator: Naw Nws		Date: 9/6/22	
Species	Compartment	Notes	
Red-bellied woodpecker	41.3	2 visibly seen	
Turkey withere	21-2	feather along edge of Ag	
Hairy Woodperver	41-3	I visibly seen	
Fox squirel	41-3	1 visibly sean	
American Took	41-5,	(Visibly seen	
Mallord ducks	14-2	8 visibly seen	
wood duck	14-2	l visibly seen	
broudlay holes	14-2,4(-4		
,			
		*	
		,	

US 219, Section 019

Table 20.

Phase II Study Area Observed Wildlife Species

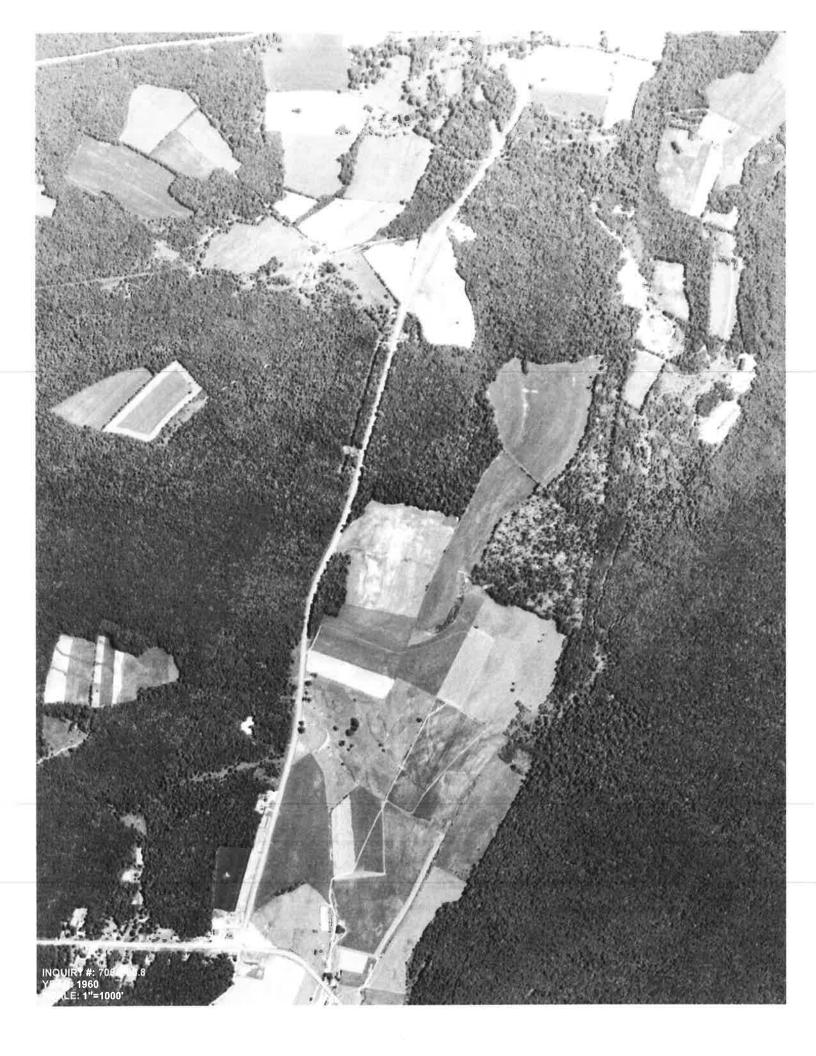
Common Name	Vildlife Species Scientific Name	
Ma	Scientific Name	
Eastern coyote	Canis latrans	
Beaver	Castor canadensis	
Virginia opossum	Didelphis virginiana	
Groundhog	Marmota monax	
Striped skunk	Mephitis mephitis	
Field mouse	Peromyscus leucopus	
Whitetail deer	Odocoileus virginianus	
Raccoon	Procyon lotor	
Grey squirrel	Sciurus carolinensis	
Fox squirrel	Sciurus niger	
Eastern cottontail	Sylvilagus floridanus	
Chipmunk	Tamias striatus	
Red squirrel	Tamiasciurus hudsonicus	
Grey fox	Urocyon cinereoargenteus	
Black bear	Ursus americanus	
Red fox	Vulpes vulpes	
	Birds	
Cooper's hawk	Accipiter cooperii	
Sharp-shinned hawk	Accipiter striatus	
Red-winged blackbird	Agelaius phoeniceus	
Mallard	Anas platyrhynchos	
Ruby-throated hummingbird	Archilochus colubris	
Great blue heron	Ardea herodias	
Ruffed grouse	Bonasa umbellus	
Great horned owl	Bubo virginianus	
Red-tailed hawk	Buteo jamaicensis	
Broad-winged hawk	Buteo platypterus	
Green heron	Butorides striatus	
Northern cardinal	Cardinalis cardinalis	
American goldfinch	Carduelis tristis	
House finch	Carpodacus mexicanus	
Turkey vulture	Cathartes aura	
Killdeer	Charadrius vociferus	
Common flicker	Colaptes auratus	
Rock dove	Columba livia	
Black vulture	Coragyps atratus	
Common crow	Corvus brachyrhynchos	
Blue jay	Cyanocitta cristata	
Pileated woodpecker	Dryocopus pileatus	
Gray catbird	Dumetella carolinensis	
American kestrel	Falco sparverius	
Barn swallow	Hirundo rustica	
Baltimore oriole	Icterus galbula	
Dark-eyed junco	Junco hyemalis	

Common Name	Scientific Name
Belted kingfisher	Megaceryle alcyon
Red-bellied woodpecker	Melanerpes carolinus
Wild turkey	Meleagris gallopavo
Song sparrow	Melospiza melodia
Screech owl	Otus asio
Osprey	Pandion haliaetus
Black-capped chickadee	Parus aricapillus
Tufted titmouse	Parus bicolor
House sparrow	Passer domesticus
Ring-necked pheasant	Phasianus colchicus
Rose-breasted grosbeak	Pheucticus ludovicianus
American woodcock	Philohela minor
Downy woodpecker	Picoides pubescens
Hairy woodpecker	Picoides villosus
Common grackle	Quiscalus quiscula
Golden-crowned kinglet	Regulus satrapa
White-breasted nuthatch	Sitta carolinensis
Chipping sparrow	Spizella passerina
European starling	Sturnus vulgaris
American robin	Turdus migratorius
Mourning dove	Zenaida macroura
Re	ptiles
Snapping turtle	Chelydraserpentina
Black racer	Coluber constrictor
Ringneck snake	Diadophis punctatus
Black rat snake	Elaphe obsoleta
Northern water snake	Nerodia sipedon
Northern brown snake	Storeria dekayi
Garter snake	Thamnophis sirtalis
Amı	ohibians
American toad	Bufo americanus
Northern dusky salamander	Desmognathus fuscus
Northern two-lined salamander	Eurycea bislineata
Spring peeper	Hyla crucifer
Red spotted newt	Notophthalmus viridescens
Redback salamander	Plethodon cinereus
Slimy salamander	Plethodon glutinosis
Green frog	Rana clamitans
Pickerel frog	Rana palustris
Wood frog	Rana sylvatica

Source: Terrestrial Wildlife ans Species of Special Concern Habitat Report: L. Robert Kimball & Associates, inc. 2006



APPENDIX J MARYLAND HISTORIC AERIAL PHOTOS





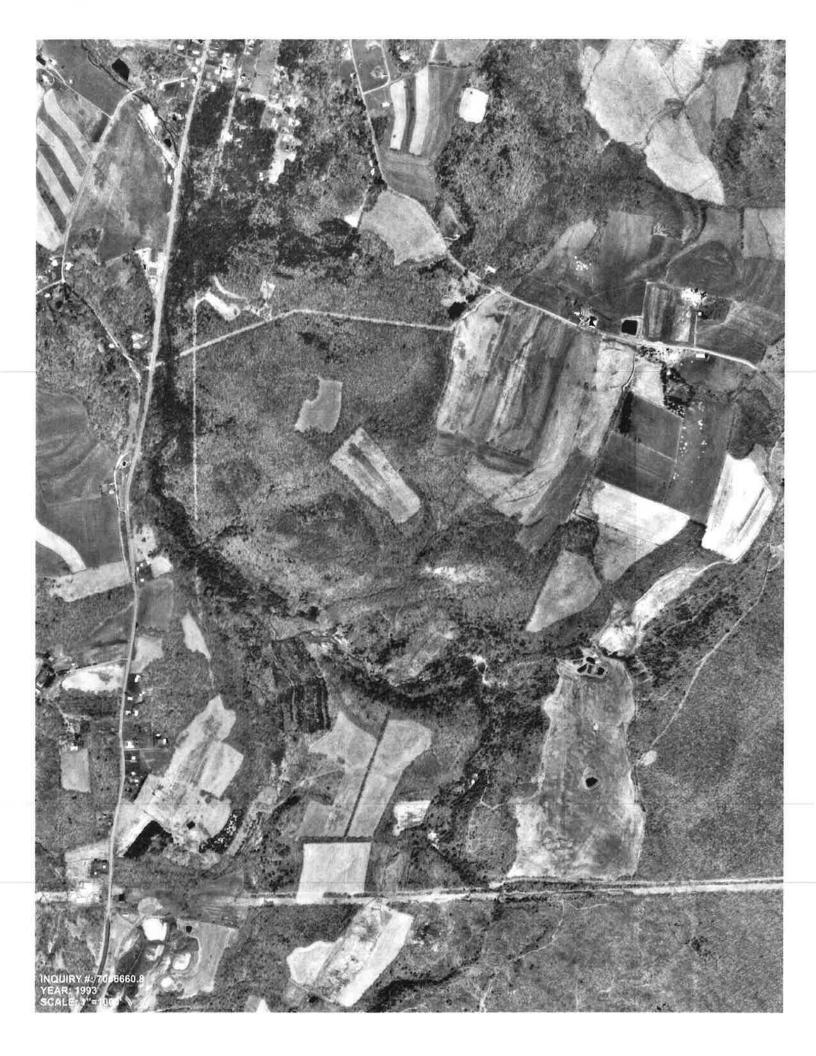




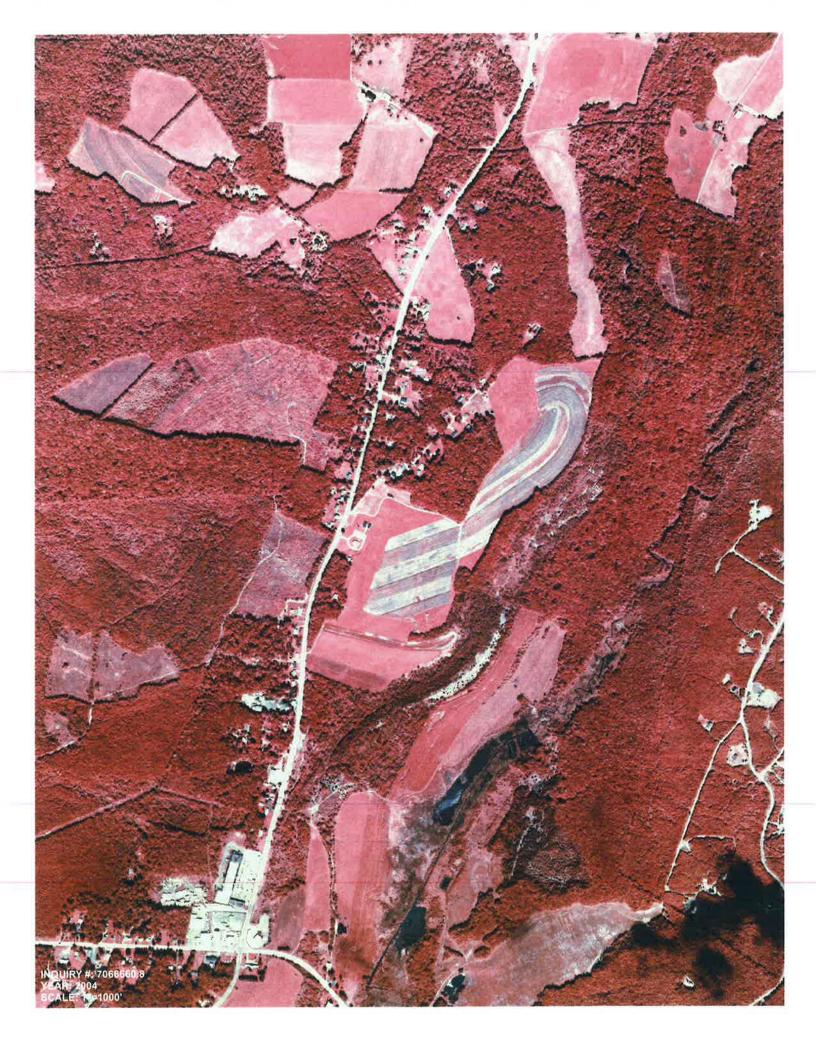




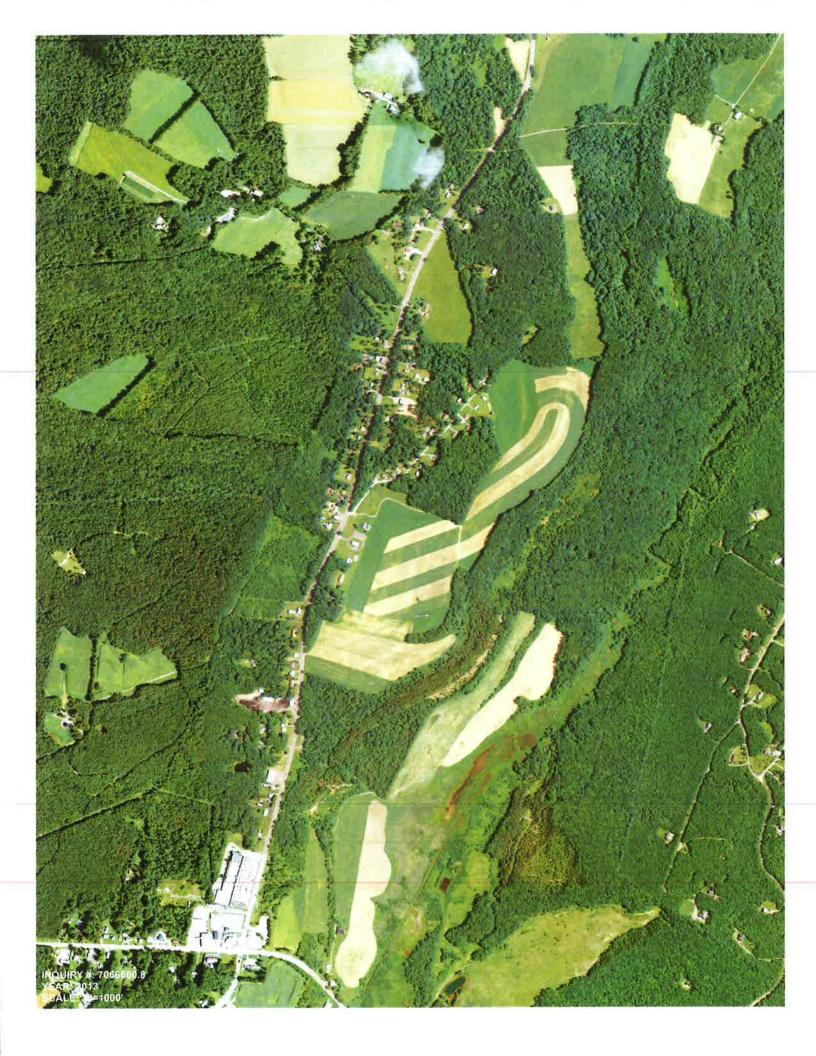
















APPENDIX K SPECIMEN TREE PHOTOS

Client: Stantec Consulting

Services Inc.

Site Name: US 219 Meyersdale to Old Salisbury Rd **Site Location:**Garrett County, MD

Project Number: 019342063

Photo 1

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 1. Note: Tree #1 is located in Pennsylvania.



Photo 2

Date Taken: September 6, 2022

Comments:

Looking at Specimen Tree 2. Note: Tree #1 is located in Pennsylvania.



Client:Stantec Consulting
Services Inc.

Site Name:US 219 Meyersdale to Old Salisbury Rd

Site Location:Garrett County, MD

Project Number: 019342063

Photo 3

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 3.



Photo 4

Date Taken: September 6, 2022

Comments:

Looking at Specimen Tree 4. Note: Tree 4 is <30" and is not included as a specimen tree.



Client:Stantec Consulting
Services Inc.

Site Name: US 219 Meyersdale to Old Salisbury Rd **Site Location:**Garrett County, MD

Project Number: 019342063

Photo 5

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 5.



Photo 6

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 6.



Client:Stantec Consulting
Services Inc.

Site Name: US 219 Meyersdale to Old Salisbury Rd **Site Location:**Garrett County, MD

Project Number: 019342063

Photo 7

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 7.



Photo 8

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 8.



Client:Stantec Consulting
Services Inc.

Site Name:US 219 Meyersdale to Old Salisbury Rd

Site Location:Garrett County, MD

Project Number: 019342063

Photo 9

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 9.



Photo 10

Date Taken: September 6, 2022

Comments:

Looking at Specimen
Tree 10. Note: Tree
#10 is <30" and is not
considered a
specimen tree



Client:Stantec Consulting
Services Inc.

Site Name: US 219 Meyersdale to Old Salisbury Rd **Site Location:**Garrett County, MD

Project Number: 019342063

Photo 11

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 11.

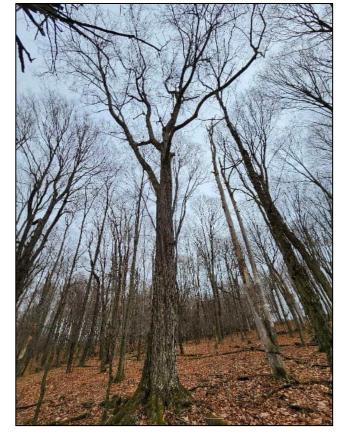


Photo 12

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 12.



Client:Stantec Consulting
Services Inc.

Site Name: US 219 Meyersdale to Old Salisbury Rd **Site Location:**Garrett County, MD

Project Number: 019342063

Photo 13

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 13.



Photo 14

Date Taken: September 6, 2022

Comments:

Looking at Specimen Tree 14. Note: Tree #14 is <30" and is not considered a specimen tree.



Client:Stantec Consulting
Services Inc.

Site Name:US 219 Meyersdale to Old
Salisbury Rd

Site Location:Garrett County, MD

Project Number: 019342063

Photo 15

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 15.



Photo 16

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 16.



Client:Stantec Consulting
Services Inc.

Site Name:US 219 Meyersdale to Old
Salisbury Rd

Site Location:Garrett County, MD

Project Number: 019342063

Photo 17

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 17.



Photo 18

Date Taken: September 6, 2022

Comments: Looking at Specimen Tree 18.



Client:Stantec Consulting
Services Inc.

Site Name: US 219 Meyersdale to Old Salisbury Rd **Site Location:**Garrett County, MD

Project Number: 019342063

Photo 19

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 19.



Photo 20

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 20.



Client:Stantec Consulting
Services Inc.

Site Name: US 219 Meyersdale to Old Salisbury Rd **Site Location:**Garrett County, MD

Project Number: 019342063

Photo 21

Date Taken: September 8, 2022

Comments: Looking at Specimen Tree 21.



Photo 22

Date Taken: September 8, 2022

Comments: Looking at Specimen Tree 22.



Client:Stantec Consulting
Services Inc.

Site Name: US 219 Meyersdale to Old Salisbury Rd **Site Location:**Garrett County, MD

Project Number: 019342063

Photo 23

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 23.



Photo 24

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 24.



Client:Stantec Consulting
Services Inc.

Site Name: US 219 Meyersdale to Old Salisbury Rd **Site Location:**Garrett County, MD

Project Number: 019342063

Photo 25

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 25.



Photo 26

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 26.



Client:Stantec Consulting
Services Inc.

Site Name: US 219 Meyersdale to Old Salisbury Rd **Site Location:**Garrett County, MD

Project Number: 019342063

Photo 27

Date Taken: September 7, 2022

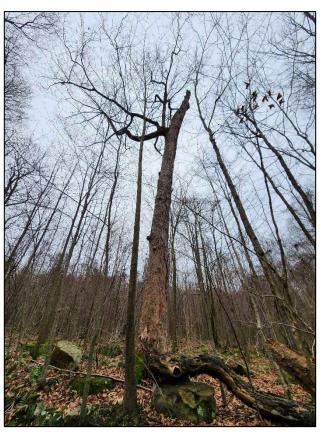
Comments: Looking at Specimen Tree 27.



Photo 28

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 28.



Client:Stantec Consulting
Services Inc.

Site Name:US 219 Meyersdale to Old Salisbury Rd

Site Location:Garrett County, MD

Project Number: 019342063

Photo 29

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 29.



Photo 30

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 30.



Client:Stantec Consulting
Services Inc.

Site Name: US 219 Meyersdale to Old Salisbury Rd **Site Location:**Garrett County, MD

Project Number: 019342063

Photo 31

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 31.



Photo 32

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 32.



Client:Stantec Consulting
Services Inc.

Site Name: US 219 Meyersdale to Old Salisbury Rd **Site Location:**Garrett County, MD

Project Number: 019342063

Photo 33

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 33.



Photo 34

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 34.



Client:Stantec Consulting
Services Inc.

Site Name: US 219 Meyersdale to Old Salisbury Rd **Site Location:**Garrett County, MD

Project Number: 019342063

Photo 35

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 35.



Photo 36

Date Taken: September 7, 2022

Comments: Looking at Specimen Tree 36.



US 6219, SECTION 050 TRANSPORTATION IMPROVEMENT PROJECT MEYERSDALE, PA TO OLD SALISBURY ROAD, MD 2023 FALL BAT CAPTURE HIBERNACULA USE ASSESSMENT

Somerset County, Pennsylvania September 19 – October 3, 2023

Prepared by:



1263 Claremont Road, Carlisle, Pennsylvania 17015 Office and Fax: (717) 241-2228 Mobile: (814) 442-4246 www.batmanagement.com

Project Principal: John Chenger

Qualified Bat Surveyor: Todd Sinander

Bat Surveyor: Meredith Goza

Report Prepared by: Todd Sinander

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Executive Summary

The Pennsylvania Department of Transportation (PennDOT) and Maryland State Highway Administration (MDSHA) proposes to construct a new 11.3 km (7 mile), limited-access section of State Route (SR) 6219, Section 050, from the Borough of Meyersdale, Somerset County, Pennsylvania, to Old Salisbury Road in Garrett County, Maryland. Bat Conservation and Management, Inc. (BCM) was contracted by KCI Technologies, Inc. to conduct a Fall Bat Hibernacula Use Assessment during September and October, 2023 at two potential hibernacula sites near the proposed alignments. Both sites, 2023-01 and 2023-02, were found and described during a Bat Hibernacula Habitat Assessment conducted by BCM in the winter and spring of 2023.

Harp traps were utilized to trap each site for three nights during the 6.5-week survey period in September and October of 2023. No bats were captured at either site. Results of this data suggest that these openings presently are not being used by bats of any species.

We have prepared this survey report for the use of our client's office for planning purposes in accordance with generally accepted bat capture and monitoring practices. No other warranties, either expressed or implied, are made as to the professional services included in this report. This report may be considered void without the electronic attachments originally accompanying it.

Introduction

In response to a U.S. Fish and Wildlife Service (USFWS) letter dated February 17, 2022 regarding outdated bat surveys on the US 219 Improvement Project, SR 6219, Section 050 (USFWS Project #2022-0001474, PNDI Receipt # 738552), Bat Conservation and Management, Inc. (BCM) was contracted by KCI Technologies, Inc. to conduct a Bat Hibernaculum Use Assessment at two new potential hibernacula sites, BCM 2023-01 and BCM 2023-02. The sites were found during a Bat Hibernacula Habitat Assessment conducted by BCM in February-April of 2023 within the proposed alignments plus a quarter mile buffer (*US 6219, Section 050 Transportation Improvement Project Meyersdale, PA to Old Salisbury Road, MD, 2023 Bat Hibernacula Habitat Assessment*; Figure 1).

The 2023 BCM Bat Hibernaculum Use Assessment was conducted using the most recent USFWS and Pennsylvania Game Commission (PGC) physical capture survey protocols (2023 Guidelines) that are more robust than past guidelines. The protocols can be found within the 2023 USFWS Range-Wide Indiana Bat Summer Survey Guidelines and in Appendix B of the PGC document Little Brown Bat and Tri-colored Bat Environmental Review Guidance Document (10/3/19).

Prior to the current 2023 Bat Hibernaculum Habitat and Use Assessments, an initial habitat and use assessment within the US 219 Improvement Project Area was conducted by BCM in 2005 which delineated sites BCM 2005-01, BCM 2005-19, BCM 2005-27, and BCM 2005-28 as potential hibernacula (Abandoned Mine Investigations for the U.S. 6219, Section 019 Highway Improvement Project, August 27 - October 1, 2005). In the fall of 2005, a BCM Bat Hibernaculum Use Assessment trapping survey confirmed bat activity at all four sites. In 2014, BCM conducted a follow up assessment where previously delineated habitat was re-evaluated and a search for new habitat was conducted (2014 RT 219 Fall Bat Harp Trapping and Abandoned Mine/Rocky Habitat Assessment, October 2 - 12, 2014). During this assessment site BCM 2014-01 was delineated as a new potential hibernaculum. Bat use at the four hibernacula established in 2005 and at the new 2014 potential hibernaculum was evaluated during a trapping survey in the fall of 2014 (2014 RT 219 Fall Bat Harp Trapping and Abandoned Mine/Rocky Habitat Assessment, October 2 - 12, 2014). In the fall of 2022 BCM again trapped the five sites surveyed in 2014 to determine bat use (US 6219, Section 050 Transportation Improvement Project Meyersdale, PA to Old Salisbury Road, MD, 2022 Fall Bat Capture Hibernacula Use Assessment). No bats were captured during fall assessments at site BCM 2014-01 in 2014 or 2022. In addition to the five previous sites surveyed in 2022, the was also trapped by BCM in the fall of 2022. The is a known bat hibernaculum within the Project Area buffer that was last surveyed for bat activity in the fall of 2004 and during an internal survey in March of 2005 by the Pennsylvania Game Commission (PGC; Figure 1).

Methods

Capture Survey

The level of effort outlined within the 2023 Guidelines is a minimum of one night of sampling per week for six weeks during the period between September 15 to October 31 using a harp trap at each suitable entrance. Each trapping night began 30 minutes prior to sunset and continued for a minimum of five hours. The survey night was considered valid if; (1) the temperature remained $\geq 50^{\circ}F$ (10°C) for the first two hours of trapping and did not fall below 40°F (4.4°C) at any point during the survey, (2) precipitation, including rain and/or heavy fog, did not persist for more than 30 minutes or continued intermittently, and (3) at least 3 hours of the survey period is free of high wind. The survey effort at an opening will be suspended if no bats (of any species) are captured after the first two nights of acceptable survey effort.

Meta-data was collected that fully described individual trap sites and included photographs, global positioning satellite (GPS) coordinates, nightly weather conditions during sampling, and general information regarding habitat

and surrounding area. Data collected on captured bats include species, sex, age, and reproductive condition. Species age is determined by using the Epiphyseal-diaphyseal Fusion method. The reproductive condition of females is noted by inspection of mammary glands.

Capture Survey Sites

In 2023 BCM found and described two potential hibernacula sites (BCM 2023-01 and BCM 2023-02) during a Bat Hibernacula Habitat Assessment conducted from February 15 to April 26 on the US 219 Improvement Project. The two potential hibernacula sites were trapped to determine bat use between September 19 and October 3, 2023 (Figure 1; Table 1; Appendix A).

Site BCM 2023-01 is a natural sandstone cave on the west facing slope of Piney Creek Ravine in a mature deciduous forest. The cave was formed under a fractured dome-shaped outcrop that rises above the surrounding terrain with clumps of Rhododendron around the outside edge. The cave opening was 1.5 ft. (0.5 m) high and 4 ft. (1.2 m) wide. The passage inside sloped downward toward the northeast and opened into a 5 ft. (1.5 m) high, 3 ft. (0.9 m) wide, and 15 ft. (4.6 m) long passage that turned left out of sight. The site was surveyed using a harp trap, 3 ft. x 3.6 ft. (0.9 m) x 1.1 m), placed outside and parallel to the entrance. Bird netting was draped from the top of the trap to the area above the opening and around the sides of the trap.

Site BCM2023-02 is a natural sandstone cave on an east facing slope near the ridge top of the Piney Creek ravine in a mature deciduous forest. The cave was at the bottom of a 20 ft. (6.1 m) high cliff outcrop that was part of a 550 ft. (167.6 m) long linear series of individual outcrops running north to south. The cave opening was 2.5 ft. (0.8 m) high and 1.5 ft (0.5 m) wide. The passage inside sloped down and was slightly larger than the opening. Approximately 3 ft. (0.9 m) past the entrance the passage turned sharply to the right and opened up to a 5 ft. (1.5 m) high and 2 ft. (0.6 m) wide passage that continued for approximately 6 ft. (1.8 m) then narrowed down to several fissures in the rock that could not be closely observed from the entrance. The site was surveyed using a harp trap, 3 ft. x 3.6 ft. $(0.9 \text{ m} \times 1.1 \text{ m})$, placed outside and parallel to the entrance. Bird netting was draped from the top of the trap to the rock above the opening and around the sides of the trap.

Acoustic Monitoring

A Pettersson D500x bat detector (Pettersson Elektronik, Uppsala, Sweden) was placed within 15 ft. (4.5 m) from each cave entrance to detect hourly bat activity at or very near each opening that was trapped. Detector microphones were orientated towards the largest volume of airspace directly in front of the entrance at each site surveyed (Appendix A). Each detector was stationary and programmed to record for at least five hours, beginning 30 minutes before local sunset, and corresponded to the time when the trapping survey occurred. The resulting individual 4-second bat recordings represent a single "pass" (fly by) from a single bat. However, if multiple bats are flying through the optimal volume of detection during the same 4-second interval, they were recorded in tandem.

Recorded echolocation calls were post-processed using SonoBat30 call analysis software (SonoBat, Arcata, CA). This process attributed meta-data from the survey effort to each recording while preserving the date-time stamp when recordings were made. All recordings were run through the SonoBat scrubber program to remove those with no discernable bat call pulses present. The remaining recordings were manually reviewed using the SonoBat viewer to confirm that they contained bat pulses. Recorded bat passes were tallied for each site in five one-hour increments. Bats using echolocation in and near high clutter areas such as cave entrances emit calls that are too ambiguous to identify either by auto-classification software or by manual review. Therefore, no bat recordings were classified to species. Despite microphones focused on site entrances, monitoring microphones are capable of recording bat calls hundreds of feet away and behind the microphone. In this scenario, positive results cannot be used to assume presence, but are more of a general indication of activity. In addition, bats may reduce echolocation calls to a whisper in high traffic and high clutter areas such as cave entrances, rendering it impossible to obtain recording samples of every bat pass where negative results may not necessarily indicate an absence of bat activity. Considering these factors, acoustic monitoring at hibernacula is not an ideal survey method for bats and may be considered here for the record only.

Results

Survey Effort

A total of two sites (BCM 2023-01 and BCM 2023-02) were trapped for three nights between September 19 and October 3, 2023 (9/19, 9/27, and 10/3). No bats were captured following the trapping effort of 15+ hours at each site. During the second night of trapping at both sites the temperature dropped below 50°F (10°C) during the first two hours but remained above 47.1°F (8.4°C) for the remainder of the five-hour survey period. The USFWS 2023 Guidelines state that the survey effort may be suspended at a site if no bats are captured after two valid survey nights. As a result, trapping was unnecessary at the two sites after the third night. The total trapping effort for the project was over 30 hours (Tables 1 and 2).

The temperature remained above 50°F (10°C) for first two hours of trapping during two out of the three survey nights at both BCM 2023-01 and BCM 2023-02 (Table 2). No precipitation occurred during the nights the survey was conducted. Site-specific weather conditions are described on the PGC *Bat Netting/Trapping Site Survey Record Forms* (Appendix B).

Species Occupancy: Capture

No bats were captured at both sites BCM 2023-01 and 2023-02.

Bat Activity: Acoustic Monitoring

Bat detectors were deployed near the cave entrances at each of the two survey sites during all trapping nights and were removed when each survey night was complete. Bat passes were tallied during each hour of the five-hour survey night. Two bat passes were recorded at site BCM 2023-01, one on September 19 and one on September 27. Both passes were recorded during the first two hours of the survey and both were on the edge of detection range which suggests that the bats were likely flying through the area above the site and not near the cave entrance. No bat passes were recorded on the last and warmest night of the survey (10/3) at site BCM 2023-01. At site BCM 2023-02 no bat passes were recorded during the first two survey nights (9/19 and 9/27). The bat detector malfunctioned at this site on the third survey night (10/3) resulting in no acoustic data from site BCM 2023-02 during that night (Table 3).

Conclusion

Cave entrances were trapped at sites BCM 2023-01 and BCM 2023-02 during three survey nights between September 19 and October 3, 2023 to determine but use during the fall swarming season. No buts were captured at either site and just one distant acoustic but pass was recorded during two of the three survey nights at site BCM 2023-01 with no but passes recorded at site BCM 2023-02. These data suggest that both sites are not presently being used by buts of any species.

Fall bat activity was confirmed during past BCM Hibernacula Use Assessments within the US 219 Improvement Project Area at four sites initially described by BCM in 2005 (sites BCM 2005-01, BCM 2005-19, BCM 2005-27, and BCM 2005-28). In 2005 Northern Long-eared bat (*Myotis septentrionalis*) presence was documented at site BCM 2005-01, little brown bat (*Myotis lucifugus*) presence was confirmed at BCM 2005-01 and BCM 2005-19, and the tricolored bat (*Perimyotis subflavus*) was confirmed at all four sites. In 2014 presence of the Northern Long-eared bat and tricolored bat were documented at site BCM 2005-28. At the presence was confirmed by the PGC in the fall of 2004 and March of 2005 the PGC confirmed the presence of the Indiana bat (*Myotis sodalis*) at the site during an internal hibernaculum survey. In the fall of 2022 BCM confirmed the presence of the Northern long-eared bat, tricolored bat, the Eastern small-footed bat (*Myotis leibii*), and little brown bat (*Myotis lucifugus*) at the site during the small-footed bat at site BCM 2005-19, and the tricolored bat at site 2005-27 (Table 4).

Figures

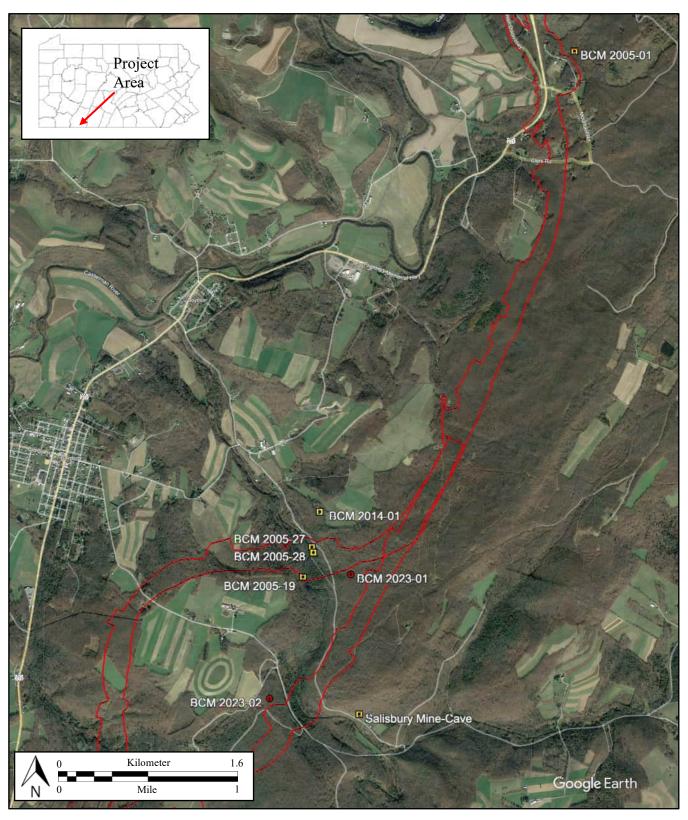


Figure 1. Location of two sandstone natural caves trapped in 2023 (sites BCM 2023-01 and BCM 2023-02) in relation to six mine portals previously trapped and the proposed alignments.

Tables

Table 1. Trap site locations, level of effort, and captures by night.

	Site						Capture	Resul	lts	
Survey Site	Location Lat, Long, (WGS84)	Site description	Survey Method by Date	Survey Dates	EPFU	MYLE	MYLU	MYSE	PESU	Total by Date
		A 4 ft. wide x 1.5 ft. high sandstone cave	One 3 ft. harp trap set	09/19	-	-	-	-	-	0
		entrance formed under a fractured	outside and parallel to	09/27	-	-	-	-	-	0
BCM 2023-01	39.743505° -79.051612°	dome shaped outcrop that rises above the surrounding terrain. The passage inside sloped downward and opened into a 3 ft. high x 5 ft. wide x 15 ft. long passage that turned left out of sight.	the entrance with one Pettersson D500x Detector. The D500x mic was pointed at the entrance.	10/03	-	-	-	-	-	0
			2023-01 Species and S	ite Total	0	0	0	0	0	0
		A 1.5 ft. wide x 2.5 ft. high sandstone cave entrance at the base of a 20 ft. high cliff	One 3 ft. harp trap set	09/19	-	-	-	-	,	0
DCM		outcrop. The passage inside sloped down and was slightly larger than the opening.	outside and parallel to the entrance with one	09/27	-	-	-			0
BCM 2023-02	39.733517° -79.060108°	3 ft. past the entrance the passage turned sharply to the right and opened up to a 5 ft. high and 2 ft. wide passage that continued for 6 ft. then narrowed down to several fissures in the rock.	Pettersson D500x Detector. The D500x	10/03	-	-	-	-	-	0
			2023-02 Species and Si	te Totals	0	0	0	0	0	0
			Project Specie	es Totals	0	0	0	0	0	0

EPFU = big brown bat (*Eptesicus fuscus*), MYLE = Eastern small-footed bat (*Myotis leibii*), MYLU = little brown bat (*Myotis lucifugus*), MYSE = Northern long-eared bat (*Myotis septentrionalis*), PESU = tricolored bat (*Perimyotis subflavus*)

Table 2. Survey start and end times and temperatures.

Survey Site	Survey Dates	Time Start	Start Temp (°C)	Low Temp During First 2 Hours of Survey (°C)	Low Temp During Last 3 Hours of Survey (°C)	Survey End Time
DCM	09/19	18:50	13.6	10.5	7.9	00:00
BCM 2023-01	09/27	18:35	11.8	9.7	8.4	23:35
2023-01	10/03	18:25	19.1	14.5	12.1	23:25
ВСМ	09/19	19:09	13.6	10.4	8.2	00:09
	09/27	18:35	10.1	9.6	8.4	23:35
2023-02	10/03	18:25	19.1	13.9	11.0	23:25

Highlighted survey dates were invalid due to low temperatures.

Table 3. Acoustic bat passes at sites BCM 2023-01 and BCM 2023-02 during each survey hour.

		Five Hour Survey Period During Each Survey Date														
Trap Site		09/19					09/27			10/03				Total Site Bat Passes		
		2	3	4	5	1	2	3	4	5	1	2	3	4	5	Site Dat Passes
BCM 2023-01	_	1	_	_	_	1	_	_	_	_	_	_	_	_	-	
BCM 2023-01 Totals			1	1			1				0					2
BCM 2023-02	_	_	_	_	_	_	_	_	_	_	*	*	*	*	*	
BCM 2023-02 Totals			0					0					*			0

^{*}Detector at site BCM 2023-02 on 10/03 malfunctioned and did not collect data.

Table 4. Summary of US 219 Improvement Project historical and 2023 fall trapping results.

Survey Site Name (Lat/Long, WGS84)	Survey Year	EPFU	MYLU	MYSE	MYLE	PESU	Site Total by Year
20110007 041	2005	0	14	7	0	6	27
BCM 2005-01 ¹ (39.785566°, -79.028209°)	2014	0	0	0	0	0	0
(33.703300) 73.020203)	2022	0	0	0	0	0	0
DOM 2005 40 ²	2005	0	2	0	0	2	4
BCM 2005-19 ² (39.743311°, -79.056614°)	2014	0	0	0	0	0	0
(33.743311 , 73.030014)	2022	0	0	0	1	0	1
DOM 2005 27	2005	0	0	0	0	2	2
BCM 2005-27 ² (39.745696°, -79.055679°)	2014	0	0	0	0	0	0
(33.743030 ; 73.033073)	2022	0	0	0	0	1	1
20110007 003	2005	0	0	0	0	2	2
BCM 2005-28 ² (39.745260°, -79.055530°)	2014	0	0	2	0	0	2
(33.743200 , 73.033330)	2022	0	0	0	0	0	0
BCM 2014-01 ³	2014	0	0	0	0	0	0
(39.748539°, -79.054863°)	2022	0	0	0	0	0	0
	1992	0	1	2	2	2	7
	2004	8	509	48	0	14	579
	2022	24	12	3	20	4	63
BCM 2023-01 ⁵ (39.743505°, -79.051612°)	2023	0	0	0	0	0	0
BCM 2023-02 ⁵ (39.733517°, -79.060108°)	2023	0	0	0	0	0	0

EPFU = big brown bat (*Eptesicus fuscus*), MYLE = Eastern small-footed bat (*Myotis leibii*), MYLU = little brown bat (*Myotis lucifugus*), MYSE = Northern long-eared bat (*Myotis septentrionalis*), PESU = tricolored bat (*Perimyotis subflavus*).

Level of effort was 2 consecutive nights in 2005, 3 nights over a 2-week period in 2014, and 6 nights over a 6-week period in 2022.

² Level of effort was 2 consecutive nights in 2005, 3 consecutive nights in 2014, and 6 nights over a 6-week period in 2022.

³ Site was not surveyed in 2005. Level of effort was 3 consecutive nights in 2014 and 6 nights over a 6-week period in 2022.

⁴ Site was surveyed by PGC in 1992 and 2004. Site was not surveyed in 2014. Level of effort was 6 nights over a 6-week period in 2022.

⁵ Site was found in 2023. Level of effort was 3 nights over a 3-week period in 2023.

Appendix A Trap Site Photographs



Trap Site 2023-01: Sandstone cave opening on a large dome shaped outcrop. The cave was trapped using a 3 ft. harp trap (0.9m x 1.1m) set parallel to entrance with netting draped over and around trap and cave opening. A Pettersson D500x bat detector microphone was pointed toward trap.



Trap Site 2023-02: Sandstone cave opening near the bottom of a large outcrop. The cave was trapped using a 3 ft. harp trap (0.9m x 1.1m) set parallel to entrance with netting draped over and around the trap and cave opening. A Pettersson D500x bat detector microphone was pointed toward trap.

Appendix B

PGC Site and Bat Capture Forms

FORM WD-7000H-N/T 05/21

5/21	Page 1 of 2
	DOMESTIC THE APPLICATION OF THE STATE OF THE
. Survey Date: 9/19/	2023 2 Company Name: Bot Couservation & Mangaster
The state of the s	A Assistants:
S. Site Name and/or Number	BCM 2023-01
Site is (circle one): 1	ibernation site summer habitat
7a. If hibernation site circle	one: Timestone mine, coal mine, Timestone cave, Sindstone cave, RR tunnel,
	other structure, describe -
	ribe area being sampled (e.g., forested stream or forest clearing with stream):
8. County: Some	set 9. Township: FIG Liebe
In Was site GPS'd with a C	PS unit? YES. NO
11. Geographic Coordinate	s (DD): Latitude: 37.743505 "N, Longitude: 77.051612 "W
Datum (circle one)	WGS84 (Preferred), NADE3, NAD27, Other:
email if availables Stee A	hen Hershkerger 159, Salisbury PA 15558
13. Time (military) & Tem	perature: Start Time 1850 h Stop Time 0000 h Total Minutes: 3/0
	Start Temp. 56.4° End Temp. 46. 2 ° F / C (circle ine)
14. General Weather (circ	le one); Clear, Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
	Steady Rain; Thunderstorms; Snow; Other:
15. Wind Conditions (circ	le onei/ Calmt Slight Breeze (leaves rustle); Gentle Breeze (leaves and twigs move);
	Moderate Breeze (small branches move); Windy (trees swaying).
16. Describe habitat 150 m	around site: (topography and vegetation including dominant tree species)
Time Temp of 1000 513° 100 50,8° 200 49,1	Material most dominated by

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

Page 2 of 2

(Site Survey Record - Continued)

Site Name/No.: BCM2023-01

Date: 9/19/83

17. Capture Setup at Site:

Set	Type	Count	Dineralina	Discription	Total Area.	Vertical	Committee C.
1	New	1.4	12m x 2.5m	Stacked mer trad	(80)	Extent	Geographic Coordinates (DD)
A	Harp	0.55				fm -71.4m	Lonnah Longitude
	Trap	-	D. The //	to estronce	0.982	1-2m	78051612
	-						
-	_						
		-					
1							

Total Capture Area: 0.98 m2

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

Validad		Num!	er of emales		No. Juv.	Total No.	Num!	per of Males	No.	Total No.	Species Intals
Species	NR	PG	L	PL	Fem.	Fem.	SCR	NR	Male	Males	
Epiericar/acu	- 2	111,411	1	1//		J	5 2				
Myotis						-	-	-1	1	4	2.1
hecifugur		100									
Monte		-							_		_
applystrionalis								. 1			
Myonis leibii											
Abonia									-		_
andalo .	-27								-		
Eptesions								-	-	-	
furcus			_			200					
Papistrellus.					4 3	-	/				
subflavus			_		V	1				L	
Latiturus barvatis				(A)	30						
Laxiorus	_		-	-1	11						
CONTROLS			1 4				-				
Lationscieria	-		-14	1		_					
moct/vagana	-	- 4	-					7 1			2 1 2
Other - specify:		- '		_		-					
		1								= [
Other - specify:	-/									-	_
										- 1	
Reproductive	Status: N	NR non	reprodu	ctive, Pe	G= pregn	int, L= la	ctuting.				Grand
4.6	om nto	ru- pos	raction	III. NCR	- scrotal/	epididym	is swolle	n.			Lotal
111	omprei	e Mea	urem	ent and	d Captu	re Dati	Form	for al	10		12
(II) M	votis sod	alis, (2) o-tagge	Myotis	leibii. (3) bats yo	are bar	rding or	band re	canture	61 H	20

FORM WD-70008-N/T

	T NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 9/27/202	3 2 Cumpany Name: Bot Conservation + Hungremont
3. Reporter: Tool Sugar	les 4. Assistants: Merced to Goza
5. Site Name and/or Number:	CM 2023-01
6. Site is (circle one): h)bernat	
	imestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
	other structure, describe -
	rea being sampled (e.g., forested stream or forest clearing with stream):
to, it summer taxoning everyone	N/4
& County Samenset	9. Township: FIK Liels
10. Was site GPS'd with a GPS un	
11. Geographic Coordinates (DD)	: Latitude: 39.743505 "N. Longitude: -79.051612 "W
	S84 (Preferred), NAD83, NAD27, Other.
	re: Start Time 1835 h Stop Time 2335 h Total Minutes: Start Temp 53.2 * End Temp 47.1 Ell C (circle one)
14. General Weather (circle one):	: Clear, Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
	Steady Rain; Thunderstorms; Snow; Other:
15. Wind Conditions (circle one)	: Caim; Slight Breeze (leaves rustle); Gentle Breeze (leaves and twigs move);
	Moderate Breeze (small branches move): Windy (trees swaying).
16. Describe habitat 150 m aroun	ed xite: (topography and vegetation including dominant tree species)
Time Temp of 1935 50,2°F 2000 49,9° 8035 49,4°	Motore mixed forest dominated by oak a maple with some heimled white fine. Site is on a west facing slope

COMMONWEALTH OF PENNSYLVANIA

(Site Survey Record - Continued)

Site Name/No.: 3CM 3023-01

17. Capture Setup at Site:

Set.	Type	Count	Dimensions	Description	Total Area	Vertical Extent	Geographic Coordinates (DD)
1	Nerr	- 4	12m x 2.5m	Stocked over trust	1248 up re	Im II dm	Latticule Longitude
A	Harp Trops	1	Ollax I.Im	to sittems	0.781	1-200	39.743505
		-					
_					4		

Total Capture Area: 0.98 2

18. Was reproductive status checked? YES // NO (if "NO" only enter numbers in Total columns)

Number of No. Total Number of No. Total Adult Females Juv. No. Adult Males Juv. No. Species Species Fem. Fem. NR Male Males PL Totals SCR Приняти фили Myotis *lucifique* Myorix gnestrionalis Montin leibii-Aboutis *xodalix* Epiestena fisiens Papareellas suchflavan Lasterus hornalis Lastwein Cheresa Lastimycteris noctivagains Other - specify Other - specify: Beproductive Status: NR- nonreproductive, PG- pregnant, L- lactating, Grand PL= post factating, SCR= scrotal/epididymis swollen. Total. *Complete Measurement and Capture Data Form for all: Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures,
 (4) radio-tagged bats and (5) hat species not usually found in PA.

FORM WD-70008-N/T 05/21

BAT NETTING/TRAPPING	SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 10/3/2023 2 Company Name: B	at Conservation Management
3. Reporter: Toll Singular 4 Assistants: Mer-	
5. Site Name and/or Number: BCM 2023-01	
6. Site is (circle one): hibernation site summer h	abitat
7a. If hibernation site circle one: limestone mine, coal mine, l	imestone cave. (sandstone cave) RR tunnel.
other structure, describe -	
7b. If summer habitat, describe area being sampled (e.g., fore	sted stream or forest clearing with stream):
N/A	
8. County: Somerset 9. Townsh	HP: Elk Liek
10. Was site GPS'd with a GPS unit? (YES) NO	
11. Geographic Coordinates (DD): Latitude: 39.74350	
Datum (circle one): WGSSP (Preferred), NAD83, N	AD27, Other:
PO Box 459 Solisbery P 13. Time (military) & Temperature: Start Time 1825 h Start Temp 664 * 14. General Weather (circle one): Clear: Partly Cloudy, Mos Steady Rain; Thunderstorm	Stop Time 23,25 h Total Minutes: 380 End Temp. 53.7 F) C (circle one) stly Cloudy: Cloudy: Drizzle; Intermittent Rain:
15. Wind Conditions (circle one): Calm? Slight Breeze (leave	
	inches move); Windy (trees swaying).
16. Describe habitat 150 m around site: (topography and veg	etation including dominant tree species)
Time Temp's oak + maple	

COMMONWEALTH OF PENNSYLVANIA Pomoghunia Game Commission

Page 2 of 2

(Site Survey Record - Continued)

Site Name No.: BCM 2023 - 01

Date: 10/3/2023

17. Capture Setup at Site:

Set.	Type	Count	Distribus	Description	Total Area (m)	Vertical Extent	Geographic Coordinates (DD)
3	Nen	- 4	CARRELIN.	Stacked over trail	124 5 ng m	/m -21.4m	Latenide Longstude
A	Harp	1	09axl/m	Chillenge + Damillel	0.78m²		19.7435 05 0 - 29.051613°
			ļ				

Total Capture Area: 0,98,4

18. Was reproductive status checked? YES / NO (if "NO" only onter numbers in Total columns)

Species		Numb Adult F			No. Juv.	Total No.	Numb		No. Juv.	Total No.	Specie
Species	NR	PG	L.	PL.	Fem.	Fem.	SCR	NR	Male	Males	Totals
Еринина Догна	. 2		1	- 31		3	2	10	7	4	7.0
Alyentie Incifigatie										4	100
Myneix imptentrionalis											1
Myota							77			/	
Afyeris rodalis									/		
Epivsicus Juscus				ó		12	100				_
Piparrellus subflavus					05						
Lasiurus borealis				1	0.5						
Canthras				7							
Lasionycreris moctivagana			- >				-	-			
Other - specify:		1									
Other - specify:	/										
Reproductive		L. post	lactation	ng. SCR	- scrotal-	enididyeni	is awalle	1.		-	Grand Total
(L) M:	omplet otis sodi	e Meas	tvotis	ent and leibii, (3	d Captu) bats vo	re Data	Form	for all	eria ridica dese	.	0

FORM WD-70008-N/T 05/21

	BAT_NETTING/TRAPPING SITE SURVEY RECORD Page	of 2
1. Survey Date: 9/19/6	2023 2 Company Name: Bot Consecration & Managem	inst
	inder 4. Assistants: Mercalithe Goza	
5. Site Name and/or Number:	BCH 2023-02	-
6. Site in (circle one): (hib	pernation site summer habitat	
7a. If hibernation site circle or	ne: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,	
	other structure, describe -	
	be area being sampled (e.g., forested stream or forest clearing with stream):	
8. County: Samers	ct 9. Township: Ell Lick	
10. Was site GPS'd with a GP	S unit? YES NO	
11. Geographic Coordinates (DD): Latitude: 39.733517 *N, Longitude: 79.060108	÷W
	WGS84 (Preferred), NAD83, NAD27, Other:	
email (Favallable) View	Who owns site or controls access? Give name and address; include phone and in Me, meet, 166 Coal Run Revil. PA 18552	or
13. Time (military) & Temper	Start Time 9:00 h Stop Time 00.09 h Total Minutes: Start Temp. 50.4 * End Temp. 60.9 F C (circle one) one): Clear: Partly Cloudy: Mostly Cloudy: Cloudy: Drizzle: Interminent R.	
	Steady Rain; Thunderstorms; Snow; Other:	
15. Wind Conditions (circle)	one); Calm) Slight Breeze (leaves rustle); Gentle Breeze (leaves and twigs mo	rve);
	Moderate Breeze (small branches move); Windy (trees swaying).	
Temp im	round site: (topography and vegetation including dominant tree species) Ffelde of making rocky terrain with moture deciduous trees, mosses, the erns throughout. Portugined at 22145 mer cave -	- was
48.9	wandering around it then ran off a shined light on it for a white . I not see it again (was clicking	Star

(Site Survey Record - Continued)

Site Name/No.: 8 (M2073 - 07 Date: 9/19/23

17. Capture Setup at Site:

Set	Type	Count	Dimensions	Description	Total Area (m)	Vertical Extent	Geographic Coordinates (DD)
20	Netr	160	1200 x 2.600	Nejcked over mail	334.8 sq. m	- 1m -71 day	Listande Langinule
A	TOP	1.	offnex liley	Cartachen finites			39,7755179 -79.0601080
-							
-							

Total Capture Area: 0.98 ... 2

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE RESULT Number of No. Total Number of Total Adult Females Juv. Adult Males No. Juv. No. Species. Species Fem. Fem. PG L Male Males NR. Totals SCR NR Epieticia finana Abretin **Auctfugue** Montix septentrionalis Myong Jethii. Moore sindalis. Entesious /kicks Pipistrellus subfliction Lanung bornalis Lament cinereus Lasionycteris **постуация** Other - specify. Other-specify: Reproductive Status: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen. Leist *Complete Measurement and Capture Data Form for all: (1) Mvotis sodalis, (2) Mvotis leibii, (3) bats you are banding or band recaptures,

(4) radio-tagged bats and (5) but species not usually found in PA.

FORM WD-70008-N/T

BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
1. Survey Date: 9/27/2023 2. Company Name: Bat Conservation Management
3. Reporter: Todal Smander 4. Assistants: Moredith Goza
5. Site Name and/or Number: BCM2023-02
6. Site is (circle one): hibernation site summer habitat
7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
other structure, describe -
7b. If summer habitat, describe area being sampled (e.g., forested stream or forest clearing with stream):
8. County: Samersof 9. Township: Elk Liete
10. Was site GPS'd with a GPS unit? YES NO
11. Geographic Coordinates (DD): Latitude: 39.7335/7 N. Longitude: 79.060/08 "W
Datum (circle one): WGS#4 (Preferred), NAD83, NAD27, Other:
12. Ownership and Access: (Who owns rite or controls access? Give name and address; include phone and/or email if available) Keyer Weinser, 166 Coal Las ld.
Meyersolale PA 15552
13. Time (military) & Temperature: Start Time 18 35 h Stop Time 73:35 h Total Minutes: 30
Start Temp. * End Temp. * F / C (circle one)
14. General Weather (circle one): Clear, Partly Cloudy) Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;
Steady Rain; Thunderstorms; Snow; Other:
15. Wind Conditions (circle one): Calm: Slight Breeze (leaves rustle); Gentle Breeze (leaves and twigs move);
Moderate Breeze (small branches move); Windy (trees swaying).
16. Describe hubitat 150 m around site: (topography and vegetation including dominant tree species)
Time Temp 12:00 - charled and, long marked of 1. 10 50.3 10 49.2 10 49.2 10 49.9

COMMONWEALTH OF PENNSYLVANIA Pennsylvania Game Commission

(Site Survey Record - Continued)

Site Name(No.) RCM2023-02 Date: 9/19/23

17. Capture Setup at Site:

Set	Type	Cinest	Dimensions	Description	Total Area	Vertical Extent	Geographic Coordinates (DD)
TEL	Netr	4.0	73M×7.6m	Stocked over trail	1724 # pg m	Im -12.4m	Lontrole Longitude
4	tres	<i>y.</i> :	0.9 mix/ilm	OURSURE HAVELY THE RIVER ENTRESS	0.95	15200	29.253517 * -71.060108*
_							

Total Capture Area:

18. Was reproductive status checked? VES / NO (if "NO" only enter numbers in Total cohonn)

*CAPTURE RESULTS Number of No. Total Number of Total Adult Females Juv. No. Adult Males Juv. No. Species Species Fem. Fem. Mate Males: Totals SCR Epistical forcus About. Decthigues Moutis nghentrionalis Myntis lethii: Myotiv sodatis. Epitericus Acteur. Pipistrellus autoflavna Eastleries horealti Latinesis CHARPUMA Lasionycurus Hischivstgalna Other - specify: Other - specify: Reproductive Status: NR=nonreproductive, PG= pregnant, L= lactating, Grand PL= post lactating, SCR= scrotal/epididymis swollen. Total *Complete Measurement and Capture Data Form for all: Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures,
 (4) radio-tagged bats and (5) bat species not usually found in PA.

FORM WD-70008-N/T 05/21

	1	BAT NETTING/TRAPPING SITE SURVEY RECORD Page 1 of 2
L Survey Date	10/3/20	223 2 Company Name: Bat Course valion a Management
		4. Assistants: More S. H. Goza
5. Site Name a	ind/or Number:	BCM 2023-02
6. Site is (circ	le one): hiber	nation site summer habitat
a. If hibernat	ion site circle one:	limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,
		other structure, describe -
		area being sampled (e.g., forested stream or forest clearing with stream):
8. County: _	Someset	9. Township: Elk Lick
		unit? (YES NO
11. Geographi	c Coordinates (DI	D): Latitude: 39. 73.35/7 *N, Longitude: 79.060/08 *W
Datus	n (circle one): We	GS84 (Preferred), NAD83, NAD27, Other:
email if availat	Weyn a	o owns site or controls access? Give name and address; include phone and/or 10, mer., 166 Coal Ruin Rood. AA 15552
		Start Temp 18-25 h Stop Time 13-12 h Total Minutes: 300 Start Temp 166-3 * End Temp, 51-8 * F / C (circle one)
		Steady Rain; Thunderstorms; Snow; Other:
15. Wind Cor	nditions (circle one	:): Calm; Slight Breeze (leaves rustle); Gentle Breeze (leaves and twigs move);
		Moderate Breeze (small branches move); Windy (trees swaying).
16. Describe b	nabitat 150 m arov	and site: (topography and vegetation including dominant tree species)
ime	Tomp	21:55 - saw prompting or made
125	59.1	
29	57.0	
75	59.1 57.0 54.8 53.9	
: 25	200	
945		

(Site Survey Record - Continued)

COMMONWEALTH OF PENNSYLVANIA Page 2 of 2
Pennsylvania Game Commission

Site Name/No.: 3CM 2933-02 Date: 10/3/2023

17. Capture Setup at Site:

Set.	Type	Count	Dimensions	Description	Total Area	Vertical Extent	Geographic Coordinates (DD)
1	Nets	-4	12mx 2.6m	Stanford over most	124 8 na m	Im-II.4n	Lottende Longitude
A	temp	9	0.9mx 11/m	ostsule +timely cove entrance	0,88 4.2		39.733517"
-							

Total Capture Area:

18. Was reproductive status checked? YES / NO (if "NO" only enter numbers in Total columns)

*CAPTURE Number of No. Total Number of Total Adult Females Juv. No. Adult Males Juv. Species No. Species Fem. Fem. Male Males. Totals PG P1. SCR-Epiroteas Juntas Abunia **ЛисуПория** Abronie нервентновый Myony leibui-Myotix s podařís Epitericus functor. Pipistrellus. rulylanus Larierea 00 buryalis Lariurus chieress Lanimpeteris постічнали Other - specify Other - specify Reproductive Status: NR= nonreproductive, PG= pregnant, L= lactating, Grand PL= post factating, SCR= scrotal/epididymia swollen. Lotal *Complete Measurement and Capture Data Form for all; Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures,
 (4) radio-tagged bats and (5) bat species not usually found in PA.