

Mist Netting Data Form

Sheet 1 of 2

Site No. 20 Project No./Name 412.01 / Emerson Creek Date 7-20-15
 Site Location wood lot off CR 46 (South) + East of North CR 27
 County Seneca State OH Time Up 0855 Time Down 200
 Lat/Lon; UTM: N/E 41.18639 W/N -82.931455 Zone 18 Datum NAD83 Observers B. Renley / R. M. Geyer

COPPERHEAD
ENVIRONMENTAL SERVICES

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:30	EPFU	A	F	PL	19.0	48	B	3	1	N/A	N/A	N/A
2	10:30	EPFU	A	F	PL	21.5	49	D	1.5	1	N/A	N/A	N/A
3	10:50	EPFU	A	F	PL	18.0	45	A	2	0	N/A	N/A	N/A
4	10:50	LABO	A	F	NR	10.5	36	C	4	0	N/A	N/A	N/A
5	1:10	LABO	A	F	PL	14.5	43	A	1.5	0	N/A	N/A	N/A
6	1:20	LABO	J	F	NR	10.75	41	D	2	0	N/A	N/A	N/A
7													
8													
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Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Eptesicus fuscus (EPFU); Lasiurus borealis (LABO); Lasiurus cinereus (LACI); Lasiurus seminolus (LASE); Lasionycteris noctivagans (LANO); Myotis austroriparius (MYAU); Myotis grisescens (MYGR); Myotis leibii (MYLE); Myotis lucifugus (MYLU); Myotis septentrionalis (MYSE); Myotis sodalis (MYSO); Nycticeius humeralis (NYHU); Perimyotis subflavus (PESU); Tadarida brasiliensis (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

Moon Phase	%	Wax	Wane
	78		
	Rise		Set
Sun	6:15		20:49
Moon	7:55 16:23		1:55

Time	Temp (F)	Sky	Wind	No. Bats
9:00	78	2	0	N/A
10:00	71	3	0	1
11:00	70	3	0	3
12:00	68	3	0	0
1:00	66	2	0	0
2:00	65	1	0	2

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

Mist Netting Data Form

Site No. 20 Project No./Name 412.01 / Emerson Creek Date 7-28-15
 Site Location wood lot south of CR 46 and East of North CR 27
 County Serena State OH Time Up 8:55 Time Down 0155
 Lat/Lon; UTM: N/E 41.18639 W/N -82.931455 Zone 17N Datum NAD83 Observers B. Renley / R. McElroy



#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:20	EPFU	J	M	NR	14.0	46	D	2	0		17168	
2	9:40	EPFU	A	M	NR	18.0	47	A	3	0			
3	9:40	EPFU	J	F	NR	15.5	47	A	1.5	0			
4	9:50	EPFU	A	M	NR	15.25	44	C	2	0			
5	10:20	EPFU	J	M	NR	13.5	45	D	7	0			
6	10:50	LABC	A	M	NR	14.0	40	D	5	0			
7	10:50	EPFU	J	F	NR	15.0	46	D	3	0			
8	11:20	EPFU	J	M	NR	15.5	45	A	3.5	0			
9	12:00	EPFU	A	M	S	19.5	47	D	6	0			
10	12:30	LACI	A	F	NR	25.0	54	C	2	0			
11	12:50	EPFU	A	M	NR	17.0	48	D	3	1			
12	2:00	MYSE	J	F	NR	6.0	35	A	2	0		17168	
13													
14													
15													
16													
17													
18													
19													
20													
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22													
23													
24													
25													
26													
27													
28													
29													
30													

Moon Phase	% <u>93</u>	Wax / Wane
	Rise	Set
Sun	<u>6:34 AM</u>	<u>8:54 PM</u>
Moon	<u>3:36 AM</u>	<u>6:27 PM</u>

Time	Temp (F)	Sky	Wind	No. Bats
9:00	81	1	0	N/A
10:00	78	1	0	4
11:00	75	1	0	43
12:00	73	1	0	1
1:00	71	1	0	3

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Weatherproofing _____ Coordinates _____

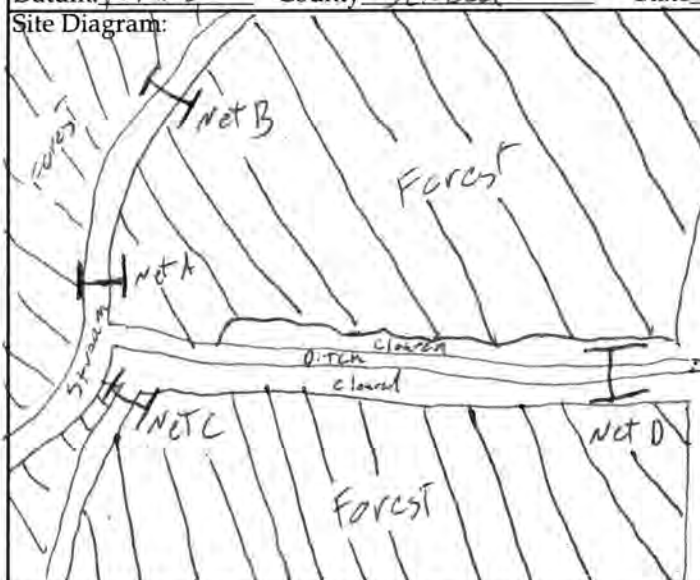
Comments: _____

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Mist Net Site Habitat Sheet

Site No. 20Project No./Name 412.01 / Emerson CreekDate 7-26-15Lat/Lon; UTM: N/E 41-18639 W/N -82.931455Zone Observers B. Beasley / R. McGroganDatum: NAD83 County Seneca State OH Quad Fireside

Site Diagram:



Net	Height (m)	Length (m)	Dates
A	5.2	6	7-26-15 / 7-28-15
B	5.2	6	7-26-15 / 7-28-15
C	5.2	6	7-26-15 / 7-28-15
D	7.8	9	7-26-15 / 7-28-15
E			
F			

Site Photographs

Camera: Photo Log:

Dominant Vegetation

1. <u>Walnut</u>	4. <u> </u>
2. <u>Shag bark Hickory</u>	5. <u> </u>
3. <u>Red oak</u>	6. <u> </u>

Net Set by Habitat

Habitat	A	B	C	D	E	F
River						
Stream	✓	✓				
Pond						
Corridor			✓	✓		
Cave						
Mine						
Forest						
Gap						
Other						

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

3**Roost habitat:** 1. Poor: No or few snags $\geq 5"$ DBH with sloughing bark or other usable roost features (cracks, crevices, etc)

2. Moderate: Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.

3. Optimal: Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.3**Water Resources:** 1. Poor: bat drinking resources not present at the site.

2. Moderate: Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.

3. Optimal: Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.

3**Forest Structure:** (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).

1. Poor: Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging

2. Moderate: some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.

3. Optimal: Mature forest. Diverse age classes of trees present. Trees >15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.2**Land Cover:** 1. Poor: Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.

2. Marginal: Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.

3. Optimal: Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

11**Total Habitat Score** (Should be between 4 & 12)

Comments:

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COPPERHEAD
ENVIRONMENTAL CONSULTING

Mist Netting Data Form

Sheet of

Site No. 21 Project No./Name 415 / Emerson Creek Date 25 July 2015
 Site Location Woodlot South of site 26
 County Seneca State OH Time Up 2055 Time Down 0157
 Lat/Lon, UTM: N/E 41.21120 W/N 82.96358 Zone Datum NAD83 Observers T. Wetzel
A. Ashmore

COPPERHEAD
ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2240	EPFU	A	M	NR	17.5	47	A	2.0	0			
2													
3													
4													
5													
6													
7													
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Moon Phase	%	Wax / Wane
	Rise	Set
Sun	0619	2057
Moon	1530	0625

Time	Temp (F)	Sky	Wind	No. Bats
2100	75	1	0	0
2200	72	0	1	1
2300	71	0	1	0
0000	72	2	1	10
0100	73	2	2	1
0157				

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Eptesicus fuscus (EPFU); Lasiurus borealis (LABO); Lasiurus cinereus (LACI); Lasiurus seminolus (LASE); Lasionycteris noctivagans (LANO); Myotis austroriparius (MYAU); Myotis grisescens (MYGR); Myotis leibii (MYLE); Myotis lucifugus (MYLU); Myotis septentrionalis (MYSE); Myotis sodalis (MYSO); Nycticeius humeralis (NYHU); Perimyotis subflavus (PESU); Tadarida brasiliensis (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

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Mist Netting Data Form

Site No. 21 Project No./Name 412 / Emerson Creek Date 27 July 2015
 Site Location Woodlot south of site 26
 County Seneca State OH Time Up 2050 Time Down 0154
 Lat/Lon ; UTM: N/E 41.21120 WYN 82.90358 Zone 18 Datum NAD83 Observers T. Netel
A. Ashmore

COPPERHEAD
ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2118	LARBO	A	F	PL	140	42	A	3.0	0	—	—	—
2	2118	EPFU	A	M	S	16.5	47	A	4.5	0	—	—	—
3	0100	LARBO	JV	F	NR	10.75	42.5	E	2.4	0	—	—	—
4													
5													
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29													
30													

Moon Phase <u>75</u> %	Wax / Wane	
	Rise	Set
Sun	<u>0622</u>	<u>2054</u>
Moon	<u>1823</u>	<u>0335</u>

Time	Temp (F)	Sky	Wind	No. Bats
<u>2100</u>	<u>79</u>	<u>2</u>	<u>1</u>	<u>2</u>
<u>2200</u>	<u>75</u>	<u>1</u>	<u>0</u>	<u>0</u>
<u>2300</u>	<u>73</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>0100</u>	<u>71</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>0100</u>	<u>70</u>	<u>0</u>	<u>0</u>	
<u>0200</u>				

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Weatherproofing _____ Coordinates _____

Comments: _____

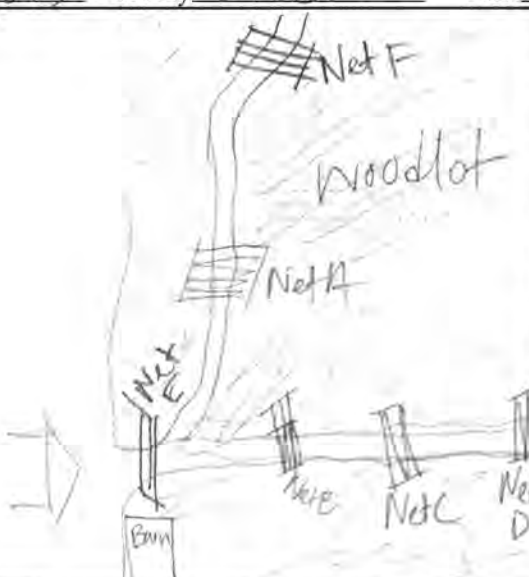
Please Return to:
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Mist Net Site Habitat Sheet

Site No. 21Project No./Name 412 / Emerson CreekDate 25 July 2015Lat/Lon: UTM: N/E 41.21120W/N 82.91358Zone —Observers T. WetzelDatum: NAD83County SenecaState OHQuad Fireside

A. Ashmore

Site Diagram:



Net	Height (m)	Length (m)	Dates
A	7.8	9	7/25 + 7/27
B	6.2	12	7/25 + 7/27
C	5.2	9	7/25
D	5.2	6	7/25
E	5.2	9	7/27
F	5.2	9	7/27

Site Photographs

Camera: Two Olympus

Photo Log:

Dominant Vegetation

1. <u>Acer saccharum</u>	4. <u>L. tulipifera</u>
2. <u>F. granifolia</u>	5. <u>I. americana</u>
3. <u>A. rubra</u>	6. <u>F. pennsylvanica</u>

Net Set by Habitat

Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor	X	X	X	X	X	X
Cave						
Mine						
Forest	X					
Gap						
Other						

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

- 3 **Roost habitat:** 1. Poor: No or few snags ≥ 5 " DBH with sloughing bark or other usable roost features (cracks, crevices, etc)
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 3. Optimal: Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

Total Habitat Score (Should be between 4 & 12)

Comments:

tracked female myso to RT386 in woodlot on 7/27

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859-925-9012

COPPERHEAD
ENVIRONMENTAL SERVICES

Mist Netting Data Form

Sheet 1 of 2

Site No. 22 Project No./Name 912-01 / Emerson Creek Date 7/26/2015
 Site Location 5425 N. 18th Woodlot, Ziegler prop
 County Seneca State NY Time Up 9:00 Time Down 2:15
 Lat/Lon; UTM: N/E 41.219165 W/N 82.9441167 Zone — Datum NAD83 Observers Rain Storm
Brandon Smith

COPPERHEAD
ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:20	LABO	Escaped										
2	9:50	EPFU	J	M	NR	12	44	D	3.5	0	0		
3	9:50	EPFU	J	F	PL	17	47	D	2.0	0	0		
4	9:50	EPFU	A	F	PL	19	50	D	2.0	0	0		
5	10:20	EPFU	A	M	TD	18	47	A	1.5	0	0		
6	10:20	EPFU	J	M	NR	16	47	D	3.0	0	0		
7	10:20	EPFU	A	F	PL	19.5	50	C	2.5	0	0		
8	10:20	EPFU	A	F	PL	20	49	C	3.0	1	0		
9	10:20	EPFU	J	M	NR	15	45	A	2.5	0	0		
10	10:20	EPFU	A	M	TD	18.5	46	A	1.0	0	0		
11	11:10	EPFU	A	F	PL	20	49	D	2.0	0	0		
12	11:10	EPFU	A	F	PL	20	48	C	2.5	1	0		
13	12:18	LACT	J	F	NR	17	52	C	3.0	0	0		
14	1:50	MYSE	A	M	NR	8	35.5	D	5.0	0	0	17/71	172.2-87
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													

Moon Phase <u>68 %</u>		Wax / Wane	
	Rise		Set
Sun	<u>6:21 am</u>		<u>8:55 pm</u>
Moon	<u>4:32 pm</u>		<u>2:03 am</u>

Time	Temp (F)	Sky	Wind	No. Bats
9:50	<u>18.9 (64)</u>	<u>1</u>	<u>0</u>	<u>4</u>
11:10	<u>17.0 (62)</u>	<u>1</u>	<u>0</u>	<u>12</u>
1:50	<u>17.0 (62)</u>	<u>1</u>	<u>0</u>	<u>14</u>
2:51	<u>15.0 (59)</u>	<u>1</u>	<u>0</u>	<u>14</u>

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

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Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Eptesicus fuscus (EPFU); Lasiurus borealis (LABO); Lasiurus cinereus (LACI); Lasiurus seminolus (LASE); Lasionycteris noctivagans (LANO); Myotis austroriparius (MYAU); Myotis grisescens (MYGR); Myotis leibii (MYLE); Myotis lucifugus (MYLU); Myotis septentrionalis (MYSE); Myotis sodalis (MYSO); Nycticeius humeralis (NYHU); Perimyotis subflavus (PESU); Tadarida brasiliensis (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

Mist Netting Data Form

Site No. 22 Project No./Name 412.61 / Emerson Creek Date 7/30/2015
 Site Location N 5R 18, Woodlot, 7.14514107
 County Seneca State NY Time Up 8:50 Time Down 2:00
 Lat/Lon; UTM: N/E 41.21965 W/N -82.944107 Zone — Datum NAD83 Observers Rain Storm
Brandon Smith

COPPERHEAD
ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	10:00	EPFU	A	M	TD	17	46	D	3	0	0	—	—
2	11:40	EPFU	A	F	PL	19.5		D	6	1	0	—	—
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
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28													
29													
30													

Moon Phase <u>99.6%</u> Wax // Wane		
	Rise	Set
Sun	<u>6:29a.m</u>	<u>8:52p.m</u>
Moon	<u>8:10p.m</u>	<u>5:35a.m</u>

Time	Temp (F)	Sky	Wind	No. Bats
<u>10:00</u>	<u>67.1</u>	<u>0</u>	<u>0</u>	<u>1</u>
<u>11:30</u>	<u>61.7</u>	<u>0</u>	<u>0</u>	<u>1</u>
<u>1:00</u>	<u>60.8</u>	<u>0</u>	<u>0</u>	<u>2</u>
<u>2:00</u>	<u>59</u>	<u>0</u>	<u>0</u>	<u>2</u>

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Weatherproofing _____ Coordinates _____

Comments: _____

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 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

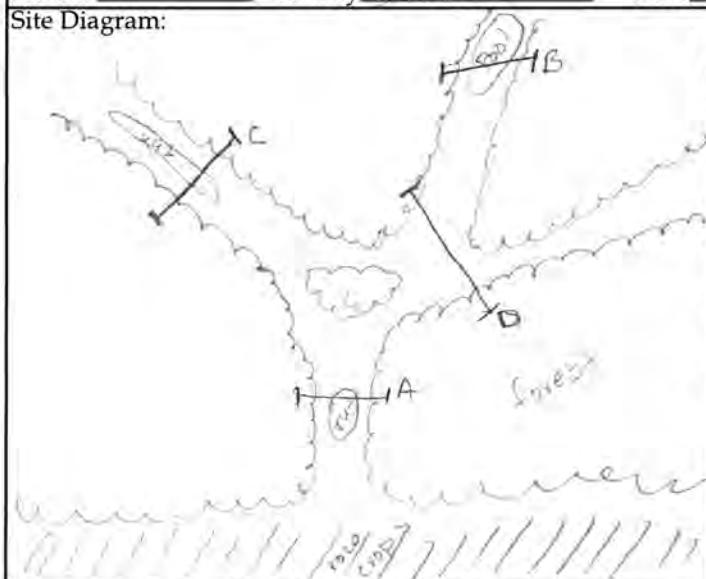
Mist Net Site Habitat Sheet

Site No. 22Project No./Name 412.01 / Emerson CreekDate 7/26/2015Lat/Lon; UTM: N/E 41.21965 W/N 82.944147

Zone

Observers Rain Storm, Brandon SmithDatum: County Seneca State OH Quad Fireside

Site Diagram:



Net	Height (m)	Length (m)	Dates
A	20ft	6m	7/26, 7/30
B	20ft	9m	7/26, 7/30
C	20ft	6m	7/26, 7/30
D	30ft	12m	7/26, 7/30
E			
F			

Site Photographs

Camera: Rain'sPhoto Log: 22A 7225, 721, 220

Dominant Vegetation

1. <u>Red maple</u>	4. <u>Green ash</u>
2. <u>Pink oak</u>	5. <u>Poison ivy</u>
3. <u>Black cherry</u>	6. <u></u>

Net Set by Habitat

Habitat	A	B	C	D	E	F
River						
Stream						
Pond		X				
Corridor	X	X	X	X		
Cave						
Mine						
Forest				X		
Gap						
Other						

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

- 3 **Roost habitat:** 1. **Poor:** No or few snags $\geq 5"$ DBH with sloughing bark or other usable roost features (cracks, crevices, etc)
 2. **Moderate:** Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.
 3. **Optimal:** Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.
- 3 **Water Resources:** 1. **Poor:** bat drinking resources not present at the site.
 2. **Moderate:** Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.
 3. **Optimal:** Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.
- 3 **Forest Structure:** (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).
 1. **Poor:** Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging
 2. **Moderate:** some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.
 3. **Optimal:** Mature forest. Diverse age classes of trees present. Trees > 15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.
- 1 **Land Cover:** 1. **Poor:** Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.
 2. **Marginal:** Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.
 3. **Optimal:** Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

10 **Total Habitat Score** (Should be between 4 & 12)

Comments:

Please return to:

P.O. Box 73, Paint Lick, KY. 40461

859-925-9012

COPPERHEAD
ENVIRONMENTAL CONSULTING

OHIO BAT BANDING DATA FORM

Principle Investigator(s) Rain Storm

Location (lat/longs in D:M:S format) 41.219165
-82.944167

County Seneca Site Description woodlot at N51218

Survey dates 7/26/2015 Total mist net nights 8 @ site 22
7/30/2015

[illegible]

N/R?: N = new capture, unbanded when captured, R = recapture, already banded when captured; **HABITAT** (at capture site): C = creek/riparian, B = bottomland forest, U = upland forest, P = pond, O = other (note type in margin); **ARM BANDED:** L = left, R = right (typically males are banded on the right forearm and females on the left); **SEX:** M = male, F = female; **AGE:** A = adult, J = juvenile, U = unknown; **REPRODUCTIVE CONDITION:** S = scrotal, P = pregnant, L = lactating, PL = post lactating, NR = nonreproductive, U = unknown

Mist Netting Data Form

Site No. 23 Project No./Name 412.01 / Emerson Creek Date 7/25/2015
 Site Location Township Rd 78 - Meacham prop - Interior pond and trails @ deerstand
 County Seneca State OH Time Up 9:00 Time Down 2:00
 Lat/Lon; UTM: N/E 41.24995 W/N -82.96202 Zone Datum NAD83 Observers Rain Storm
Brandon Smith



#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:24	EPFU	J	M	NR	16	46	C	2.5	0	—		
2	9:54	EPFU	A	F	PL	18	48	D	4.0	0	—		
3	9:54	EPFU	J	M	NR	15.5	47	D	3.5	0	—		
4	11:05	EPFU	A	M	NR	19	45	D	2.0	0	—		
5	11:05	EPFU	J	F	NR	20	49	D	1.5	0	—		
6	1:15	EPFU	A	M	TD	18.25	44	D	4.5	0	—		
7													
8													
9													
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30													

Moon Phase 58 % (Wax) / Wane
 Rise Set
 Sun 6:20 am 8:57 pm
 Moon 3:34 pm 1:26 am

Time	Temp (F)	Sky	Wind	No. Bats
9:28	69.8	0	0	1
10:48	69.5	0	1	3
12:20	69.8	0	1	5
2:00	68.9	0	0	5

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type Unit # Date Start time Stop time
 Date Start time Stop time
 Date Start time Stop time
 Weatherproofing Coordinates

Comments:

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

* Data entered by R. Scott on 7.30.15

Mist Netting Data Form

Site No. 23 Project No./Name 412-01 / Apex Wind Emerson Creek Date 7-30-15
 Site Location Township Rd 78 - Meacham prop - Intermittent flats & trails @ deerstand
 County Serena State OH Time Up 2051 Time Down 155 S. Samoray.
 Lat/Lon; UTM: N/E 41.24995 W/N -82.96202 Zone — Datum NAD83 Observers H. Braverman
P. Scott



#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2130	EPFU	A	M	NR	17.0	50.5	B	2.0	0	—	—	—
2	2130	EPFU	A	M	NR	16.5	47.5	C	3.0	0	—	—	—
3	2225	EPFU	A	M	NR	18.5	51.0	B	3.5	0	—	—	—
4													
5													
6													
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30													

Moon Phase 99 % Wax / Wane

	Rise	Set
Sun	<u>0625</u>	<u>2051</u>
Moon	<u>2007</u>	<u>0533</u>

Time	Temp (F)	Sky	Wind	No. Bats
2100	82°	0	1	2
2200	77°	0	0	1
2300	74°	0	0	0
0000	71°	0	1	0
0100	69°	0	0	0
200				

Sky Code

0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale

0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Weatherproofing _____ Coordinates _____

Comments: moved bats from previous locations

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

Sheet _____ of _____



COPPERHEAD
ENVIRONMENTAL CONSULTING

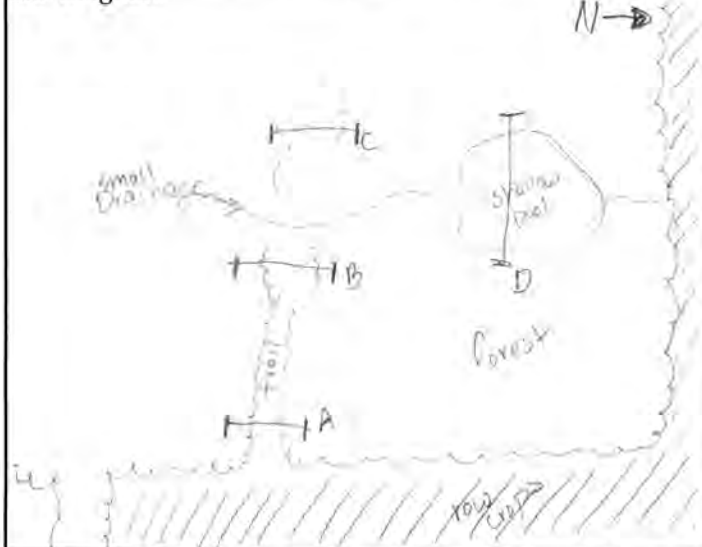
Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Please Return to:
P.O. Box 73, Paint Lick, KY, 40461.
(859) 925-9012

Mist Net Site Habitat Sheet

Site No. 23Project No./Name 412.01/ Emerson CreekDate 7/29/2015Lat/Lon; UTM: N/E 41.21995W/N 77.91007Zone 18Observers Rain Storm, Brandon SmithDatum: NAD83County SenecaState NYQuad Freeville

Site Diagram:



Net	Height (m)	Length (m)	Dates
A	2011	6	7/29/2015
B	2011	9	7/29/2015
C	2011	6	7/29/2015
D	2011	12	7/29/2015
E			
F			

Site Photographs

Camera: KaliosPhoto Log: 23A, 23B, 23C, 23D

Dominant Vegetation

1. Pine Oak Q. Dalmanii
2. Red Maple (Sacc.) marianum
3. American Elm 6. (rubrum)

Net Set by Habitat

Habitat	A	B	C	D	E	F
River						
Stream						
Pond				X		
Corridor	X	X				
Cave						
Mine						
Forest			X			
Gap						
Other						

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

- 3 **Roost habitat:** 1. **Poor:** No or few snags $\geq 5"$ DBH with sloughing bark or other usable roost features (cracks, crevices, etc)
 2. **Moderate:** Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.
 3. **Optimal:** Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.
- 3 **Water Resources:** 1. **Poor:** bat drinking resources not present at the site.
 2. **Moderate:** Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.
 3. **Optimal:** Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.
- 3 **Forest Structure:** (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).
 1. **Poor:** Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging
 2. **Moderate:** some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.
 3. **Optimal:** Mature forest. Diverse age classes of trees present. Trees >15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.
- 1 **Land Cover:** 1. **Poor:** Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.
 2. **Marginal:** Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.
 3. **Optimal:** Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

10 **Total Habitat Score** (Should be between 4 & 12)

Comments:

Please return to:

P.O. Box 73, Paint Lick, KY. 40461

859-925-9012

COPPERHEAD
ENVIRONMENTAL CONSULTING

* Data entered to tables by P. Smith on 8/31/15

Mist Net Site Habitat Sheet

Site No.

23

Project No./Name

Apex Wind
412-01, Emerson Creek

Date 7/30/15

Lat/Lon; UTM: N/E

41.24995

W/N -82.96202

Zone

Observers

Steve Samuels, Heidi

Datum: NAD83

County Seneca

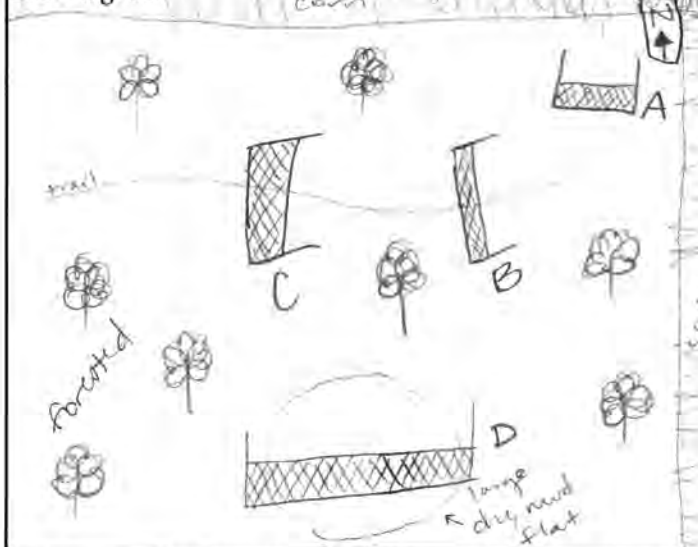
State OH

Quad

Firestone

Bannister, Patton Scott

Site Diagram:



Net	Height (m)	Length (m)	Dates
A	9.2	6	7.30
B	9.2	9	7.30
C	9.2	9	7.30
D	7.8	12	7.30
E			
F			

Site Photographs

Camera: Steve's iPhone

Photo Log:

Dominant Vegetation

1. *Acer saccharinum*
2. *Quercus palustris*
3. *Liana ovata*
4. *Ulmus rubra*
5. *Quercus velutina*
6. *parthenocissus quinquefolia*

Net Set by Habitat

Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor						
Cave						
Mine						
Forest	X	X	X	X		
Gap						
Other						

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

- 2 **Roost habitat:** 1. Poor: No or few snags $\geq 5"$ DBH with sloughing bark or other usable roost features (cracks, crevices, etc)
2. Moderate: Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.
3. Optimal: Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.
- 1 **Water Resources:** 1. Poor: bat drinking resources not present at the site.
2. Moderate: Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.
3. Optimal: Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.
- 2 **Forest Structure:** (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).
1. Poor: Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging
2. Moderate: some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.
3. Optimal: Mature forest. Diverse age classes of trees present. Trees >15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.
- 2 **Land Cover:** 1. Poor: Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.
2. Marginal: Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.
3. Optimal: Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

Total Habitat Score (Should be between 4 & 12)

Comments:

Please return to:

P.O. Box 73, Paint Lick, KY. 40461

859-925-9012

COPPERHEAD
THE COMMERCIAL CONNECTION

Mist Netting Data Form

Sheet 1 of 2

Site No. 24 Project No./Name 412 / Emerson Creek Date 7/29/15
 Site Location Logging road through woodlot; Open water of emergent wetland
 County Seneca State OH Time Up 8:55 Time Down 1:55
 Lat/Lon; UTM: N/E 41.17804 W/N -82.88861 Zone — Datum NAD83 Observers J. Storm, M. Newton



#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	10:30	EPFU	JV	M	NR	10g	46mm	D	3	0	—	—	—
2	10:30	EPFU	JV	F	NR	12.25	46mm	D	5	0	—	—	—
3	11:10	EPFU	JV	M	NR	13.5	44mm	D	4	0	—	—	—
4	12:50	EPFU	JV	M	NR	15	48mm	D	1	0	—	—	—
5													
6													
7													
8													
9													
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Moon Phase	% <u>99.5</u>	☒ Wax / ☐ Wane
	Rise	Set
Sun	<u>6:24 am</u>	<u>8:53 pm</u>
Moon	<u>8:07 pm</u>	<u>6:42 am</u>

Time	Temp (F)	Sky	Wind	No. Bats
9:00	78.0	3	1	0
10:00	75.9	2	1	2
11:00	74.1	1	2	1
12:00	73.2	0	3	1
2:00	69.7	1	2	—

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Eptesicus fuscus (EPFU); Lasiurus borealis (LABO); Lasiurus cinereus (LACI); Lasiurus seminolus (LASE); Lasionycteris noctivagans (LANO); Myotis austroriparius (MYAU); Myotis grisescens (MYGR); Myotis leibii (MYLE); Myotis lucifugus (MYLU); Myotis septentrionalis (MYSE); Myotis sodalis (MYSO); Nycticeius humeralis (NYHU); Perimyotis subflavus (PESU); Tadarida brasiliensis (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

Mist Netting Data Form

Site No. 24 Project No./Name 412 / Emerson Creek Date 7/31/15
 Site Location Logging road through woodlot; open water of emergent wetland
 County Seneca State OH Time Up 8:50 Time Down 1:50
 Lat/Lon; UTM: N/E 41.17804 W/N 82.88861 Zone 18 Datum NAD83 Observers J. Storm, M. Newton

COPPERHEAD
PHYSIOLOGICAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	10:20	EPEU	A	M	SS	19	48mm	B	2.5	0	---	---	---
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
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26													
27													
28													
29													
30													

Moon Phase	% <u>99.6</u>	Wax / <u>Wane</u>
	Rise	Set
Sun	<u>6:25 am</u>	<u>8:51 pm</u>
Moon	<u>9:23 pm</u>	<u>9:10 am</u>

Time	Temp (F)	Sky	Wind	No. Bats
9:00	---	0	2	0
10:00	68.0	0	2	1
11:00	67.4	1	2	0
12:00	67.2	1	2	0
1:00	63.4	0	2	0
2:00	62.6	0	2	1

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Weatherproofing _____ Coordinates _____

Comments:

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

Mist Net Site Habitat Sheet

Site No. 24

Project No./Name

412, Emerson Creek

Date

7/29/15

Lat/Lon; UTM: N/E

41.17804

W/N

-82.88861

Zone

Observers

J. Storm; M. NewtonDatum: NAD83

County

Seneca

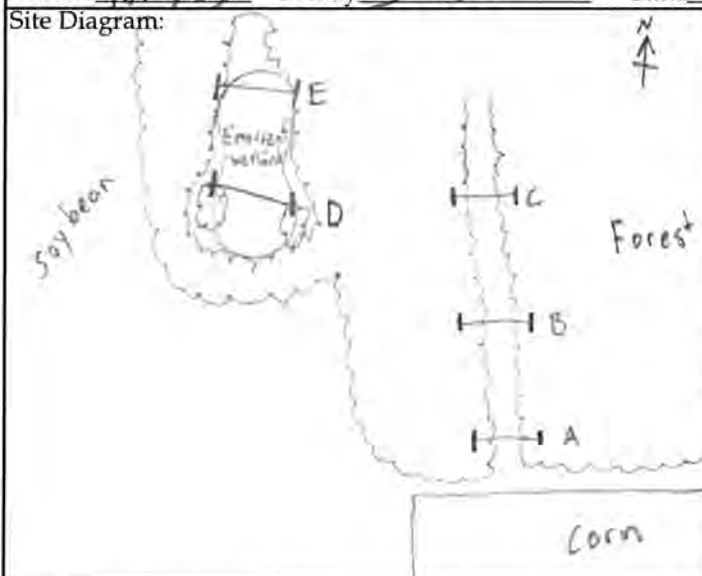
State

OH

Quad

Fireside

Site Diagram:



Net	Height (m)	Length (m)	Dates
A	5.2	10	7/29 + 7/31
B	5.2	10	7/29 + 7/31
C	5.2	10	7/29
D	7.8	9	7/29 + 7/31
E	5.2	9	7/31
F			

Dominant Vegetation						
1. shellbark hickory	4. red maple					
2. Black cherry	5. red oak					
3. Shagbark elm	6. pin oak					
Net Set by Habitat						
Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor	X	X	X			
Cave						
Mine						
Forest						
Gap						
Other						
Emergent wetland				X	X	

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

- 3 **Roost habitat:** 1. **Poor:** No or few snags $\geq 5"$ DBH with sloughing bark or other usable roost features (cracks, crevices, etc)
 2. **Moderate:** Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.
 3. **Optimal:** Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.
- 3 **Water Resources:** 1. **Poor:** bat drinking resources not present at the site.
 2. **Moderate:** Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.
 3. **Optimal:** Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.
- 3 **Forest Structure:** (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).
 1. **Poor:** Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging
 2. **Moderate:** some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.
 3. **Optimal:** Mature forest. Diverse age classes of trees present. Trees > 15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.
- 2 **Land Cover:** 1. **Poor:** Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.
 2. **Marginal:** Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.
 3. **Optimal:** Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

11 **Total Habitat Score** (Should be between 4 & 12)

Comments:

Please return to:

P.O. Box 73, Paint Lick, KY. 40461

859-925-9012



Mist Netting Data Form

Sheet 1 of 1

Site No. 25 Project No./Name 412-D1 / Emerson Creek Date 7/29/2015
 Site Location Decker property, off E. County Rd. 32
 County Seneca State OH Time Up 8:50 Time Down 2:05
 Lat/Lon; UTM: N/E 41 21 306 W/N -82 40 825 Zone 1 Datum NAD83 Observers Rain Storm, Cory Blay, Brandon Smith



COPPERHEAD ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:40	EPFU	J	M	NR	13.5	46	A	3	0	0		
2	9:40	EPFU	J	M	NR	15.25	45	A	4	1	0		
3	9:40	EPFU	J	F	NR	16.0	47	A	1	0	0		
4	10:05	EPFU	J	M	NR	13.25	47	A	3	0	0		
5	10:30	LABO	J	F	NR	12.0	40	B	2.5	0	0		
6	10:30	EPFU	J	M	NR	15.5	46	C	3.0	0	0		
7	10:45	LABO	A	M	TD	11.0	39	A	2.5	0	0		
8	10:45	EPFU	A	F	NR	18.5	49	A	4.0	0	0		
9	11:40	EPFU	J	M	NR	14.5	49	A	2.0	1	0		
10	12:10	LABO	A	M	TD	10.0	39	B	2.0	0	0		
11	1:48	EPFU	J	M	NR	16.25	45	A	2.8	0	0		
12	1:48	EPFU	A	F	NR	17	45	A	3.5	0	0		
13	1:48	LABO	J	M	NR	9.75	39	A	.5	0	0		
14													
15													
16													
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30													

Moon Phase <u>97.6%</u>		Wax / Wane	
	Rise		Set
Sun	<u>6:21 am</u>		<u>8:53 pm</u>
Moon	<u>3:21 pm</u>		<u>4:32 am</u>

Time	Temp (F)	Sky	Wind	No. Bats
10:50	22.2	2	0	8
12:12	20.5	2	0	2
1:17	19.5	1	0	0
1:50	18.5	1	0	3
2:05	17.75	1	0	0

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Eptesicus fuscus (EPFU); Lasiurus borealis (LABO); Lasiurus cinereus (LACI); Lasiurus seminolus (LASE); Lasionycteris noctivagans (LANO); Myotis austroriparius (MYAU); Myotis grisescens (MYGR); Myotis leibii (MYLE); Myotis lucifugus (MYLU); Myotis septentrionalis (MYSE); Myotis sodalis (MYSO); Nycticeius humeralis (NYHU); Perimyotis subflavus (PESU); Tadarida brasiliensis (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

Site No. 25 Project No./Name 112101 Emerson Creek Date 31 July 15
 Site Location Decker Property off ECR 32
 County Seneca State OH Time Up 2050 Time Down 0150
 Lat/Lon; UTM: N/E 41.217326 W/N 82.90825 Zone 18 Datum NAD83 Observers C. Lefthric

 CORRIEUV



COPPERHEAD

Moon Phase <u>100</u> %		Wax / <u>Wane</u>
	Rise	Set
Sun	<u>0625</u>	<u>2051</u>
Moon	<u>2056</u>	<u>0642</u>

Time	Temp (F)	Sky	Wind	No. Bats
2100	70	1	1	1
2200	66	1	1	11
2300	65	1	1	2
0000	64	1	1	0
0100	63	1	1	1
0150	62	2	1	0

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Weatherproofing	Coordinates
-----------------	------------------------

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(859) 925-9012

Mist Net Site Habitat Sheet

Site No. 25Project No./Name 417-D1 / Emerald CreekDate 7/29/2015Lat/Lon; UTM: N/E 411.7173010 W/N -82.90825Zone 18NObservers Rain Storm, Brandon Smith, Cory BlayDatum: NAD83 County Seneca State GA Quad 515000

Site Diagram:



Net	Height (m)	Length (m)	Dates
A	30ft	9m	7/29; 7/31
B	30ft	10m	7/29; 7/31
C	30ft	10m	7/29; 7/31
D	30ft	10m	7/29; 7/31
E			
F			

Site Photographs

Camera: CanonPhoto Log: 35A 250px 250

Dominant Vegetation

1. N. Red oak	4. Sugar maple
2. White oak	5. American elm
3. Red maple	6. Hickory (small)

Net Set by Habitat

Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor	X	X	X	X		
Cave						
Mine						
Forest						
Gap						
Other						

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

- 2 **Roost habitat:** 1. **Poor:** No or few snags $\geq 5"$ DBH with sloughing bark or other usable roost features (cracks, crevices, etc)
 2. **Moderate:** Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.
 3. **Optimal:** Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.
- 1 **Water Resources:** 1. **Poor:** bat drinking resources not present at the site.
 2. **Moderate:** Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.
 3. **Optimal:** Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.
- 3 **Forest Structure:** (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).
 1. **Poor:** Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging
 2. **Moderate:** some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.
 3. **Optimal:** Mature forest. Diverse age classes of trees present. Trees > 15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.
- 2 **Land Cover:** 1. **Poor:** Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.
 2. **Marginal:** Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.
 3. **Optimal:** Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

8 **Total Habitat Score** (Should be between 4 & 12)

Comments:

Please return to:

P.O. Box 73, Paint Lick, KY. 40461

859-925-9012

COPPERHEAD
AND ENVIRONMENTAL SOLUTIONS

Mist Netting Data Form

Sheet ____ of ____

Site No. 26 Project No./Name 412.01 / Emerson Creek Date 7/26/15
 Site Location Trails through woods behind "Sugar Shack"
 County Seneca State OH Time Up 20560 Time Down _____
 Lat/Lon; UTM: N/E 41.21814 W/N 82.94718 Zone _____ Datum NAD83 Observers T. Wetzel
A. Ashmore



COPPERHEAD ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2158	EPFU	A	M	S	19	47	C	1.0	0	—	—	—
2	2255	EPFU	JV	F	NR	15	49	A	3.5	0	—	—	—
3	2301	LABO	—	F	—	14.25	—	C	.5	Escape	—	—	—
4	2335	LABO	—	NET	ES	APR	11.5	C	.5	—	—	—	—
5	0050	MYSE	A	F	PL	7.25	36	D	1.0	0	—	25552	.587
6	0125	LABO	A	F	L	14.25	43	C	.5	0*	—	—	—
7	0159	LABO	A	F	L	13.75	42	A	2.5	0	—	—	—
8	0159	MYSO	A	F	PL	8.5	38	A	4.0	0	—	25553	.779
9													
10													
11													
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29													
30													

Moon Phase	60% Wax / Wane	
	Rise	Set
Sun	0620	2056
Moon	1628	0203

Time	Temp (F)	Sky	Wind	No. Bats
2100	75	2	0	1
2200	71	2	1	1
2300	70	2	0	2
0000	69	0	0	1
0100	68	0	0	3
0200	68	0	0	0

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Species Abbreviations: *Corynorhinus rafinesquii* (CORA); *Corynorhinus t. virginianus* (COVI); *Eptesicus fuscus* (EPFU); *Lasiurus borealis* (LABO); *Lasiurus cinereus* (LACI); *Lasiurus seminolus* (LASE); *Lasionycteris noctivagans* (LANO); *Myotis austroriparius* (MYAU); *Myotis grisescens* (MYGR); *Myotis leibii* (MYLE); *Myotis lucifugus* (MYLU); *Myotis septentrionalis* (MYSE); *Myotis sodalis* (MYSO); *Nycticeius humeralis* (NYHU); *Perimyotis subflavus* (PESU); *Tadarida brasiliensis* (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

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 (859) 925-9012

* Left wing with digit missing wing membrane & bone exposed

Mist Netting Data Form

Site No. 24 Project No./Name 412 / Emerson creek Date 24-July-2015
 Site Location Trails through woods behind "Sugar Shack"
 County Seneca State OH Time Up 0655 Time Down 0157
 Lat/Lon UTM: N/E 41.21816 W/N 82.910718 Zone — Datum NAD83 Observers T. Wetzel
A. Ashmore

COPPERHEAD
ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2130	EPFU	A	M	S	16.25	45	D	2.5	0	—	—	—
2	2220	EPFU	A	M	NL	16.25	46	A	1.5	0	—	—	—
3	2240	LARBO	JV	F	NL	15.5	43	B	1.0	0	—	—	—
4	2240	EPFU	A	F	PL	18.25	48	A	3.5	0	—	—	—
5	2245	EPFU	A	F	PL	19.0	47.5	A	2.0	0	—	—	—
6	2305	MYSE	A	F	PL	16.5	36	A	2.0	0	—	23551	188
7	0010	LARBO	A	F	PL	14.25	43	A	1.5	0	—	—	—
8													
9													
10													
11													
12													
13													
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29													
30													

Moon Phase <u>50%</u>		Wax / Wane	
	Rise		Set
Sun	<u>0618</u>		<u>2057</u>
Moon	<u>1432</u>		<u>2051</u>

Time	Temp (F)	Sky	Wind	No. Bats
2100	73	2	0	1
2200	72	2	0	4
2300	73	2	0	1
0000	72	2	1	1
0100	70	0	1	0
0200	70			—

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Weatherproofing _____ Coordinates _____

Comments: _____

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

MYSE MCS - 0373, 0370, 0370, 0374, 0375, 0377

Mist Net Site Habitat Sheet

Site No. 218 Project No./Name 412 / Emerson Creek Date 24 July 2005

Lat/Lon; UTM: N/E 41.21816 (W)N -82.96718 Zone _____ Observers T. Wetzel
A. Ashmore

Datum: NAD83 County Seneca State OH Quad Fireside

Site Diagram:

Net	Height (m)	Length (m)	Dates
A	5.2	9	7/24
B	5.2	9	7/24
C	5.2	12	7/24
D	7.8	9	7/24
E			
F			

Site Photographs
Camera: TN Olympus
Photo Log:

Dominant Vegetation						
1. <u>Acer saccharum</u>	4.					
2. <u>Fagus grandifolia</u>	5.					
3.	6.					

Net Set by Habitat						
Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor	X	X	X	X		
Cave						
Mine						
Forest						
Gap						
Other road cut		X	X			

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

3 **Roost habitat:** 1. Poor: No or few snags >= 5" DBH with sloughing bark or other usable roost features (cracks, crevices, etc)
2. Moderate: Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.
3 3. Optimal: Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.

Water Resources: 1. Poor: bat drinking resources not present at the site.
2. Moderate: Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.
3 3. Optimal: Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.

Forest Structure: (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).
1. Poor: Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging
2. Moderate: some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.
2 3. Optimal: Mature forest. Diverse age classes of trees present. Trees > 15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.

Land Cover: 1. Poor: Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.
2. Marginal: Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.
3. Optimal: Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

Comments:

Please return to:

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859-925-9012



OHIO BAT BANDING DATA FORM

Principle Investigator(s) Theresa Wetzel Location (lat/longs in D:M:S format) _____

County Seneca Site Description Trails through woods behind "supper shack" Survey dates 24/26 July 2015 Total mist net nights 8

[illegible]

N/R?: N = new capture, unbanded when captured, R = recapture, already banded when captured; **HABITAT** (at capture site): C = creek/riparian, B = bottomland forest, U = upland forest, P = pond, O = other (note type in margin); **ARM BANDED:** L = left, R = right (typically males are banded on the right forearm and females on the left); **SEX:** M = male, F = female; **AGE:** A = adult, J = juvenile, U = unknown; **REPRODUCTIVE CONDITION:** S = scrotal, P = pregnant, L = lactating, PL = post lactating, NR = nonreproductive, U = unknown

Mist Netting Data Form

Site No. 28 Project No./Name 412.01 / Emerson Greel Date 7/24/2015
 Site Location Snively property off 1R 138
 County Seneca State OH Time Up 9:00 Time Down 2:00
 Lat/Lon; UTM: N7E 49.18854 W/N -82.986353 Zone 18 Datum NAD83 Observers Ram Storm
Brandon Smith

COPPERHEAD
ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	10:30	EPFU	A	E	PL	19.5	50	C	4.0	0	—		
2	11:20	EPFU	A	M	NR	16.0	46	C	2.0	0	—		
3	12:30	EPFU	A	M	NR	16.0	47	C	4.0	0	—		
4	12:30	EPFU	J	M	NR	16.0	45.5	C	2.0	0	—		
5	1:50	EPFU	A	F	L	20.25	48	C	2.0	0	—		
6													
7													
8													
9													
10													
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28													
29													
30													

Moon Phase W % Wax / Wane

	Rise	Set
Sun	<u>6:19am</u>	<u>8:58pm</u>
Moon	<u>2:35pm</u>	<u>12:53am</u>

Time	Temp (F)	Sky	Wind	No. Bats
<u>9:20</u>	<u>71.6</u>	<u>1</u>	<u>0</u>	<u>0</u>
<u>12:30</u>	<u>67.5</u>	<u>1</u>	<u>0</u>	<u>4</u>
<u>2:00</u>	<u>68</u>	<u>1</u>	<u>0</u>	<u>4</u>

Sky Code

0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale

0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____
 Date _____ Start time _____ Stop time _____
 Date _____ Start time _____ Stop time _____
 Weatherproofing _____ Coordinates _____

Comments:

Please Return to:
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 (859) 925-9012

Mist Netting Data Form

Sheet of

Site No. 27 Project No./Name 412.01 / Emerson Creek Date 7/28/2015 (Night 1)
 Site Location Snaveley property off TR 138
 County Sevier State OH Time Up 8:45 Time Down 2:00
 Lat/Lon; UTM: N/E 41,18854 W/N 82,986353 Zone — Datum NAD83 Observers Rain Storm
Brandon Smith

COPPERHEAD
ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:50	EPFU	J	F	NR	13.5	44	C	5.0	1	0	—	—
2	9:50	EPFU	J	M	NR	14.75	46	C	4.5	0	0	—	—
3	10:30	EPFU	J	M	NR	12.0	44	C	4.0	1	0	—	—
4	12:16	EPFU	J	F	NR	13.5	45	C	2.5	1	0	—	—
5													
6													
7													
8													
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29													
30													

Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Eptesicus fuscus (EPFU); Lasiurus borealis (LABO); Lasiurus cinereus (LACI); Lasiurus seminolus (LASE); Lasionycteris noctivagans (LANO); Myotis austroriparius (MYAU); Myotis grisescens (MYGR); Myotis leibii (MYLE); Myotis lucifugus (MYLU); Myotis septentrionalis (MYSE); Myotis sodalis (MYSO); Nycticeius humeralis (NYHU); Perimyotis subflavus (PESU); Tadarida brasiliensis (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

Moon Phase 96.1 %		Wax / Wane
	Rise	Set
Sun	6:23am	8:54am
Moon	7:27pm	5:29am

Time	Temp (F)	Sky	Wind	No. Bats
9:07	73.4	1	0	0
11:24	67.5	1	0	3
2:07	65.8	1	0	4

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

Mist Net Site Habitat Sheet

Site No. 27

Project No./Name 412.01 / Emerson Creek

Date 7/24/2015

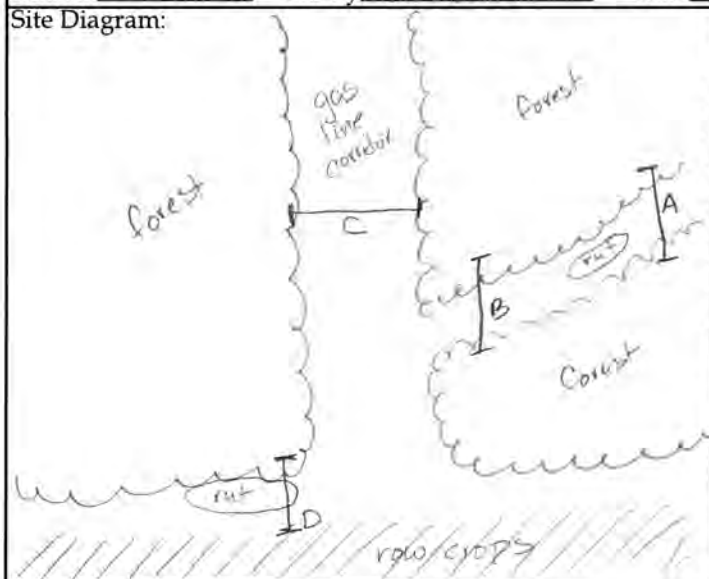
Lat/Lon: UTM: N/E 41.18854 W/N 82.986353

Zone

Observers Rain Storm + Brandon Smith

Datum: NAD83 County Seneca State OH Quad fieside

Site Diagram:



Net	Height (m)	Length (m)	Dates
A	20ft	9m	7/24, 7/28
B	20ft	10m	7/24, 7/28
C	30ft	12m	7/24, 7/28
D	20ft	9m	7/24, 7/28
E			
F			

Site Photographs

Camera: Rain's

Photo Log:

27A, 27B, 27C, 27D

Dominant Vegetation

1. Hickory	4. Elm
2. Red Maple	5. Cottonwood
3. Sugar Maple	6. Ironwood

Net Set by Habitat

Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor	X	X	X			
Cave						
Mine						
Forest						
Gap						
Other				X		

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

- 2 **Roost habitat:** 1. Poor: No or few snags ≥ 5 " DBH with sloughing bark or other usable roost features (cracks, crevices, etc)
 2. Moderate: Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.
 3. Optimal: Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.
- 2 **Water Resources:** 1. Poor: bat drinking resources not present at the site.
 2. Moderate: Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.
 3. Optimal: Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.
- 3 **Forest Structure:** (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).
 1. Poor: Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging
 2. Moderate: some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.
 3. Optimal: Mature forest. Diverse age classes of trees present. Trees > 15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.
- 1 **Land Cover:** 1. Poor: Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.
 2. Marginal: Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.
 3. Optimal: Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

8 **Total Habitat Score** (Should be between 4 & 12)

Comments:

Please return to:

P.O. Box 73, Paint Lick, KY. 40461

859-925-9012

COPPERHEAD
RESEARCH & CONSULTING

Mist Netting Data Form

Sheet of

Site No. 28 Project No./Name 412 / Emerson Creek Date 28 July 2015
 Site Location Woodlot South of CHB V. at CR
 County Seneca State OH Time Up 2050 Time Down 0153
 Lat/Lon; UTM: N/E 41.252563 (W/N 72.862804) Zone Datum NAD83 Observers T. Wetzel
A. Ashmore

COPPERHEAD
THERMOPHYSICAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2131	EPFU	J	M	NR	18.25	45	C	2.5	0	-	-	-
2	2150	EPFU	A	M	NR	15.75	48	D	2.5	0	-	-	-
3	2217	EPFU	J	F	NR	16.5	42.5	B	1.0	0	-	-	-
4	2250	EPFU	A	M	S	17.25	42.5	C	1.0	0	-	-	-
5	2320	EPFU	A	M	S	19.75	48.0	C	3.5	0	-	-	-
6	2310	EPFU	J	M	NR	14.25	48.0	C	1.0	0	-	-	-
7	2340	EPFU	J	M	NR	15.5	46.0	D	2.0	0	-	-	-
8	2340	EPFU	A	M	S	19.25	47.0	D	3.0	0	-	-	-
9	0003	EPFU	J	M	NR	16.00	48.00	B	6.0	0	-	-	-
10	0016	EPFU	J	F	NR	17.5	47.0	C	3.0	0	-	-	-
11	0016	EPFU	J	M	NR	17.75	45	C	1.5	0	-	-	-
12	0116	LACI	J	M	NR	22.5	55	C	1.0	0	-	-	-
13	0116	EPFU	J	M	S	15.0	44.5	C	1.5	0	-	-	-
14	0116	EPFU	A	M	S	15.75	43	D	3.0	0	-	-	-
15	0150	EPFU	J	F	NR	18.0	49	D	4.5	0	-	-	-
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													

Moon Phase 75% Wax / Wane

	Rise	Set
Sun	<u>0622</u>	<u>2053</u>
Moon	<u>1823</u>	<u>0335</u>

Time	Temp (F)	Sky	Wind	No. Bats
<u>2100</u>	<u>80</u>	<u>1</u>	<u>0</u>	<u>2</u>
<u>2200</u>	<u>78</u>	<u>1</u>	<u>0</u>	<u>2</u>
<u>2300</u>	<u>73</u>	<u>1</u>	<u>0</u>	<u>4</u>
<u>0000</u>	<u>72</u>	<u>1</u>	<u>0</u>	<u>3</u>
<u>0100</u>	<u>70</u>	<u>0</u>	<u>0</u>	<u>4</u>
<u>0200</u>	<u>70</u>	<u>0</u>	<u>0</u>	<u>1</u>

Sky Code

0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale

0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Eptesicus fuscus (EPFU); Lasiurus borealis (LABO); Lasiurus cinereus (LACI); Lasiurus seminolus (LASE); Lasionycteris noctivagans (LANO); Myotis austroriparius (MYAU); Myotis grisescens (MYGR); Myotis leibii (MYLE); Myotis lucifugus (MYLU); Myotis septentrionalis (MYSE); Myotis sodalis (MYSO); Nycticeius humeralis (NYHU); Perimyotis subflavus (PESU); Tadarida brasiliensis (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

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 (859) 925-9012

Mist Netting Data Form

Site No. 28 Project No./Name 412 / Emerson Creek Date 7/30/15
 Site Location Woodlot south of CR 62, west of CR 68
 County Sevier State OH Time Up 2050 Time Down 0152
 Lat/Lon: UTM: N/E 411.253563 W/N 82.862804 Zone — Datum NAD83 Observers P. Sewell
A. Ashmore

COPPERHEAD
SPECIALTY METALS CORPORATION

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2135	EPFU	A	M	NR	16.0	45	E	3	1	—	—	—
2	2135	LABD	A	F	L	12.3	43	E	4	1	—	—	—
3	2135	EPFU	A	M	NR	15.9	44	C	6	0	—	—	—
4	2157	LABD	J	F	NR	9.3	41	D	4	0	—	—	—
5	2157	EPFU	J	F	NR	16.7	49	D	4	0	—	—	—
6	2215	EPFU	A	M	NR	16.5	46	D	—	0	—	—	—
7	2215	EPFU	J	M	NR	13.25	45	D	—	0	—	—	—
8	2215	EPFU	A	M	S	16.5	47	B	—	0	—	—	—
9	2215	LABD	J	F	NR	10.25	41	R	—	0	—	—	—
10	2215	LABD	J	F	NR	10.25	40	B	—	0	—	—	—
11	2215	EPFU	A	M	NR	14.8	47	C	—	1	—	—	—
12	2215	EPFU	J	M	NR	11.7	45	D	—	0	—	—	—
13	2215	EPFU	A	M	S	17.0	49	D	—	0	—	—	—
14	2215	EPFU	J	M	NR	14.5	46.5	E	—	1	—	—	—
15	2215	EPFU	A	M	NR	16.7	46	F	—	0	—	—	—
16	2215	EPFU	A	F	BL	23.3	46	C	—	0	—	—	—
17	2255	EPFU	A	F	BL	19.5	50	F	—	0	—	—	—
18	2255	EPFU	J	F	NR	17.25	50	D	—	0	—	—	—
19	2255	EPFU	J	M	NR	14.75	46	D	—	1	—	—	—
20	2255	EPFU	A	M	S	19.5	49	D	—	1	—	—	—
21	2255	EPFU	J	M	NR	14.8	46	B	—	1	—	—	—
22	2315	EPFU	J	F	NR	16.5	50	C	5	0	—	—	—
23	2315	EPFU	A	M	NR	17.5	48	E	5	0	—	—	—
24													
25													
26													
27													
28													
29													
30													

Moon Phase 100% Wax / Wane
 Rise 0624 Set 2052
 Sun 0006 Moon 0535

Time	Temp (F)	Sky	Wind	No. Bats
2100	75	0	0	
2200	71	0	0	
2300	69	0	0	
0000	68	0	0	
0100	67	0	0	
0200	66	0	0	

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type — Unit # — Date — Start time — Stop time —
 Date — Start time — Stop time —
 Date — Start time — Stop time —

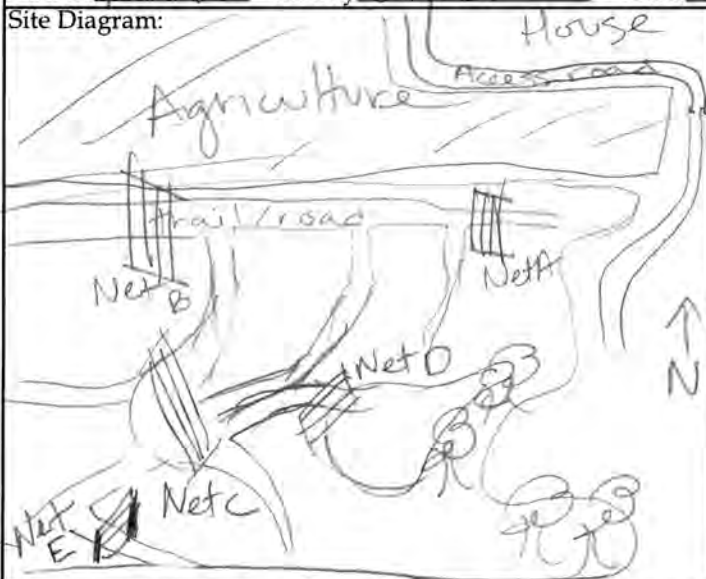
Weatherproofing — Coordinates —Comments: —

Please Return to:
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 (859) 925-9012

Mist Net Site Habitat Sheet

Site No. 28Project No./Name 412, Emerson CreekDate 28 July 2015Lat/Lon: UTM: (N/E) 41.253503 (W/N) 82.862804Zone ---Observers T. Wetzel, A. AshmoreDatum: NAD83County SenecaState OHQuad Bellevue

Site Diagram:



Net	Height (m)	Length (m)	Dates
A	5.2	9	7/28 7/30
B	7.8	9	7/28 7/30
C	5.2	9	7/28 7/30
D	5.2	6	7/28 7/30
E	5.2	6	7/30
F			

Site Photographs

Camera: TW camera

Photo Log:

Dominant Vegetation

1. Juglans nigra
2. Prunus serotina
3. Celtis occidentalis
4. Acer saccharum
5. ---
6. ---

Net Set by Habitat

Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor	X	X	X	X	X	
Cave						
Mine						
Forest						
Gap						
Other						

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

- 2 **Roost habitat:** 1. Poor: No or few snags $\geq 5"$ DBH with sloughing bark or other usable roost features (cracks, crevices, etc)
 2. Moderate: Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.
 3. Optimal: Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.
- 1 **Water Resources:** 1. Poor: bat drinking resources not present at the site.
 2. Moderate: Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.
3 3. Optimal: Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.
- Forest Structure:** (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).
1 1. Poor: Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging
 2. Moderate: some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.
 3. Optimal: Mature forest. Diverse age classes of trees present. Trees > 15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.
- Land Cover:** 1. Poor: Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.
7 2. Marginal: Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.
 3. Optimal: Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

Total Habitat Score (Should be between 4 & 12)

Comments:

Trails running through woodlot, some more cluttered than others

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COPPERHEAD

Mist Netting Data Form

Site No. 29 Project No./Name 412 / Apex Wind Date 24 July 2015
 Site Location Woodlot beside Lodi-Colby Rd
 County Seneca State OH Time Up 2052 Time Down 0157
 Lat/Lon ; UTM: N/E 41.24786 W/N -82.93122 Zone — Datum NAD 83 Observers K. Pearman, A. Truesdell

COPPERHEAD
ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2125	LABO	J	F	NR	8.25	43	A	2	0	—	—	—
2	2129	LABO	A	M	NR	11.25	42	C	1	0	—	—	—
3	2200	EPFU	A	F	NR	17.25	47	C	2.0	0	—	—	—
4	2210	EPFU	A	F	FL	20.25	49	C	2.5	0	—	—	—
5	2212	EPFU	A	ESCAPE	FROM BAG	B	2	—	—	—	—	—	—
6	2225	EPFU	A	M	NR	18.75	49	D	1.5	0	—	—	—
7	0040	EPFU	A	M	NR	18.5	45	D	3.5	0	—	—	—
8													
9													
10													
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29													
30													

Moon Phase 55 % Wax / Wane

	Rise	Set
Sun	<u>0618</u>	<u>2057</u>
Moon	<u>1431</u>	<u>0059</u>

Time	Temp (F)	Sky	Wind	No. Bats
2105	78.1	Clear	0	2
2237	70.1	2	0	4
2326	68.7	0	1	0
0013	68.0	0	1	1
0123	66.9	0	1	

Sky Code

0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale

0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Weatherproofing _____ Coordinates _____

Comments:

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
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Site No. 29 Project No./Name 412 / Apex Wind Date 7/27/2015
 Site Location Wood lot beside Lodi-Colby Rd
 County Seneca State OH Time Up 2055 Time Down 0155
 Lat/Lon; UTM: N/E 41.24786 W/N -82.93722 Zone - Datum NAD 83 Observers S. Samoray
H. Braunreiter

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[illegible]

Moon Phase 74 % Wax / Wane

	Rise	Set
Sun	0621	2055
Moon	1629	0245

Time	Temp (F)	Sky	Wind	No. Bats
2100	80	0	0	5
2200	76	0	0	1
2300	73	0	0	0
0000	70	0	0	0
0100	70	0	0	0
0200	69	0	0	0

0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

Please Return to:
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(859) 925-9012

Mist Net Site Habitat Sheet

Site No. 29Project No./Name 412, ApexDate 24 July 2015

Lat/Lon; UTM: N/E 41.24786 W/N -82.93722 Zone 18 Observers K. Pearman, A. Truesdale
 Datum: NA83 County Seneca State OH Quad Fireside

Site Diagram:



Net	Height (m)	Length (m)	Dates
A	5.2	6	24 July
B	5.2	4	
C	7.3	12	
D	5.2	9	
E			
F			

Site Photographs
 Camera: Austin's phone
 Photo Log:

Dominant Vegetation	
1. <u>Quercus alba</u>	4. <u>Juglans nigra</u>
2. <u>Carya ovata</u>	5. <u>Acer rubrum</u>
3. <u>Quercus rubra</u>	6. <u>Acer saccharum</u>

Net Set by Habitat						
Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor				☒		
Cave						
Mine						
Forest						
Gap						
Other	☒	☒	☒			

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

- 3 **Roost habitat:** 1. **Poor:** No or few snags $\geq 5"$ DBH with sloughing bark or other usable roost features (cracks, crevices, etc)
 2. **Moderate:** Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.
 3. **Optimal:** Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.
- 3 **Water Resources:** 1. **Poor:** bat drinking resources not present at the site.
 2. **Moderate:** Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.
 3. **Optimal:** Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.
- 3 **Forest Structure:** (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).
 1. **Poor:** Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging
 2. **Moderate:** some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.
 3. **Optimal:** Mature forest. Diverse age classes of trees present. Trees > 15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.
- 2 **Land Cover:** 1. **Poor:** Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.
 2. **Marginal:** Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.
 3. **Optimal:** Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

11 **Total Habitat Score** (Should be between 4 & 12)

Comments:

Please return to:

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COPPERHEAD
ENVIRONMENTAL SERVICES

Mist Netting Data Form

Sheet 1 of 1

Site No. 30 Project No./Name 412 1 Emerson Creek Date 25 July 2015
 Site Location Woodlot east of Township Rd 138 and east of Trail 0175
 County Senequa State OH Time Up 2050 Time Down 0150
 Lat/Lon ; UTM: N/E 41.18258 WYN -83.02415 Zone — Datum NAD83 Observers K. Barman, A. Tonsale

COPPERHEAD
INSTRUMENTAL SCIENTIST

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2325	EPFU	J	M	NR	15.75	44	A	2.5	0	—	—	—
2													
3													
4													
5													
6													
7													
8													
9													
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28													
29													
30													

Species Abbreviations: *Corynorhinus rafinesquii* (CORA); *Corynorhinus t. virginianus* (COVI); *Eptesicus fuscus* (EPFU); *Lasiurus borealis* (LABO); *Lasiurus cinereus* (LACI); *Lasiurus seminolus* (LASE); *Lasionycteris noctivagans* (LANO); *Myotis austroriparius* (MYAU); *Myotis grisescens* (MYGR); *Myotis leibii* (MYLE); *Myotis lucifugus* (MYLU); *Myotis septentrionalis* (MYSE); *Myotis sodalis* (MYSO); *Nycticeius humeralis* (NYHU); *Perimyotis subflavus* (PESU); *Tadarida brasiliensis* (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

Moon Phase <u>55</u> %		Wax / (Wane)	
	Rise	Set	
Sun	<u>0620</u>	<u>0857</u>	
Moon	<u>0330</u>	<u>0125</u>	

Time	Temp (F)	Sky	Wind	No. Bats
2100	75	0	0	0
2212	70.9	0	1	0
2300	70.5	1	2	0
0017	71.5	2	1	1
0119	71.4	3	2	

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Please Return to:
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 (859) 925-9012

Mist Netting Data Form

Site No. 30 Project No./Name 412.011 Emerson Creek Date 30 July 2015
 Site Location Wanellut South of Township Rd 138 + E. of trail 0135
 County Sevier State OH Time Up 2050 Time Down 0152
 Lat/Lon; UTM: N/E 46.18258 W/N -83.02415 Zone 18QDQ8 Observers Collettwich R. Borthwick



COPPERHEAD

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2225	EPFU	J	F	NR	18.5	44	A	1.5	0	-	-	-
2	2225	EPFU	J	M	NR	13.25	43	A	2.2	0	-	-	-
3	2325	EPFU	J	F	NR	19.0	44	A	2.9	0	-	-	-
4	0135	LABO	J	M	NR	9.25	37	A	2.8	0	-	-	-
5													
6													
7													
8													
9													
10													
11													
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27													
28													
29													
30													

Moon Phase 95 % gibbous ☒ Wax / ☐ Wane

	Rise	Set
Sun	<u>0624</u>	<u>2052</u>
Moon	<u>0006</u>	<u>0535</u>

Time	Temp (F)	Sky	Wind	No. Bats
2100	67.0	0	1	0
2200	62.0	0	0	2
2300	60.0	0	1	1
0000	59.0	0	1	0
0100	58.0	0	1	1
0155	58.0	0	0	

Sky Code

0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale

0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
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Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____
 Date _____ Start time _____ Stop time _____
 Date _____ Start time _____ Stop time _____
 Weatherproofing _____ Coordinates _____

Comments: _____

Mist Net Site Habitat Sheet

Site No. 30Project No./Name 412.01 Emerson CreekDate 25 July 2015Lat/Lon: UTM: N/E 41.18258 W/N -83.02415 Zone 1 Observers R. Pearman, A. TruesdaleDatum: County Seneca State OH Quad Watson

Site Diagram:



Net	Height (m)	Length (m)	July Dates
A	5.2	6	25, 30
B	5.2	6	25, 30
C	5.2	6	25, 30
D	7.8	9	25, 30
E			
F			

Site Photographs
 Camera: Kelley's phone/camera
 Photo Log:

Dominant Vegetation					
1. <u>Tilia americana</u>	4. <u>Quercus alba</u>				
2. <u>Juglans nigra</u>	5. <u>Quercus rubra</u>				
3. <u>Carya ovata</u>	6. <u></u>				

Net Set by Habitat						
Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor	X	X	X			
Cave						
Mine						
Forest						
Gap				X		
Other						

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

- 2 **Roost habitat:** 1. Poor: No or few snags $\geq 5"$ DBH with sloughing bark or other usable roost features (cracks, crevices, etc)
 2. Moderate: Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.
 3. Optimal: Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.
- 1 **Water Resources:** 1. Poor: bat drinking resources not present at the site.
 2. Moderate: Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.
 3. Optimal: Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.
- 2 **Forest Structure:** (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).
 1. Poor: Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging
 2. Moderate: some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.
 3. Optimal: Mature forest. Diverse age classes of trees present. Trees >15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.
- 3 **Land Cover:** 1. Poor: Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.
 2. Marginal: Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.
 3. Optimal: Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

7 **Total Habitat Score** (Should be between 4 & 12)

Comments:

Please return to:

P.O. Box 73, Paint Lick, KY. 40461

859-925-9012



* Adding a net/moving a net to the area on the edge / off of the point near where the truck was parked may increase captures. Several bats were observed flying that edge over the course of the first night. - EPFU

Sheet _____ of _____



COPPERHEAD
ENVIRONMENTAL CONSULTING

Moon Phase 65% gibbous Wax / Wane		
	Rise	Set
Sun	0614	20:56
Moon	1530	0125

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Please Return to:
P.O. Box 73, Paint Lick, KY, 40461.
(859) 925-9012

p. 1

Site No. 31 Project No./Name 412.01 1. Emerson Creek Date 28 July 15
 Site Location Woodlot bordered by corn & corn, south of E. County Rd 24
 County Seneca State OH Time Up 0850 Time Down 0155
 Lat/Lon; UTM: N/E 41.15556 W/N 82.94978 Zone 1 Datum NAD 83 Observers C. LePrieux
A. Townsend

 COPPERHEAD
 ENVIRONMENTAL CONSULTING



COPPERHEAD

[illegible]

Comments:

Moon Phase 90% gibbous (Wax) / Wane

	Rise	Set
--	------	-----

Sun	0622	2054
-----	------	------

Moon	1823	0335
------	------	------

Time	Temp (F)	Sky	Wind	No. Bats
2100	70	1	1	0
2200	67	1	0	2
2300	66	1	0	0
0000	66	1	0	0
0100	66	1	0	
0200	66			

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

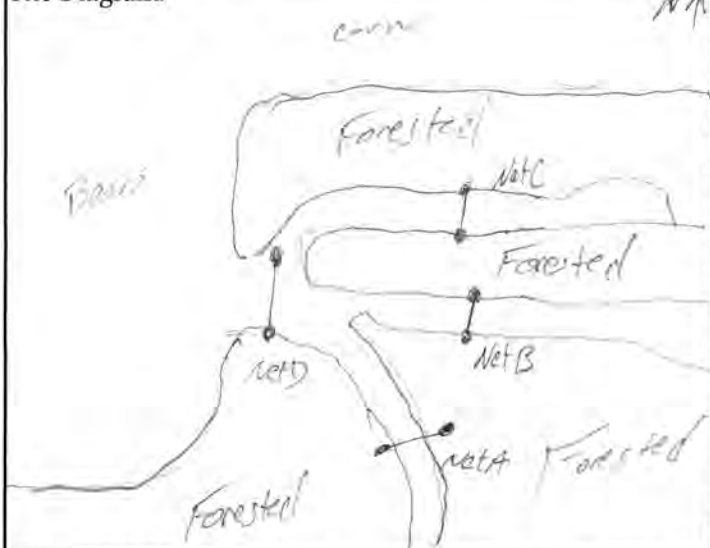
Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Please Return to:
P.O. Box 73, Paint Lick, KY, 40461.
(859) 925-9012

Mist Net Site Habitat Sheet

Site No. 31Project No./Name 4/2.0/1 Emerson CreekDate 25 July/15Lat/Lon; UTM: N/E 41.15556W/N 082.94978Zone Observers David LefkowitzDatum: NAD83County SenecaState OHQuad Fire Side

Site Diagram:



Net	Height (m)	Length (m)	July Dates
A	7.8	6	25:28
B	5.2	4	25:28
C	5.2	6	25:28
D	5.2	6	25:28
E			
F			

Dominant Vegetation

1. <u>Asar Sarcocolla</u>	4. <u></u>
2. <u>Quercus Rubra</u>	5. <u></u>
3. <u>Vines spp.</u>	6. <u></u>

Net Set by Habitat

Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor	X	X	X	X		
Cave						
Mine						
Forest						
Gap						
Other						

Site Photographs

Camera: Chris cameraPhoto Log:

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

2**Roost habitat:** 1. Poor: No or few snags ≥ 5 " DBH with sloughing bark or other usable roost features (cracks, crevices, etc)

2. Moderate: Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.

3. Optimal: Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.1**Water Resources:** 1. Poor: bat drinking resources not present at the site.

2. Moderate: Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.

3. Optimal: Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.

2**Forest Structure:** (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).

1. Poor: Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging

2. Moderate: some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.

3. Optimal: Mature forest. Diverse age classes of trees present. Trees >15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.2**Land Cover:** 1. Poor: Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.

2. Marginal: Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.

3. Optimal: Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

7**Total Habitat Score** (Should be between 4 & 12)

Comments:

Please return to:

P.O. Box 73, Paint Lick, KY. 40461

859-925-9012



Mist Netting Data Form

Sheet 1 of 1

Site No. 38 Project No./Name 412.01 / Emerson Creek Date 24 July 15
 Site Location Woodlot South of E. Township Rd
 County Seneca State OH Time Up 2058 Time Down 0158
 Lat/Long, UTM: N/E 41.17542 W/N 82.92250 Zone 1 Datum NAD83 Observers Col Lefkovich
Patton Scott

COPPERHEAD
ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2134	EPFU	J	F	NR	12.0	45	A	1.6	0	-	-	-
2	2134	EPFU	A	F	PL	16.5	45	A	3.0	0	-	-	-
3	2240	EPFU	J	F	NR	18.0	46	A	4.0	0	-	-	-
4	2350	EPFU	J	M	NR	13.5	42	A	2.5	0	-	-	-
5	0020	EPFU	A	F	L	21	43	A	3	0	-	-	-
6													
7													
8													
9													
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Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Eptesicus fuscus (EPFU); Lasiurus borealis (LABO); Lasiurus cinereus (LACI); Lasiurus seminolus (LASE); Lasionycteris noctivagans (LANO); Myotis austroriparius (MYAU); Myotis grisescens (MYGR); Myotis leibii (MYLE); Myotis lucifugus (MYLU); Myotis septentrionalis (MYSE); Myotis sodalis (MYSO); Nycticeius humeralis (NYHU); Perimyotis subflavus (PESU); Tadarida brasiliensis (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

Moon Phase	25% 1st quarter (Wax / Wane)	
	Rise	Set
Sun	0620	2056
Moon	1433	0125

Time	Temp (F)	Sky	Wind	No. Bats
2100	77	2	0	2
2200	72	2	0	1
2300	70	2	0	1
0000	70	1	0	1
0100	68	0	0	0
0158	66	0	0	0

Sky Code

0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale

0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

Site No. 32 Project No./Name 412.01 / Emerson Creek Date 27 July 15

Site Location Woodlot south of E. Township Road

County Snyder State OH Time Up 2054 Time Down 0155

Lat/Lon; UTM: N/E 41.17548 W/N 92.92250 Zone / Datum NAD 83 Observers C. Helfrich
A. Prater, P. Skat

COPPERHEAD
ENVIRONMENTAL CONSULTANTS

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2155	LABO	J	F	NR	8.5	38.0	A	4.0	0	-	-	-
2	0050	EPRU	J	M	NR	13.5	43	A	1.0	0	-	-	-
3	0125	EPRU	J	M	NR	13.5	45	C	3.0	0	-	-	-
4	0150	LABO	J	F	NR	10.75	41	B	2.0	0	-	-	-
5													
6													
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28													
29													
30													

Moon Phase			Rise	Set
83% gibbous Wax				
Sun			0621	2054
Moon			1726	0246

Time	Temp (F)	Sky	Wind	No. Bats
2100	73	1	2	1
2200	72	1	1	0
2300	70	1	0	0
0000	68	1	0	1
0100	68	1	0	2
0200	68	1	0	0

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____
Date _____ Start time _____ Stop time _____
Date _____ Start time _____ Stop time _____

Weatherproofing _____ Coordinates _____

Comments:

Please Return to:
P.O. Box 73, Paint Lick, KY, 40461.
(859) 925-9012

p. 2



COPPERHEAD

Moon Phase 83 % gibbous Wax / Wane

	Rise	Set
--	------	-----

Sun	6621	2054
-----	------	------

Moon	1726	0246
------	------	------

Time	Temp (F)	Sky	Wind	No. Bats
2100	73	1	2	1
2200	72	1	1	0
2300	70	1	0	0
0000	68	1	0	1
0100	68	1	0	2
0200	68	1	0	0

Sky Code

0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale

0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Please Return to:
P.O. Box 73, Paint Lick, KY, 40461.
(859) 925-9012

Mist Net Site Habitat Sheet

Site No. 32

Project No./Name 4112.01/ Emerson Creek

Date 24 July

Lat/Lon ; UTM: N/E 41.17542

W/N 82.92950

Zone

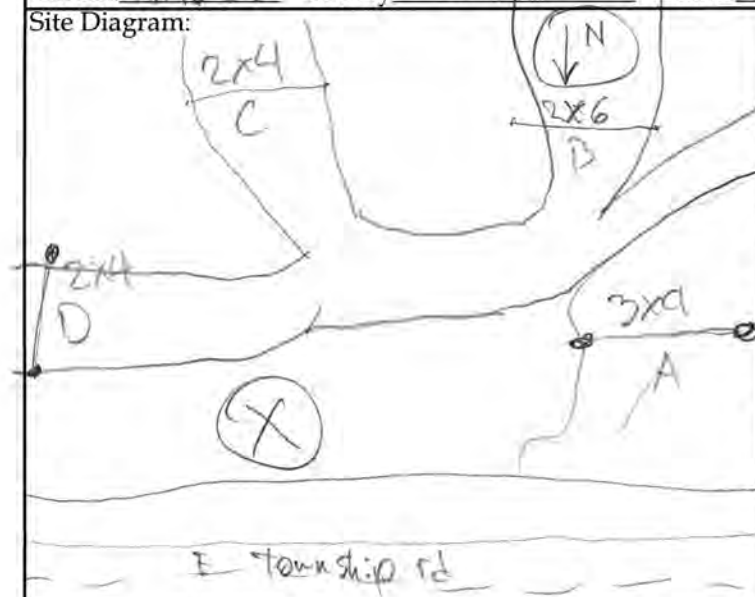
Observers Chris Leffwich

Datum: NAD83

County Seneca

State OH Quad

Site Diagram:



Net	Height (m)	Length (m)	July Dates
A	7.0	9	24, 27
B	5.2	6	24, 27
C	5.2	4	24, 27
D	5.2	4	24, 27
E			
F			

Site Photographs

Camera: Chris's Camera

Photo Log: A: 0092, 0093

B: 0094, 0095

C: 0096, 0097

D: 0098, 0103

Dominant Vegetation

1. Quercus Rubra	4. Q. alba
2. Carya alba	5.
3. Acer Saccharum	6.

Net Set by Habitat

Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor		X	X	X		
Cave						
Mine						
Forest						
Gap						
Other ephemeral pond	X					

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

2

Roost habitat: 1. Poor: No or few snags $\geq 5"$ DBH with sloughing bark or other usable roost features (cracks, crevices, etc)

2. Moderate: Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.

3

3. Optimal: Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.**Water Resources:** 1. Poor: bat drinking resources not present at the site.

2. Moderate: Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.

3. Optimal: Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.

2

Forest Structure: (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).

1. Poor: Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging

2. Moderate: some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.

3. Optimal: Mature forest. Diverse age classes of trees present. Trees >15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.

2

Land Cover: 1. Poor: Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.

2. Marginal: Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.

3. Optimal: Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

9

Total Habitat Score (Should be between 4 & 12)

Comments:

Please return to:

P.O. Box 73, Paint Lick, KY. 40461

859-925-9012



Mist Netting Data Form

Sheet 1 of 2

Site No. 33 Project No./Name 412.01 / Emerson Creek Date 7-24-15
 Site Location Wood lot + Pond near Coyote Grove camp ground
 County Seneca State OH Time Up 0900 Time Down 0200
 Lat/Lon; UTM: N/E 41.18233 W/N -82.93582 Zone — Datum NAD83 Observers B. Penley / R. McVey

COPPERHEAD
ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:45	EPFU	A	F	NR	190	46	B	2	0	N/A	N/A	N/A
2	11:00	EPFU	A	M	NR	190	47	C	1.5	0	N/A	N/A	N/A
3	11:00	LABO	A	F	P2	130	40	A	4	0	N/A	N/A	N/A
4	11:00	EPFU	J	M	NR	165	47	A	4	0	N/A	N/A	N/A
5													
6													
7													
8													
9													
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Moon Phase	% <u>98</u>	Wax / Wane
	Rise	Set
Sun	<u>6:24 am</u>	<u>8:53 pm</u>
Moon	<u>7:21 pm</u>	<u>4:32 am</u>

Time	Temp (F)	Sky	Wind	No. Bats
9:00	<u>80</u>	<u>2</u>	<u>0</u>	<u>N/A</u>
10:00	<u>78</u>	<u>2</u>	<u>0</u>	<u>1</u>
11:00	<u>78</u>	<u>2</u>	<u>1</u>	<u>3</u>
12:00	<u>77</u>	<u>0</u>	<u>1</u>	<u>0</u>
01:00	<u>76</u>	<u>0</u>	<u>1</u>	<u>0</u>
2:00	<u>73</u>	<u>0</u>	<u>1</u>	<u>0</u>

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Eptesicus fuscus (EPFU); Lasiurus borealis (LABO); Lasiurus cinereus (LACI); Lasiurus seminolus (LASE); Lasionycteris noctivagans (LANO); Myotis austroriparius (MYAU); Myotis grisescens (MYGR); Myotis leibii (MYLE); Myotis lucifugus (MYLU); Myotis septentrionalis (MYSE); Myotis sodalis (MYSO); Nycticeius humeralis (NYHU); Perimyotis subflavus (PESU); Tadarida brasiliensis (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

Mist Netting Data Form

Site No. 33 Project No./Name 412.011 Emerson Creek Date 7-31-15Site Location Wood lot + Pond near Cayote Grove campgroundCounty Spencer State OH Time Up 2051 Time Down 0151Lat/Lon: UTM: N/E 41.18233 W/N -82.93582 Zone — Datum NAD83 Observers B. Reuley / C. Boyd / R. McGregg

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	1:20	MYSE	A	F	NR	6.0	35	D	3	0		17166	450
2													
3													
4													
5													
6													
7													
8													
9													
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Moon Phase % 100 Wax / Wane

	Rise	Set
Sun	<u>06:25</u>	<u>20:51</u>
Moon	<u>20:54</u>	<u>06:43</u>

Time	Temp (F)	Sky	Wind	No. Bats
0900	76	1	1	N/A
1000	72	1	1	0
1100	72	1	1	0
1200	72	2	2	0
1300	67	1	1	0
2000	63	0	0	1

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type — Unit # — Date — Start time — Stop time —Date — Start time — Stop time —Date — Start time — Stop time —Weatherproofing — Coordinates —Comments: —Please Return to:
P.O. Box 73, Paint Lick, KY, 40461.
(859) 925-9012

Mist Netting Data Form

Sheet 1 of 2

Site No. 34 Project No./Name 412.01 / Emerson Creek Date 7-25-15
 Site Location Wood lot surrounded by corn field south of E. Co. Rd 34 & west of Twp Rd 143
 County Scraper State OH Time Up 900 Time Down 0200
 Cat/Lon; UTM: N/E 41.15341 W/N -82.96169 Zone 18Q Datum NAD83 Observers B. Remley
R. McCreger



#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:40	LABO	A	F	PL	12.5	39	D	4.5	D	N/A	N/A	N/A
2	9:40	LABO	A	F	PL	14.5	41	C	2.5	0	N/A	N/A	N/A
3	9:50	LABO	A	F	NR	12.25	40	D	7.5	0	N/A	N/A	N/A
4	10:20	EPFU	J	F	NR	15.5	46	D	4	0	N/A	N/A	N/A
5	10:20	LABO	A	F	PL	12.0	41	D	3	0	N/A	N/A	N/A
6	10:20	EPFU	A	F	PL	18.5	49	D	2	1	N/A	N/A	N/A
7	10:50	EPFU	A	M	NR	16.0	46	D	6	0	N/A	N/A	N/A
8	10:50	EPFU	A	M	NR	16.0	47	D	7	0	N/A	N/A	N/A
9	11:20	LABO	J	F	NR	11.25	46	D	7	0	N/A	N/A	N/A
10	1:40	EPFU	J	F	NR	16.5	49	D	3	0	N/A	N/A	N/A
11	2:00	EPFU	A	F	NR	17.5	48	D	4	0	N/A	N/A	N/A
12													
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Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Eptesicus fuscus (EPFU); Lasiurus borealis (LABO); Lasiurus cinereus (LACI); Lasiurus seminolus (LASE); Lasiurus noctivagus (LANO); Myotis austroriparius (MYAU); Myotis grisescens (MYGR); Myotis leibii (MYLE); Myotis lucifugus (MYLU); Myotis septentrionalis (MYSE); Myotis sodalis (MYSO); Nycticeius humeralis (NYHU); Perimyotis subflavus (PESU); Tadarida brasiliensis (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

Moon Phase	%	Wax / Wane
	<u>69</u>	<u>Wax</u>
	Rise	Set
Sun	<u>6:14</u>	<u>20:50</u>
Moon	<u>15:24</u>	<u>01:18</u>

Time	Temp (F)	Sky	Wind	No. Bats
900	81	0	0	<u>N/A 3</u>
1000	78	0	0	<u>3 5</u>
1100	77	1	0	<u>1</u>
1200	76	2	0	<u>1 0</u>
100	76	2	0	<u>1</u>
200	74	0	0	<u>1</u>

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

Mist Netting Data Form

Site No. 34 Project No./Name 412.01 / Emerson Creek Date 7/30/15
 Site Location Woodlot provided by Cornfield south of E. Co. Rd. 34 + west of Twp. Rd. 183
 County Seneca State OH Time Up 2052 Time Down 0152
 Lat/Lon ; UTM: N/E 41.15341 W/N -82.96169 Zone — Datum NAD83 Observers T. Wetzler
J. Bouvier



#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2145	EPFU	A	M	NR	18	49	B	3	0	—	—	—
2	2215	EPFU	A	M	NR	16.5	47	D	2	0	—	—	—
3	2215	EPFU	A	M	NR	16	46.5	D	3.5	0	—	—	—
4	2250	EPFU	A	M	NR	17.5	47	C	1.5	0	—	—	—
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
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21													
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25													
26													
27													
28													
29													
30													

Moon Phase 100 %		Wax / <u>Wane</u>	
	Rise	Set	
Sun	0629	2052	
Moon	2005	0535	

Time	Temp (F)	Sky	Wind	No. Bats
2100	75	0	1	1
2200	73	0	1	3
2300	73	0	1	0
0000	68	0	1	0
0100	68	0	1	0
0200	67	0	0	

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____
 Date _____ Start time _____ Stop time _____
 Date _____ Start time _____ Stop time _____
 Weatherproofing _____ Coordinates _____

Comments:

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 (859) 925-9012

Mist Net Site Habitat Sheet

Site No.

34

Project No./Name

412.01, Emerson Creek

Date

7-25-15

Lat/Long; UTM: N/E 41.15341

(W/N -82.96169

Zone

Observers B. Kenley / R. McGregor

Datum: NAD83

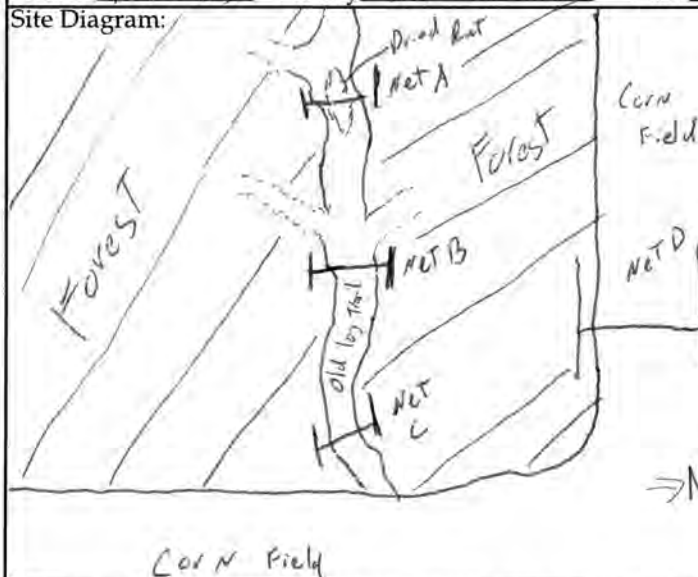
County

Seneca

State OH

Quad Fireside

Site Diagram:



Net	Height (m)	Length (m)	Dates
A	5.2	9	7-25-15
B	5.2	6	7-25-15
C	5.2	6	7-25-15
D	7.8	12	7-25-15
E			
F			

Site Photographs

Camera:

Photo Log: Downloaded to google drive Site 34

Dominant Vegetation

1. Sugar maple	4.
2. Shagbark Hickory	5.
3. Red oak	6.

Net Set by Habitat

Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor	✓	✓	✓			
Cave						
Mine						
Forest						
Gap						
Other Forest Edge				✓		

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

3

Roost habitat: 1. Poor: No or few snags $\geq 5"$ DBH with sloughing bark or other usable roost features (cracks, crevices, etc)

2. Moderate: Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.

3. Optimal: Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.

1

Water Resources: 1. Poor: bat drinking resources not present at the site.

2. Moderate: Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.

3. Optimal: Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.

3

Forest Structure: (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).

1. Poor: Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging

2. Moderate: some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.

3. Optimal: Mature forest. Diverse age classes of trees present. Trees >15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.

2

Land Cover: 1. Poor: Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.

2. Marginal: Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.

3. Optimal: Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

9

Total Habitat Score (Should be between 4 & 12)

Comments:

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859-925-9012

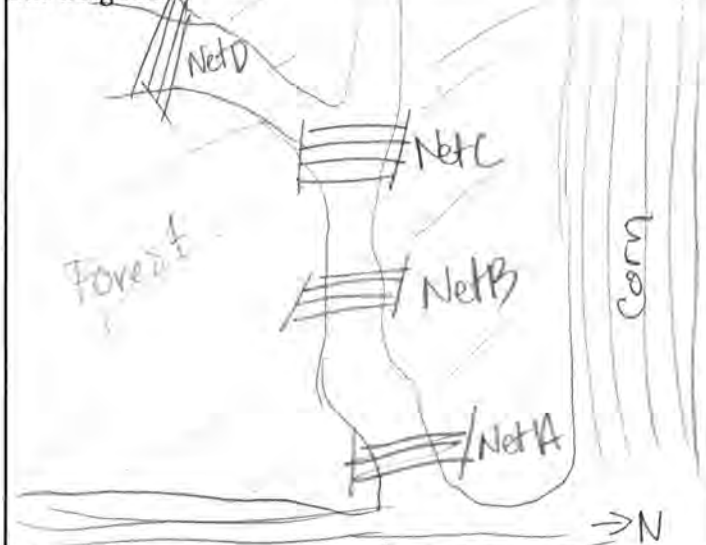


COPPERHEAD

Mist Net Site Habitat Sheet

Site No. 34Project No./Name 412, Emerson CreekDate 30 July 2015Lat/Lon ; UTM: N/E 41.15341 (W)/N 82.91619 Zone —Observers T. WetzelDatum: NAD83 County Seneca State DH Quad FiresideJ. Bourne

Site Diagram:



Net	Height (m)	Length (m)	Dates
A	5.2	12	7/30
B	5.2	9	7/30
C	7.8	9	7/30
D	5.2	6	7/30
E			
F			

Site Photographs
 Camera: TW iPhone
 Photo Log:

Dominant Vegetation						
1. <u>Acer saccharum</u>	4.					
2. <u>Carina ovata</u>	5.					
3. <u>Quercus rubra</u>	6.					
Net Set by Habitat						
Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor	X	X	X	X		
Cave						
Mine						
Forest						
Gap				X		
Other						

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

- 3 **Roost habitat:** 1. Poor: No or few snags $\geq 5"$ DBH with sloughing bark or other usable roost features (cracks, crevices, etc)
 2. Moderate: Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.
 3. Optimal: Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.
- 1 **Water Resources:** 1. Poor: bat drinking resources not present at the site.
 2. Moderate: Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.
 3. Optimal: Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.
- 3 **Forest Structure:** (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).
 1. Poor: Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging
 2. Moderate: some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.
 3. Optimal: Mature forest. Diverse age classes of trees present. Trees > 15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.
- 2 **Land Cover:** 1. Poor: Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.
 2. Marginal: Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.
 3. Optimal: Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

9 **Total Habitat Score** (Should be between 4 & 12)

Comments:

Please return to:

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859-925-9012



Mist Netting Data Form

Sheet 1 of 1

Site No. 35 Project No./Name 412.01 / Emerson Creek Date 26 July 15
 Site Location woodlot, recently logged
 County Sevier State OH Time Up 2055 Time Down 0155
 Lat/Lon; UTM: N/E 41.18368 W/N 82.90344 Zone 1 Datum NAD 83 Observers C. Lefflerich
P. Scott

COPPERHEAD
ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2115	LABO	—	—	escaped	—	—	A	1.5	—	—	—	—
2	2125	LABO	—	—	escaped	—	—	D	4.5	—	—	—	—
3	2220	EPFU	A	F	PL	14	45	D	3.5	0	—	—	—
4	2305	EPFU	J	F	NR	14.5	43	D	1.5	0	—	—	—
5													
6													
7													
8													
9													
10													
11													
12													
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23													
24													
25													
26													
27													
28													
29													
30													

Moon Phase	%	Wax / Wane
	Rise	Set
Sun	0620	2055
Moon	1628	0203

Time	Temp (F)	Sky	Wind	No. Bats
2100	72	2	1	2
2200	70	3	1	1
2300	70	3	0	1
0000	69	3	0	0
0100	68	3	0	0
0200	66	3	0	0

Sky Code

0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale

0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Eptesicus fuscus (EPFU); Lasiurus borealis (LABO); Lasiurus cinereus (LACI); Lasiurus seminolus (LASE); Lasionycteris noctivagans (LANO); Myotis austroriparius (MYAU); Myotis grisescens (MYGR); Myotis leibii (MYLE); Myotis lucifugus (MYLU); Myotis septentrionalis (MYSE); Myotis sodalis (MYSO); Nycticeius humeralis (NYHU); Perimyotis subflavus (PESU); Tadarida brasiliensis (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

Mist Netting Data Form

Site No. 35 Project No./Name 4/2.01 / Emerson Creek Date 29 July 15
 Site Location woodlot, recently logged
 County Seneca State OH Time Up 2050 Time Down 0155
 Lat/Lon; UTM: N/E 46.18368 W/N -82.90344 Zone 18 Datum NAD83 Observers Cole Patrick
P. Scott

COPPERHEAD
ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2110	LABO	A	F	PL	15	42.0	B	2.0	0	-	-	-
2	2230	EPFU	A	M	NR	21	46	C	6.5	2	-	-	-
3	2256	EPFU	A	F	PL	22.5	45	B	4.0	0	-	-	-
4	2350	EPFU	J	F	NR	13.25	44	C	5.0	0	-	-	-
5	0020	EPFU	J	F	NR	15.0	44	B	3	-	-	recaptured	-
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
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22													
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27													
28													
29													
30													

Moon Phase	96 % gibbous	Wax / Wane
	Rise	Set
Sun	0604	2053
Moon	1918	0025

Time	Temp (F)	Sky	Wind	No. Bats
2100	77	3	0	1
2200	76	3	0	2
2300	74	3	0	1
0000	73	3	1	1
0100	71	3	0	0
0155	69	3	0	0

Sky Code

0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale

0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Weatherproofing _____ Coordinates _____

Comments: _____

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

Mist Net Site Habitat Sheet

Site No. 35

Project No./Name

412.01, Emerson Creek

Date

26 July 15

Lat/Lon; UTM: N/E

41.8368

W/N

82.70344

Zone

Observers

C. Leffewich

Datum:

NAD83

County

Seneca

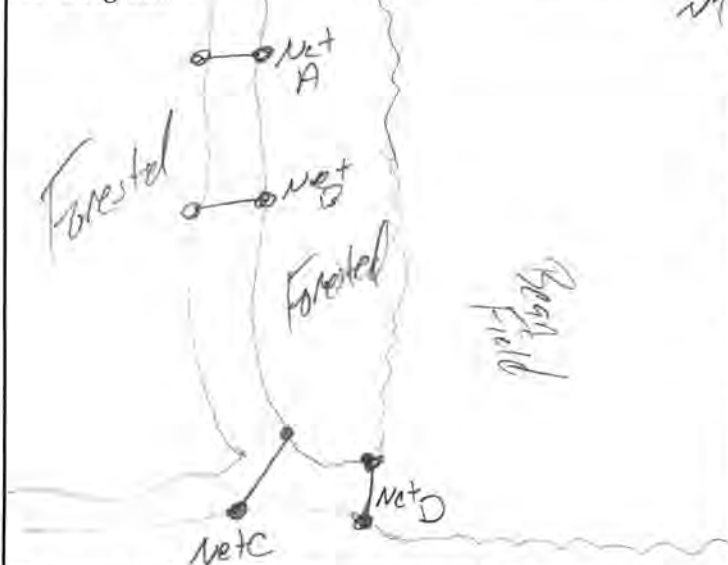
State

OH

Quad

Fireside

Site Diagram:



Net	Height (m)	Length (m)	July Dates
A	5.2	6	26, 29
B	5.2	9	26, 29
C	7.8	9	26, 29
D	5.2	9	26, 29
E			
F			

Site Photographs

Camera:

Photo Log:

Dominant Vegetation

1. <u>Q. rubra</u>	4. _____
2. <u>C. ovata</u>	5. _____
3. <u>V. americana</u>	6. _____

Net Set by Habitat

Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor	X	X	X	X		
Cave						
Mine						
Forest						
Gap						
Other						

Indiana Bat Habitat Characterization (Choose appropriate score for each habitat characteristic)

2**Roost habitat:** 1. Poor: No or few snags ≥ 5 " DBH with sloughing bark or other usable roost features (cracks, crevices, etc)

2. Moderate: Snags with sloughing bark or other roost features present 5-15 inch DBH within 1000 feet of forested areas.

3. Optimal: Snags with sloughing bark or other roost features present >15 inch DBH within 1000 feet of forested areas.1**Water Resources:** 1. Poor: bat drinking resources not present at the site.

2. Moderate: Ephemeral or intermittent streams or ponded areas present but too cluttered to allow many bats to drink easily or simultaneously. No corridors, openings or canopy gaps allow bats easy access to the resource.

3. Optimal: Streams or ponds (including road ruts) present that appear to offer drinking resource throughout the majority of the summer. Flyways to resources are available.

2**Forest Structure:** (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).

1. Poor: Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging

2. Moderate: some diversity in age of trees in the stand. Trees 5 to 15 inches present. Understory clutter dominant but not ubiquitous. Trees greater than 15" DBH may be present but rare.

3. Optimal: Mature forest. Diverse age classes of trees present. Trees >15 inch DBH frequent. Varying tree height and treefalls allow for frequent small openings and gaps that facilitate bat foraging.2**Land Cover:** 1. Poor: Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.

2. Marginal: Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.

3. Optimal: Area is largely forested. Wooded stands are connected to other wooded stands via wooded stream, fence row, or other wooded corridor.

7**Total Habitat Score** (Should be between 4 & 12)

Comments:

Please return to:

P.O. Box 73, Paint Lick, KY. 40461

859-925-9012



COPPERHEAD

Mist Netting Data Form

Site No. 36 Project No./Name 412 / Emerson Creek Date 29-July-2015
 Site Location Woodlot South of County Rd. 24
 County Sevier State OH Time Up 2050 Time Down 0153
 Lat/Lon; UTM: N/E 41.15548 W/N 83.00470 Zone NA Datum NAD83 Observers P. Sewell



#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2150	EPFU	A	M	NR	17.5	44	B	2	0	—	—	—
2	0110	EPFU	A	M	NR	17.5	48	D	3	1	—	—	—
3													
4													
5													
6													
7													
8													
9													
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28													
29													
30													

Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Date _____ Start time _____ Stop time _____

Weatherproofing _____ Coordinates _____

Comments:

Moon Phase	95 %	Wax / Wane
	Rise	Set
Sun	0623	2053
Moon	1916	0432

Time	Temp (F)	Sky	Wind	No. Bats
2100	82	3	0	1
2200	76	2	1	0
2300	74	2	0	0
0000	73	2	1	0
0100	72	2	2	1
0200	70	1	1	0

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

Mist Netting Data Form

Sheet 1 of 1

Site No. 36 Project No./Name 412 / Enoson Creek Date 7/31/15
 Site Location Wood lot South of Route 11.34
 County Scraper State OH Time Up 2045 Time Down 0155
 Lat/Lon: UTM: N/E 41.15548 W/N 83.00470 Zone — Datum NAD83 Observers F. Scull
A. Ashmoe

COPPERHEAD
ENVIRONMENTAL CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2130	EPFU	J	F	NR	12.25	46	F	5.5	0	—	—	—
2	2130	EPFU	J	M	NR	15	46	E	4	0	—	—	—
3	2130	EPFU	A	M	S	19.25	61	E	2	0	—	—	—
4	2145	EPFU	J	A	NR	14.5	49	E	—	0	—	—	—
5	2145	EPFU	J	F	NR	13.5	47	E	—	0	—	—	—
6	2145	EPFU	J	F	NR	15.0	49	—	—	0	—	—	—
7	2148	EPFU	A	F	PL	18.75	47	D	2	0	—	—	—
8	2151	EPFU	J	M	NR	13	47	E	5	1	—	—	—
9	2153	EPFU	J	M	NR	10.75	44	E	4	0	—	—	—
10	2155	EPFU	J	F	NR	14.5	45	E	5	0	—	—	—
11	2145	EPFU	A	F	PL	21.75	50	E	—	0	—	—	—
12	0110	LABO	J	F	NR	12.25	44	E	5	0	—	—	—
13													
14													
15													
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29													
30													

Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Eptesicus fuscus (EPFU); Lasiurus borealis (LABO); Lasiurus cinereus (LACI); Lasiurus seminolus (LASE); Lasionycteris noctivagans (LANO); Myotis austroriparius (MYAU); Myotis grisescens (MYGR); Myotis leibii (MYLE); Myotis lucifugus (MYLU); Myotis septentrionalis (MYSE); Myotis sodalis (MYSO); Nycticeius humeralis (NYHU); Perimyotis subflavus (PESU); Tadarida brasiliensis (TABR)

Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

Moon Phase <u>00</u> % <u>Wax / Wane</u>		
	Rise	Set
Sun	<u>0626</u>	<u>2050</u>
Moon	<u>2132</u>	<u>0754</u>

Time	Temp (F)	Sky	Wind	No. Bats
2100		0	0	8
2200		1	1	3
2300		1	0	0
0000	66	2	1	0
0100	65	2	1	1
0200	64	0	1	—

Sky Code	
0	Clear
1	Few Clouds
2	Partly Cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Heavy rain - thunder storm

Beaufort Wind Scale	
0	Calm: <1 mph
1	Light air: 1-3 mph
2	Light breeze: 4-6 mph
3	Gentle breeze: 7-10 mph
4	Moderate breeze: 11-16 mph

Please Return to:
 P.O. Box 73, Paint Lick, KY, 40461.
 (859) 925-9012

APPENDIX B

Mist-Net Site Photographs



Site 1 Net A



Site 1 Net B



Site 1 Net C



Site 1 Net D



Site 2 Net A



Site 2 Net B



Site 2 Net C



Site 2 Net D

Night 1



Site 2 Net A



Site 2 Net B



Site 2 Net C



Site 2 Net D

Night 2



Site 3 Net A



Site 3 Net B



Site 3 Net C



Site 3 Net D



Site 4 Net A



Site 4 Net B



Site 4 Net C



Site 4 Net D



Site 5 Net A



Site 5 Net B



Site 5 Net C



Site 5 Net D



Site 6 Net A



Site 6 Net B



Site 6 Net C



Site 6 Net D

Night 1



Site 6 Net A



Site 6 Net B



Site 6 Net C



Site 6 Net D

Night 2



Site 7 Net A



Site 7 Net B



Site 7 Net C



Site 7 Net D



Site 7 Net E



Site 8 Net A



Site 8 Net B



Site 8 Net C



Site 8 Net D



Site 8 Net E



Site 9 Net A



Site 9 Net B



Site 9 Net C



Site 9 Net D



Site 10 Net A



Site 10 Net B



Site 10 Net C



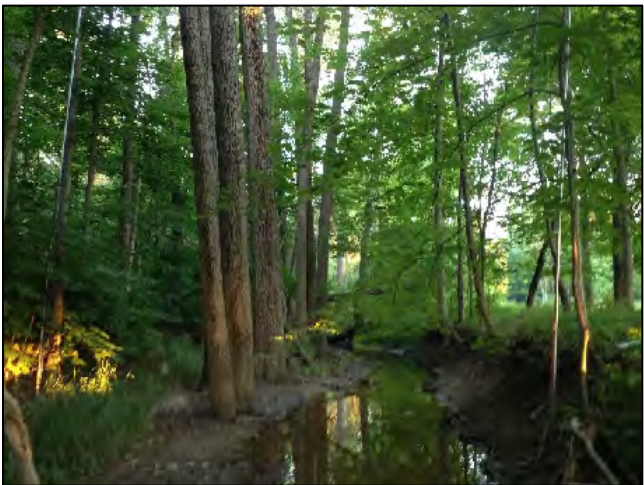
Site 10 Net D



Site 11 Net A



Site 11 Net B



Site 11 Net C



Site 11 Net D



Site 12 Net A



Site 12 Net B



Site 12 Net C



Site 12 Net D



Site 12 Net E



Site 13 Net A



Site 13 Net B



Site 13 Net C



Site 13 Net D



Site 14 Net A



Site 14 Net B



Site 14 Net C



Site 14 Net D



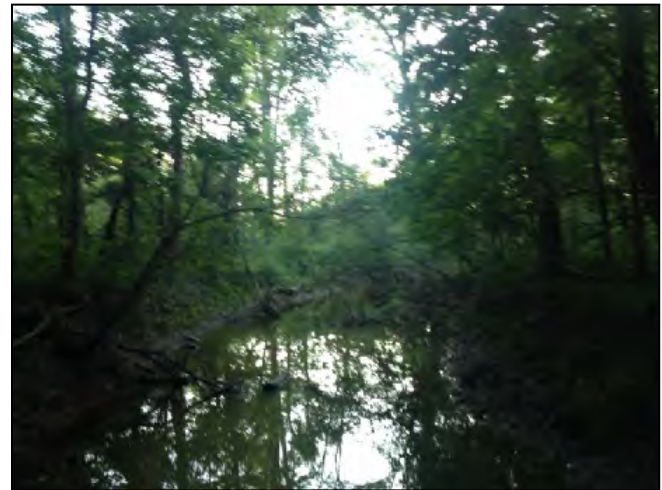
Site 15 Net A



Site 15 Net B



Site 15 Net C



Site 15 Net D



Site 16 Net A



Site 16 Net B



Site 16 Net C



Site 16 Net D



Site 17 Net A



Site 17 Net B



Site 17 Net C



Site 17 Net D

Night 1



Site 17 Net A



Site 17 Net D



Site 17 Net E



Site 17 Net F

Night 2



Site 18 Net A



Site 18 Net B



Site 18 Net C



Site 18 Net D



Site 18 Net E



Site 18 Net F



Site 19 Net A



Site 19 Net B



Site 19 Net C



Site 19 Net D

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in

Case No(s). 17-2295-EL-BGN

Summary: Amended Application Exhibit J Appendix E - Part 7 of 12 electronically filed by
Teresa Orahod on behalf of Sally W. Bloomfield