

# Mist Net Site Habitat Sheet

Site No. 2

Project No./Name 412 / ADEX / Engvers Creek

Date 31 July 2015

Lat/Lon: UTM: N/E 41.11582 W/N -82.84374

Zone

Observers R Pearson, Alexi Padover

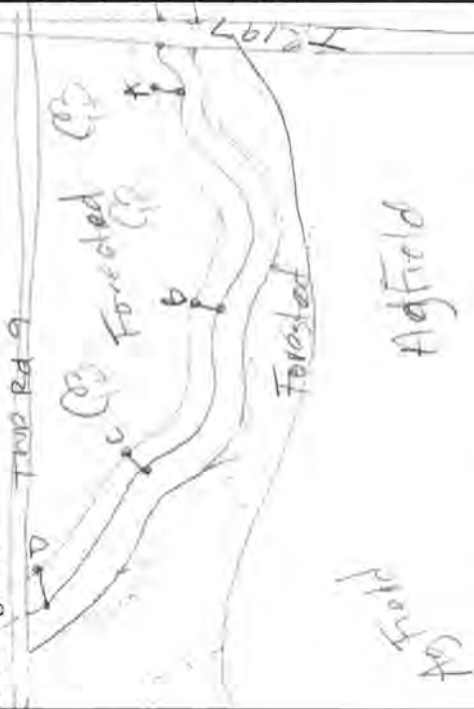
Datum: NAD 83

County Seneca

State OH

Quad Centerton

## Site Diagram:



Net	Height (m)	Length (m)	Dates
A	5.2	9	31 July
B	5.2	9	31 July
C	7.9	12	31 July
D	5.2	9	31 July
E			
F			

Dominant Vegetation						
1.	<i>Populus deltoides</i>	4.	<i>Acer saccharum</i>			
2.	<i>Celastrus occidentalis</i>	5.				
3.	<i>Quercus palustris</i>	6.				

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)

1. 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.

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  
ANIMAL CONTROL

# Mist Net Site Habitat Sheet

Site No. 2

Project No./Name 412, Apex Clean Energy/Cricket

Date 26 July 2015

Observers K. Pearson, A. Truesdale

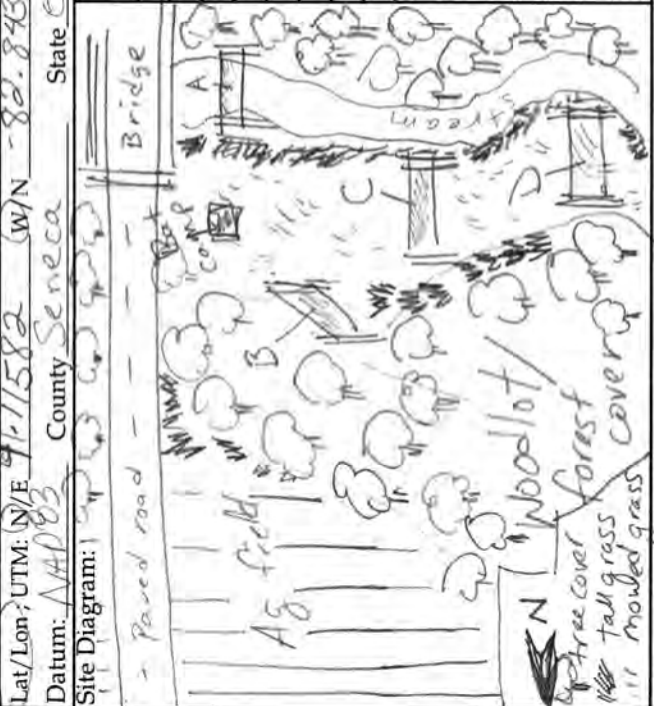
Lat/Lon: UTM: N/E 411582 W/N 8284374

Zone 18N

State OH

County Seneca

Quadrant Center



Net	Height (m)	Length (m)	Dates
A	5.2	4	26 July
B	7.8	12	
C	5.2	9	
D	5.2	9	
E			
F			
Site Photographs			
Camera: <u>Kelceys</u>			
Photo Log: <u>Kelceys</u>			

## Dominant Vegetation

1. Populus deltoides
2. Salix nigra
3. Quercus prinus
4. Aspen
5. Maple
6. Birch

## 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)

- 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.

Total Habitat Score (Should be between 4 & 12)

7

Comments:

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859-925-9012



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RESEARCH & CONSULTING

## Mist Netting Data Form

Sheet 1 of 1

Site No. 3 Project No./Name 412-01 Apex-Enverton Creek Wind Date 7-29-2015  
 Site Location Wood Lot, Saturated mud flats  
 County Seneca State OH Time Up 2053 Time Down 0153  
 Lat/Lon; UTM: N/E 41.141645 W/N -82.932637 Zone 18 Datum NAD83 Observers Steve Samoray  
Verdi Brown



COPPERHEAD

PETERSON PUBLICATIONS

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2125	EPFU	J	M	NR	12.5	44.5	D	2.0	0	-	-	-
2	2125	EPFU	A	F	NR	18.0	47.0	C	5.0	0	-	-	-
3	2135	EPFU	A	M	NR	15.5	50.5	D	1.0	0	-	-	-
4	0010	LABO	A	F	PL	15.5	44.5	B	1.0	0	-	-	-
5	0105	LABO	J	F	NR	9.5	41.0	B	2.0	0	-	-	-
6													
7													
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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 90% Wax / Wane

	Rise	Set
Sun	<u>0623</u>	<u>2053</u>
Moon	<u>1824</u>	<u>0431</u>

Time	Temp (F)	Sky	Wind	No. Bats
<u>2053</u>	<u>81</u>	<u>3</u>	<u>0</u>	<u>3</u>
<u>2153</u>	<u>79</u>	<u>3</u>	<u>0</u>	<u>0</u>
<u>2253</u>	<u>79</u>	<u>2</u>	<u>0</u>	<u>0</u>
<u>2253</u>	<u>78</u>	<u>0</u>	<u>0</u>	<u>1</u>
<u>0053</u>	<u>77</u>	<u>0</u>	<u>0</u>	<u>1</u>
<u>0153</u>	<u>75</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

Please Return to:

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 (859) 925-9012





## Mist Netting Data Form

Sheet      of     

Site No. 4 Project No./Name 412 / EMERSON CREEK Date 7-25-14

Site Location WOODLOT off REEDMAN RD

County SPARTA State OH Time Up 2055 Time Down 0155

Lat/Lon ; UTM: N/E 41.155 W/N -82.855 Zone 18 Observers MTA, TJB

COPPERHEAD  
TERRESTRIAL ECOLOGISTS

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	10:00	EPFU	J	F	NR	17	45	D	4	0	-	-	-
2	10:30	EPFU	A	M	S	17.5	46	C	2	0	-	-	-
3	10:30	EPFU	J	F	NR	17	45	A	5	1	-	-	-
4	12:15	EPFU	A	F	PL	20	47	A	2	0	-	-	-
5													
6													
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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 60 %		Wax / Wane	
Rise	Set		
Sun			2055
Moon			

Time	Temp (F)	Sky	Wind	No. Bats
9:00	82	1	0	0
10:00	79	0	0	3
11:00	76	0	0	0
12:00	75	0	0	1
1:00	75	3	1	0
2:00	73	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:

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(859) 925-9012

## Mist Netting Data Form

Site No. 4 Project No./Name 412 / EMERSON CREEK Date 7-30-15Site Location WOODLOT OFF REEDWOOD RDCounty SEGA State OH Time Up 8:50 Time Down 2:00Lat/Lon ; UTM: N/E 41.55 W/N -82.8551 Zone 18 Datum NAD83 Observers MM, TABCOPPERHEAD  
PAPER PRODUCTS COMPANY

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	10:45	LAPO	A	F	PL	14.5	40	E	1	0	—	—	—
2	10:45	EPFU	A	M	S	17	47	B	2	0	—	—	—
3													
4													
5													
6													
7													
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30													

Time	Temp (F)	Sky	Wind	No. Bats
9:00	78	0	1	0
10:00	75	0	1	0
11:00	73	0	1	0
12:00	70	0	1	0
1:00	66	0	1	0
2:00	64	0	1	0

Time	Temp (F)	Sky	Wind	No. Bats
9:00	78	0	1	0
10:00	75	0	1	0
11:00	73	0	1	0
12:00	70	0	1	0
1:00	66	0	1	0
2:00	64	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

Please Return to:	
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Acoustic Survey: Unit type \_\_\_\_\_ Unit # \_\_\_\_\_ Date \_\_\_\_\_ Start time \_\_\_\_\_ Stop time \_\_\_\_\_

Weatherproofing \_\_\_\_\_ Date \_\_\_\_\_ Start time \_\_\_\_\_ Stop time \_\_\_\_\_

Comments: \_\_\_\_\_ Coordinates \_\_\_\_\_

**Mist Net Site Habitat Sheet** Site No. 4 Project No./Name 421 / EMERSON CREEK Date 7-25-15  
 Lat/Lon: UTM: N/E 41.155 W/N -82.8554 Zone 18TUM Observers MTM, TAB  
 Datum: NAD83 County SENECA State NY Quad Flat Rock  
 Site Diagram:

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

Site Photographs  
 Camera: \_\_\_\_\_  
 Photo Log: \_\_\_\_\_

**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.
- 2 **Water Resources:** 1. Poor: bat drinking resources not present at the site.  
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 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.
- 1 **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.  
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- 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**  
 ANIMAL CONTROL SERVICES

## Mist Netting Data Form

Sheet 5 of 15Site No. 5 Project No./Name 412 Emeren Creek Date 7-25-15Site Location Woodlot west of 4 w/intermittent streamCounty Seneca State OH Time Up 8:50 Time Down 2:00Lat/Lon ; UTM: N/E 41.167295 W/N 82.848025 Zone 18 Datum NAD83 Observers ES, ERCOPPERHEAD  
SERIOMINIAT.COM

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:00	LABO ESC											
2	11:00	MYSE	J	F	NR	6	36	A	2	0		Cropped 366 banding	
3													
4													
5													
6													
7													
8													
9													
10													
11													
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27													
28													
29													
30													

Moon Phase	%	Wax / Wane
Sun		Rise
Moon		Set

Time	Temp (F)	Sky	Wind	No. Bats
9:00	83	1	2	1
10:00	78	8	2	0
11:00	77	8	2	1
12:00	75	1	1	0
1:00	74	1	2	0
2:00	74	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

**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:

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(859) 925-9012



# Mist Netting Data Form

Site No. 5 Project No./Name 412 / Emerson Creek Date 7-30-15  
 Site Location Woodlot west of 412 / intermittent stream  
 County Seneca State OH Time Up 20:30 Time Down 01:59  
 Lat/Lon : UTM: N 41.167295 W 82.848025 Zone 18 Datum NAD83 Observers ES, RR



COPPERHEAD  
 RESEARCH & CONSULTING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	1:30	LARBO	5	F	NR	12	39	D	2	0	—	—	—
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
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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: \_\_\_\_\_

Time	Temp (F)	Sky	Wind	No. Bats
9:00	80	0	2	0
10:00	77	0	2	0
11:00	73	0	2	0
12:00	69	0	2	0
1:00	68	0	1	

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Moan Phase	%	Rise	Set
Sun			8:59
Moon			

Please Return to:  
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Mist Net Site Habitat Sheet Site No. 5 Project No./Name 412 / Emerald Creek Date 7-25-15  
 Lat/Long: UTM: N/E 41.167295 W/N 82.841025 Zone 18 Observers ES, RR  
 Datum: NAD83 County Seneca State OH Quad Flat Rock  
 Site Diagram:

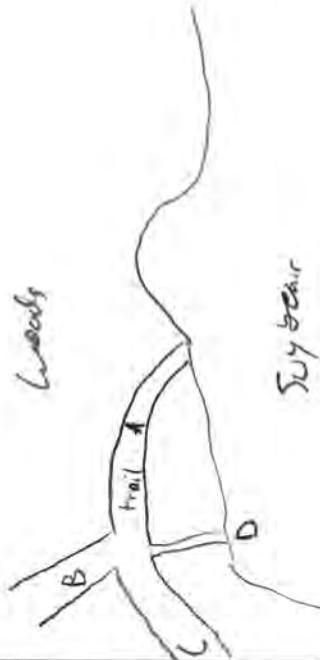
Net	Height (m)	Length (m)	Dates	Dominant Vegetation						
				1. Red Maple	2. Red Oak	3. Black Oak	4. White Oak	5. Yellow Birch	6. Sugar Maple	
A	9	6	7							
B	6	9								
C	6	6								
D	6	12								
E										
F										

Net Set by Habitat						
Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor	X		X			
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.
- 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.

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

Comments:

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



COPPERHEAD

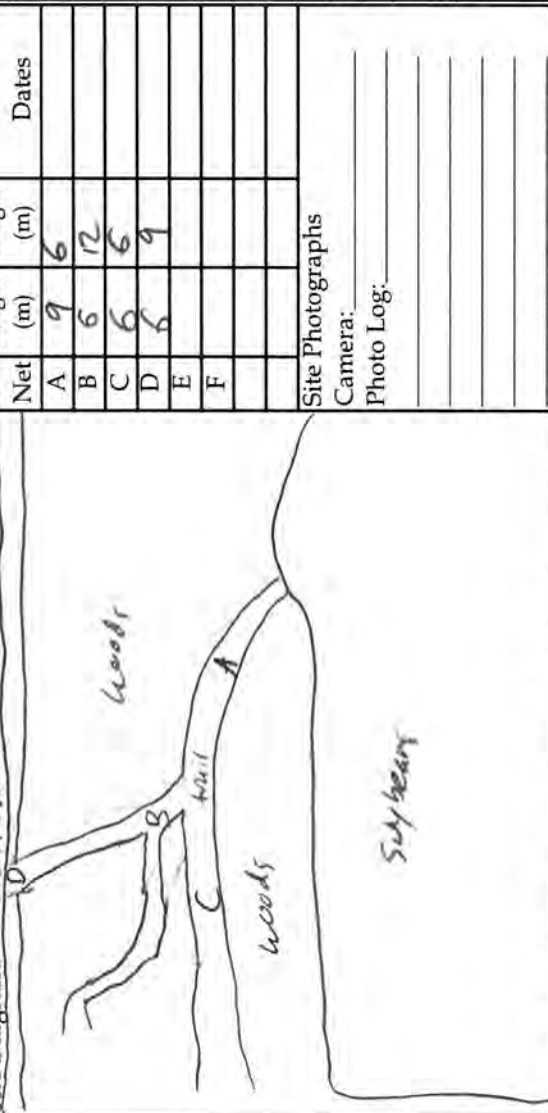
Mist Net Site Habitat Sheet Site No. 5 Project No./Name 412 / Emerald Creek Date 7-30-15

Lat/Lon; UTM: 41, 16, 72, 95 N 72, 84, 80, 25 Zone Flat Rock

Datum: NAD83 County Seneca State OH Quad

Observers ES, RR

Site Diagram: Stream



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

Net Set by Habitat					
Habitat	A	B	C	D	E
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 >= 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.  
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 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.

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

**Comments:** narrow stream between woodlot and field



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 859-925-9012

## Mist Netting Data Form

Sheet 6 of 7Site No. 5 Project No./Name 411 / Emerson Creek Date 7-29-15Site Location North of South of CR-410County Seneca State OHTime Up 9:00 Time Down 2:00Lat/Lon: UTM: N18E 4118653 W N 82.84462 Zone 18Datum NAD83 Observers Eric SmithRebecca RadcliffCOPPERHEAD  
ENVIRONMENTAL SOLUTIONS

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:10	EPFU	A	M	S	17	44	B	2	0			
2	11:30	LABO	S	F	NR	11	41	C	2	0			
3	1:00	LABO	S	F	NR	11	40	C	1	0			
4													
5													
6													
7													
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**Species Abbreviations:** Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COVI); Epitesicus 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		0622	8:51
Moon		1910	0431

Time	Temp (F)	Sky	Wind	No. Bats
9:00	80	1	1	1
10:00	78	1	1	0
11:00	78	2	2	1
12:00	78	1	2	0
1:00	76	0	2	0
2:00	74	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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Mist Netting Data Form

Site No. 6 Project No./Name 412 / Emergen Green Date 7/31/15  
 Site Location Wooten, South of CR 40  
 County Sevier State OH Time Up 8:30 Time Down 1:55  
 Lat/Lon ; UTM: NVE 41, 18693 Datum NAD83 Observers Eric Smith



COPPERHEAD  
 THE COMMERCIALS CONTINING

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	9:05	EPFU	A	M	S	17	44	B	2				
2	10:00	LABO	J	M	NR	9	37	C	4				
3	12:30	LABO	S	F	NR	11	40	B	4				
4													
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Time	Temp (F)	Sky	Wind	No. Bats
9:00	78	1	2	1
10:00	75	0	2	1
11:00	71	0	2	0
12:00	71	1	2	1
1:00	71	1	2	0
2:00	68	1	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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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 Site No. 6 Project No./Name 417 / Emerald Creek Date 7-29-15  
 Lat/Lon: UTM: N1853 411853 WJN 9284962 Zone 18 Observers Eric Smith  
 Datum: NAD83 County Seneca State OH Quad Flat Rock  
 Site Diagram:

Net	Height (m)	Length (m)	Dates	Dominant Vegetation					
				1. Red Maple	2. Sugar Maple	3. Elm	4.	5.	6.
A	6	6	7/29, 7/31						
B	9	9	7/29, 7/31						
C	6	6	7/29, 7/31						
D	6	6	7/29, 7/31						
E									
F									

Net Set by Habitat						
Habitat	A	B	C	D	E	F
River						
Stream						
Pond						
Corridor	X			X		
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 >= 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.  
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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).  
 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:  
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 859-925-9012



## Mist Netting Data Form

Site No. 7 Project No./Name 412 / 100-500 Creek Date 7/29/13  
 Site Location SW 08 State TX  
 County Wesca Time Up 20:10 Time Down 01:52  
 Lat/Lon; UTM; N/E 41.25280 WYN 82.86572 Zone 14 Datum NAD83 Observers J. Weibel



**COPPERHEAD**

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WDI	G/H/B/T	Band# Type	Freq.
1	2119	LAD	A	F	BL	11.75	39.5	D	6.0	0			
2	2205	CPFU	A	M	S	17.25	48.0	B	1.5	0			
3	2207	LAD	A	F	NR	10.5	40.1	C	1.5	0			
4	2207	LAD	A	F	NR	13.25	41.0	C	1.0	0			
5	2210	EPFU	A	M	NR	14.0	47	B	1.5	0			
6	2245	EPFU	A	M	S	16.25	45	B	2.5	0			
7	2247	EPFU	A	M	S	16.0	43	C	1.0	0			
8	2247	EPFU	A	M	NR	17.0	47	C	1.0	0			
9	2253	EPFU	A	F	NR	16.75	44	D	4.0	0			
10	2253	EPFU	A	M	S	19.0	47.5	D	5.0	0			
11	2310	EPFU	A	M	S	16.0	41.0	D	5.0	0			
12	2335	EPFU	A	M	NR	14.0	46	B	1.0	0			
13	2335	EPFU	A	M	S	16.25	47	B	5.0	0			
14	0040	EPFU	A	M	NR	13.5	47	D	2.0	0			
15	0059	EPFU	A	M	NR	17.5	47	B	4.0	0			
16	0158	EPFU	A	M	NR	17.5	49	B	2.5	0			
17	0155	EPFU	A	F	NR	17.5	37	D	5.0	0			
18	0200	LAD	A	F	NR	7.75	37	D	5.0	0			
19													
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24													
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26													
27													
28													
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30													

Acoustic Survey: Unit type				Unit #	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 1Site No. 7 Project No./Name 412-01/ Emerson Lake Date 7/31/15Site Location Southwest of site 24County Seneca State OH Time Up 20:30 Time Down 01:50Lat/Lon; UTM: N/E 41.25240 W/N 42.46572 Zone 18 Datum NAD83 Observers T. W. Kelcey, P. Scott

H. Brummer

COPPERHEAD



Mo. Phase	100%	Blue moon	Wax / Wane
Sun	0621	2050	
Moon	2050	0642	

Time	Temp (F)	Sky	Wind	No. Bats
2100	76°	0	0	3
2200	72°	0	0	14
2300	72°	2	0	3
0000	69°	2	1	2
0100	67°	0	1	0
0200	65°	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. 1

#	Time	Species	Age	Sex	Repr.	Mass (g)	FA (mm)	Net	Height (m)	WINDX WDI	G/H/B/T	Band# Type	Freq.
1	2125	EPFU	A	M	SC	14.0	45.0	D	5.0	0			
2	2143	EPFU	A	M	NR	18.0	48.0	D	6.5	0			
3	2143	LABO	J	F	NR	13.0	39.0	D	4.0	0			
4	2215	EPFU	A	F	NR	21.5	48.5	D	3.5	0			
5	2215	EPFU	A	F	AL	22.5	50.0	D	4.0	0			
6	2215	EPFU	A	M	SC	14.5	40.0	D	4.5	0			
7	2210	EPFU	F	M	NR	15.5	48.0	C	2.5	0			
8	2210	EPFU	A	M	NR	14.25	47.0	C	3.0	0			
9	2205	EPFU	A	M	SC	14.25	44.0	B	3.5	0			
10	2219	LABO	J	F	NR	14.0	45.0	D	2.5	0			
11	2216	EPFU	A	M	SC	17.0	45.0	D	4.0	0			
12	2250	EPFU	A	F	PL	21.5	50.0	D	5.0	0			
13	2250	EPFU	J	F	NR	19.0	47.0	D	3.5	0			
14	2250	EPFU	J	M	NR	18.9	49.0	D	4.0	0			
15	2250	EPFU	J	M	NR	15.75	46.0	D	4.5	0			
16	2255	EPFU	A	M	NR	18.5	47.0	C	0.5	0			
17	2255	LABO	A	F	NR	12.0	46.0	C	1.0	0			
18	2300	EPFU	J	F	NR	18.5	46.0	E	4.0	0			
19	2305	EPFU	J	F	NR	20.75	49.0	D	7.0	0			
20	2330	EPFU	J	M	NR	13.0	45.0	E	0.5	0			
21	0025	LABO	J	F	NR	10.5	44	D	2.5	0			
22	0045	EPFU	J	M	NR	16.75	46.0	E	3.0	0			
23													
24													
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26													
27													
28													
29													
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**Species Abbreviations:** Corynorhinus rafinesquii (CORA); Corynorhinus t. virginianus (COV1); 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



**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**12/26/2018 3:22:29 PM**

**in**

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

Summary: Application Exhibit R Part 2 of 11 electronically filed by Teresa Orahood on behalf of Dylan F. Borchers