

Mist Netting Data Form

Sheet 1 of

Site No. 2 Project No./Name 412 / GIBBSON CREEK Date 7/26/15Site Location STRENN OFF OF 136County SENECA State OHTime Up 8:55 Time Down 2:00Lat/Lon ; UTM: N/E 41.17072 W/N -82.29307 Zone 18 Datum NAD83 Observers MTM, RRLCOPPERHEAD
ENVIRONMENTAL FOUNDATION

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:10	LABO	A	F	PL	14	41	C	3	0	—	—	—
2	9:45	EPFU	A	F	PL	17	47	D	2	0	—	—	—
3	10:30	EPFU	A	F	PL	20	49	B	2	0	—	—	—
4	11:30	EPFU	A	F	PL	20	50	C	2	0	—	—	—
5	11:45	EPFU	A	F	PL	21	47	B	1	0	—	—	—
6	1:40	EPFU	A	F	PL	17	48	C	8	0	—	—	—
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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 50 %			Wax / Wane	
Time	Temp (F)	Sky	Wind	No. Bats
9:00	73	3	1	2
10:00	71	3	1	1
11:00	70	3	1	2
12:00	69	2	1	0
1:00	66	2	1	1
2:00	66	2	1	0

Time	Temp (F)	Sky	Wind	No. Bats
9:00	73	3	1	2
10:00	71	3	1	1
11:00	70	3	1	2
12:00	69	2	1	0
1:00	66	2	1	1
2:00	66	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

Please Return to:

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

Mist Netting Data Form

Site No. 8 Project No./Name 412 / EMERSON CREEK Date 7-29-15
 Site Location STICKUM ST 136
 County SENLECA State DHIO Time Up 8:50 Time Down 2:30
 Lat/Lon; UTM: N/E 4117072 W/N -82.89307 Zone 18 Datum NAD83 Observers MTM, TAB

COPPERHEAD
INFORMATION & CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	10:50	EPEW	A	M	S	20	46	C	1.5	0	—	—	—
2													
3													
4													
5													
6													
7													
8													
9													
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27													
28													
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30													

Time	Temp (F)	Sky	Wind	No. Bats
9:00	81	2	0	0
10:00	79	2	1	1
11:00	77	1	1	0
12:00	77	0	2	0
1:00	76	0	2	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:
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 (859) 925-9012

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. 8 Project No./Name 412 / EMULSONS CREEK Date 7/26/15

Lat/Lon: UTM: N/E 41.17012 W/N -82.89307 Zone 18 Observers MTM, RRR

Datum: NAD83 County Seneca State OH Quad Fireside

Site Diagram:



Dominant Vegetation

1. RED OAK
2. RED MAPLE
3. Cottonwood
4. BEECH
5. Elm
- 6.

Net Set by Habitat

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

Site Photographs

Camera:

Photo Log:

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.

Water Resources:

3. **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.

Forest Structure:

3. (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.

Land Cover:

2. **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



COPPERHEAD

Mist Netting Data Form

Sheet _____ of _____

Site No. 9 Project No./Name 412 / Emergent Creek Date 7-26-15Site Location Woodlot south of E township road 124County Seneca State OH Time Up 9:00 Time Down 2:00Lat/Lon ; UTM NYE 4114356 WYN 82.92948 Zone ES Observers ES, TABCOPPERHEAD
RESEARCH & CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:20	EPFU	A	M	TD	15.5	44	D	5	0	—	—	—
2	11:00	EPFU	S	F	NR	15	45	D	5	0	—	—	—
3	12:30	LABO	A	F	PL	13	41	D	3	0	—	—	—
4													
5													
6													
7													
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Other Abbreviations: Male: M; Female: F; Pregnant: P; Lactating: L; Post Lactating: PL; Scrotal: S; Non Repro: NR

Moon Phase	%	Rise	Set
Sun		0621	2058
Moon		1638	0246

Time	Temp (F)	Sky	Wind	No. Bats
9:00	75	3	1	1
10:00	72	3	1	0
11:00	70	3	0	1
12:00	67	3	0	1
1:00	66	3	0	2
2:00	64	2	0	0

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

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

Please Return to:

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(859) 925-9012

Mist Netting Data Form

Site No. 89 Project No./Name 412 / Emerald Creek Date 7/28/2015
 Site Location Woodlot south of E. Township Road 124
 County Seneca State OH Time Up 9:00 PM Time Down 8:00 AM
 Lat/Lon: UTM: N 41, 14756 W 82, 92948 Datum NAD83 Observers ES, TAB

COPPERHEAD
ENVIRONMENTAL RESEARCH, INC.

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:00	LABO	Escape					A	4				
2	9:10	LABO	A	F	PL	13	40	A	3	0			
3	9:20	LABO	J	F	NR	9	38	A	3	0			
4	9:50	EPFU	A	M	TD	17.5	48	D	3	0			
5	10:00	EPFU	A	F	PL	26.5	44	D	5.5	0			
6	10:00	EPFU	A	M	TD	15	46	D	3.5	0			
7	10:45	EPFU	A	F	PL	20	48	D	5	0			
8	11:30	EPFU	J	F	NR	14	45	D	4	0			
9	11:30	EPFU	J	M	NR	13	44	D	1.5	0			
10	12:50	EPFU	Escaped					D	4				
11	12:50	LABO	J	F	NR	9.5	39	D	3	0			
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Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____

Weatherproofing _____ Date _____ Start time _____ Stop time _____

Comments: _____ Date _____ Start time _____ Stop time _____

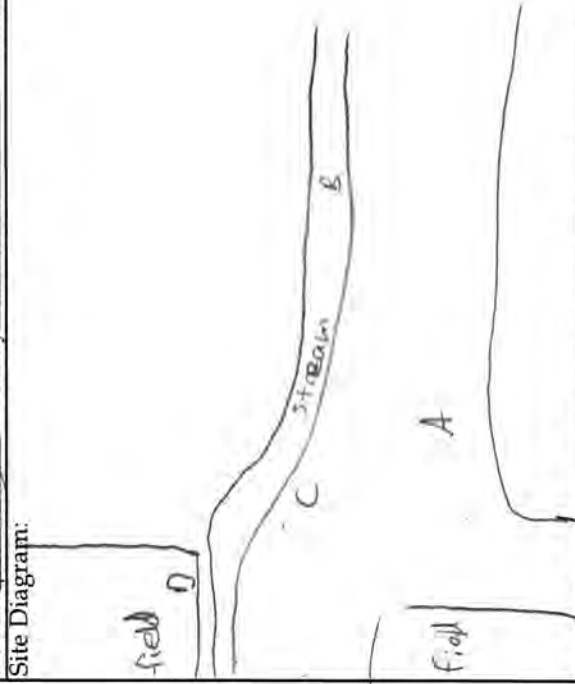
Coordinates _____

Please Return to: _____

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

(859) 925-9012

Mist Net Site Habitat Sheet Site No. 9 Project No./Name 412/ Emerson Creek Date 7/28/15
 Lat/Long UTM: 8/E 41, 14356 W/N 8292948 Zone 18N Observers ESmith
 Datum: NAD83 County Seneca State OH Quad Fire Side
 Site Diagram:



Net			Height			Length			Dates			Dominant Vegetation					
Net			Height			Length			Dates			Dominant Vegetation					
A												1. Red Maple	4. Red Oak				
B												2. Gray Birch	5.				
C												3. Elm	6.				
D																	
E																	
F																	
Site Photographs												Net Set by Habitat					
Camera:												Habitat	A	B	C	D	E
Photo Log:												River					
												Stream		X			
												Pond					
												Corridor			X		
												Cave					
												Mine					
												Forest					
												Gap	X				
												Other					

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

- 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.

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

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

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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.

6 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. 10 Project No./Name 412.01 / Emerson Creek Date 7/25/15
 Site Location Forest gap; logging road; pond in forest
 County Sevier State OH Time Up 9:00 Time Down 2:00 am
 Lat/Lon: UTM: N/E 41-15312 W/N 82-92621 Zone 18N Observers J. Storm, J. Klinger

COPPERHEAD
ECOLOGY CONSULTANTS

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:20	EPFU	JV	M	NR	11	46	A	3.0	0	NA	NA	NA
2	9:26	EPFU	JV	M	NR	11.25	45	A	5.0	0	NA	NA	NA
3	10:00	LABO	JV	M	NR	6.5	39	D	0.5	0	NA	NA	NA
4	10:00	EPFU	JV	M	NR	8.75	41	A	3.0	0	NA	NA	NA
5	10:00	EPFU	JV	M	NR	13.00	44	A	3.0	0	NA	NA	NA
6	10:00	EPFU	A	F	PL	17.75	47	A	3.0	0	NA	NA	NA
7	10:00	EPFU	A	F	PL	20.5	49	A	5.0	0	NA	NA	NA
8	10:00	EPFU	JV	M	NR	14.5	46	A	6.0	0	NA	NA	NA
9	10:00	EPFU	A	F	PL	16.75	48	A	5.0	0	NA	NA	NA
10	10:40	LABO	JV	F	NR	8.0	41	A	2.0	0	NA	NA	NA
11	10:40	EPFU	A	M	S	16.0	44	A	7.0	0	NA	NA	NA
12	10:40	EPFU	A	M	S	16.5	45	A	6.0	0	NA	NA	NA
13	10:40	EPFU	A	F	PL	20.0	47	A	4.0	0	NA	NA	NA
14	11:15	EPFU	JV	F	NR	13.0	46	A	3.0	0	NA	NA	NA
15	11:50	EPFU	A	M	S	15.5	45	A	3.0	0	NA	NA	NA
16	11:50	EPFU	JV	M	NR	14.0	49	A	3.0	0	NA	NA	NA
17	11:50	EPFU	A	F	PL	20.25	48	A	5.5	0	NA	NA	NA
18													
19													
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26													
27													
28													
29													
30													

Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVt); 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	%	Rise	Set
Sun		6:20 am	8:57 pm
Moon		3:34 pm	1:26 am

Time	Temp (F)	Sky	Wind	No. Bats
9:00	73.0	1	2	2
10:00	70.5	0	1	11
11:00	69.8	1	1	4
12:00	69.4	1	1	0
1:00	70.3	1	0	0
2:00	70.1	1	3	1

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

Beaufort Wind Scale	0	1	2	3	4
Calm: <1 mph					
Light air: 1-3 mph					
Light breeze: 4-6 mph					
Gentle breeze: 7-10 mph					
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. 10 Project No./Name 412.01 / Emerson Creek Date 7/30/15
 Site Location Forest gap logging road; pond in forest
 County Sevier State OH Time Up 8:50 Time Down 1:50
 Lat/Lon; UTM: N/E 41.15312 WYN -82.92621 Zone 18 Datum NAD83 Observers J. Storm, M. Newton

COPPERHEAD
PACIFIC NORTHWESTERN UNIVERSITY

Moon Phase	%	Rise	Wax / Wane
Sun		6:25 am	8:51 pm
Moon		8:10 pm	5:35 am

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:05	LABO			Escaped		from	Net	A	0			
2	9:30	EPFU	JV	NR	NR	11.75	47mm	A	6	0			
3	9:30	EPFU	JV	F	NR	11	46mm	A	6	1			
4	9:30	EPFU	A	F	PL	16	40mm	A	4	0			
5	9:30	EPFU	A	M	TD	14.5	47mm	A	2	0			
6	9:30	EPFU	JV	M	NR	10.85	44mm	A	2	0			
7	9:50	EPFU	A	FM	L	17	47mm	D	1.5	0			
8	10:30	LABO	JV	F	NR	9	38mm	A	3.5	0			
9	10:30	LACT	JV	M	NR	11.25	49mm	A	3	0			
10	10:30	EPFU	JV	F	NR	16.5	48mm	A	4	0			
11	10:30	EPFU	A	M	TD	16.25	45mm	A	2	0			
12	10:40	LABO	JV	F	NR	9.25	29mm	AC	2	0			
13	9:40	EPFU	A	F	L	21	42mm	C	4.5	1			
14	10:40	EPFU	JV	M	NR	8.25	29mm	A	3	0			
15	11:15	EPFU	JV	F	NR	13.5	45mm	A	1	0			
16	1:50	LABO	JV	F	NR	9.75	42mm	A	2	0			
17													
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Sky Code

0	Clear
1	Few Clouds
2	Partly Cloudy
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Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____
 Date _____ Start time _____ Stop time _____
 Date _____ Start time _____ Stop time _____
 Coordinates _____

Weatherproofing _____

Comments: _____

Please Return to:

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

Mist Net Site Habitat Sheet

Site No. 10

Project No./Name 412, Emerson Creek

Date 7/25/15

Lat/Lon: UTM: N/E 41.15312 W/N -82.92621

Zone

Observers J. S. G. M., J. K. M.

Datum: NAD83 County Seneca State OH Quad

Site Diagram:



Net	Height (m)	Length (m)	Dates
A	7.8	9	7/25 + 7/30
B	5.2	6	7/25 + 7/30
C	5.2	6	7/25 + 7/30
D	5.2	6	7/25 + 7/30
E			
F			

Dominant Vegetation					
1.	Red Maple	4.	Slippery Elm		
2.	Red Oak	5.	Red-bellied Swamp White Oak		
3.	Shagbark Hickory	6.	Silver Maple		

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

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

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.

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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.

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

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Total Habitat Score (Should be between 4 & 12)

Comments:

Please return to:

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

859-925-9012



COPPERHEAD
INTEGRATED MANAGEMENT

Mist Netting Data Form

Sheet of

Site No. 11 Project No./Name 412 / Emerson Creek Date 7-23-15

Site Location CR 122

County Seneca State OH Time Up 8:00 Time Down 2:20

Lat/Lon ; UTM: N/E 41.13920 W/N 82.99223 Zone 18 Datum NAD83 Observers MTM, RRR

COPPERHEAD
Environmental Research

Moon Phase <u>50</u> %		Wax / Wane	
Time	Temp (F)	Rise	Set
9:00	75		
10:00	73		
11:00	70		
12:00	68		
1:00	66		
2:00	65		

Time	Temp (F)	Sky	Wind	No. Bats
9:00	75	0	0	0
10:00	73	0	0	1
11:00	70	0	0	0
12:00	68	0	1	0
1:00	66	0	2	1
2:00	65	0	2	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

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(859) 925-9012

p. 1

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	10:20	EPFU	A	F	L	18	46	2	7	0	—	—	—
2	1:10	EPFU	A	M	S	16.5	43	2	5	0	—	—	—
3													
4													
5													
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Species Abbreviations: Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Eptesicus fuscus (EPFU); Lasius borealis (LABO); Lasius cinereus (LACI); Lasius 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

Mist Netting Data Form

Site No. 11 Project No./Name 412 / EMERSON CRACK Date 7/27/15
 Site Location CR 122
 County Seneca State OH Time Up 8:45 Time Down _____
 Lat/Lon: UTM: N/E _____ W/N _____ Zone _____ Datum _____ Observers MM, RRR

COPPERHEAD
INVERMOUNTAIN FOUNDATION

Moon Phase <u>SD</u> %		Wax / Wane	
Rise	Set		
Sun <u>06:22</u>	<u>8:55</u>		
Moon <u>17:31</u>	<u>02:40</u>		

Time	Temp (F)	Sky	Wind	No. Bats
9:00	76	1	1	2
10:00	75	1	1	1
11:00	73	1	1	1
12:00	72	1	1	0
1:00	71	0	1	0
2:00	68	0	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

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p. 2

#	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	M	S	14	37	B	2	0	—	—	—
2	9:40	EPFU	J	F	NR	19	46	B	4	1	—	—	—
3	10:20	EPFU	A	M	S	22	51	B	4	0	—	—	—
4	11:30	EPFU	A	M	S	22.5	49	B	5	0	—	—	—
5													
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Acoustic Survey: Unit type _____ Unit # _____ Date _____ Start time _____ Stop time _____
 Date _____ Start time _____ Stop time _____
 Date _____ Start time _____ Stop time _____
 Coordinates _____

Weatherproofing _____

Comments: _____

Mist Net Site Habitat Sheet

Lat/Lon ; UTM: N/E 41.13920 W/N 82.99223 Site No. 11 Project No./Name 412 / Emerson Creek Date 7-23-15

Datum: County Spencer State OH Quad Fire Side Observers MTM, RRR

Site Diagram: 

Dominant Vegetation		Dates		Height (m)		Length (m)	
1. COTTONWOOD	4. ELM	7/23/15	7-27	A	6	6	6
2. RED MAPLE	5. WALNUT	7/23/15	7-27	B	9	9	9
3. RED OAK	6.	7/23/15	7-27	C	6	6	6
Net Set by Habitat				D	6	6	6
Habitat	A	B	C	D	E	F	F
River							
Stream							
Pond							
Corridor	✓	✓	✓				
Cave							
Mine							
Forest							
Gap							
Other							

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

- 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.
- 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.
- 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.
- 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



Mist Netting Data Form

Site No. 12 Project No./Name 412 / Emerson Creek Date 7/28/15
 Site Location 2000 ft off of CR 27
 County Seneca State OH Time Up 8:50 Time Down 2:00
 Lat/Lon: UTM: N/E 41.18453 W/N -82.93529 Zone 18 Datum NAD83 Observers MTM, RRR

COPPERHEAD
SINCE 1981 • COLUMBIANA, OH

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:10	EPFU	J	F	NR	14.5	46	C	1	0	—	—	—
2	9:20	EPFU	A	F	PL	19	50	C	6	0	—	—	—
3	9:45	EPFU	J	F	NR	14	46	C	8	0	—	—	—
4	9:45	MYSE	J	F	NR	6	36	B	3	0	—	17344	—
5	10:35	EPFU	A	F	PL	19.5	45	B	8	0	—	—	—
6	12:50	EPFU	A	M	S	16	45	C	2	0	—	—	—
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Moon Phase	%	Rise	Set
Sun		0623	2055
Moon		1827	0350

Time	Temp (F)	Sky	Wind	No. Bats
9:00	80	1	0	9
10:00	74	1	0	1
11:00	69	0	0	0
12:00	65	0	0	1
1:00	65	0	0	5
2:00	63	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

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

Mist Netting Data Form

Sheet of

Site No. 12 Project No./Name 412 / EMERSON CREEK Date 7-24-15

Site Location WOODED AREA OF NC 27

County SENECA State OH Time Up 8:50 Time Down 2:05 Datum NAD83 Observers MTM, RBB

Lat/Lon: UTM: N/E 41.1845 W/N -82.9356 Zone

COPPERHEAD
ENVIRONMENTAL RESEARCH

#	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	PL	20	42	A	5	0	—	—	—
2	10:15	EPFU	A	M	S	17	46	C	2	0	—	—	—
3	10:15	EPFU	A	F	L	17.5	45	B	5	0	—	—	—
4	10:15	EPFU	Escape										
5	10:45	EPFU	A	F	PL	16.5	50	B	2	0	—	—	—
6	10:45	EPFU	A	M	S	17.5	49	C	6	0	—	—	—
7	11:30	EPFU	S	F	NR	13.5	43	C	6	0	—	—	—
8	1:15	EPFU	A	F	PL	22.5	47	C	5	0	—	—	—
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); 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	
Time	Temp (F)	Sky	Wind
9:00	79	1	0
10:00	77	1	0
11:00	75	0	0
12:00	72	0	0
1:00	72	0	0
2:00			

Time	Temp (F)	Sky	Wind	No. Bats
9:00	79	1	0	1
10:00	77	1	0	5
11:00	75	0	0	1
12:00	72	0	0	0
1:00	72	0	0	
2:00				

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

Lat/Lon: UTM: N/E 41.1845 W/N -82.9352 State OH Quad FIRESIDE Observers MTM, RLR

Datum: NAD83 County Seneca Site Diagram: 

Dominant Vegetation	
1. Red Maple	4.
2. Red Oak	5.
3. Hickory	6.

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

Site Photographs	
Camera:	Dates
	7-24 7-28
	7-24 7-28
	7-24 7-28
	7-24 7-28

Photo 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)
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2	Forest Structure: (if hardwoods are absent or nearly absent or if stand is monoculture, area automatically qualifies as a 1: poor).
2	1. Poor: Habitat even aged and young. Trees smaller than 5 inch DBH. Understory growth cluttered and restricts flying/foraging
2	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.
2	Land Cover: 1. Poor: Square kilometer surrounding site predominantly un-forested. Few mature trees present not connected to other areas of trees.
2	2. Marginal: Trees present in the form of small woodlots and wooded fence rows. Little connection to adjacent forested areas.
2	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)

Principle Investigator(s) Todd McDaniel Location (lat/longs in D:M:S format) 41.18453/-82.93529

County Seneca Site Description Woodlot off of CR27 Survey dates 7/24/15 Total mist net nights 8

N/R?: N = new capture, unband 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

This foregoing document was electronically filed with the Public Utilities

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12/26/2018 3:23:12 PM

in

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

Summary: Application Exhibit R Part 3 of 11 electronically filed by Teresa Orahood on behalf of Dylan F. Borchers