



BAT CAPTURE DATA (continued)

Project #:

340

Date:

7/24/14

Project Name:

Site Name/ID:

14

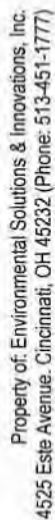
Initials:

Capt #	Net #	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. ²	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Comments
10	A	E. fuscus	2315	Ad	F	PL	20.4	47	F	0	
11	A	L. cinereus	2320	Jv	F	NR	24.2	54	F	0	
12	A	L. cinereus	2320	Jv	F	NR	23.9	56	F	0	
13	A	E. fuscus	2340	Jv	F	NR	15.2	30	F	0	
14	A	E. fuscus	2340	Jv	M	NR	15.8	44	F	0	
15	A	L. borealis	2340	Jv	M	NR	9.3	40	M	0	
16	C	Myotis septentrionalis	0010	Jv	F	NR	6.3	35	M	0	
17	C	M. septentrionalis	0010	Jv	M	NR	5.8	34	E	0	
18	A	E. fuscus	0030	Jv	M	NR	17	44	F	0	
19	A	E. fuscus	0030	Jv	M	NR	15.5	46	F	0	
20	A	E. fuscus	0030	Jv	M	NR	14.9	45	F	0	
21	A	E. fuscus	0030	Ad	F	PL	19.1	45	F	0	
22	A	E. fuscus	0030	Jv	F	NR	19.3	46	F	0	172.580 30 Aug
23	A	E. fuscus	0030	Jv	F	NR	15.8	46	F	0	
24	A	E. fuscus	—	—	—	—	—	—	—	—	Escape
25	A	E. fuscus	0115	Ad	F	PL	22	45	F	0	
26	A	E. fuscus	0117	Jv	M	NR	16	46	M	0	
27	A	E. fuscus	0120	Jv	M	NR	16.8	45	F	0	
28	A	E. fuscus	140	Ad	F	PL	21.3	43	F	0	

Wind Speed (mph)	Description	Visible Condition
0	Calm	Smoke rises vertically
1-3	Light Air	Direction of wind shown by smoke but not by wind vanes
4-7	Light Breeze	Wind felt on face, leaves rustle, ordinary wind vane moved by wind
8-12	Gentle Breeze	Leaves and small twigs in constant motion, wind extends light flag
13-18	Moderate Breeze	Raises dust and loose paper, small branches are moved
19-24	Fresh Breeze	Small trees in leaf begin to sway, crested wavelets on inland water
25-31	Strong Breeze	Large branches in motion, telephone wires whistle, umbrellas used with difficulty
32-38	Moderate Gale	Whole trees in motion, inconvenience in walking against wind
39-46	Fresh Gale	Breaks twigs off trees, generally impedes progress

Score	Description
0	No damage. Fewer than 5 small scar spots are present on the membranes
1	Light damage. Less than 50% of flight membrane is depigmented (spitching), which is often visible only with transillumination.
2	Moderate damage. Greater than 50% of wing membrane covered with scar tissue (spitching). Scarring is visible without transillumination. Membrane exhibits some necrotic tissue and possibly few small holes (<0.5 cm diameter). Forearm skin may be flaking and discolored along the majority of the forearm.
3	Heavy damage. Detached wing membrane and necrotic tissue. Isolated holes >0.5 cm are present in membranes. Necrotic or receding plagioplagium and/or chiroptagium are evident.

* Transillumination



Project #: 395

Date: 7/24/11

Project Name: _____

Site Name/#: _____

Site Name/#: 15/

Initials: AK

[illegible]

Wind Speed (mph)	Description	Visible Condition
0	Calm	Smoke rises vertically
1-3	Light Air	Direction of wind shown by smoke but not by wind vanes
4-7	Light Breeze	Wind felt on face; leaves rustle; ordinary wind vane moved by wind
8-12	Gentle Breeze	Leaves and small twigs in constant motion; wind extends light flag
13-18	Moderate Breeze	Raises dust and loose paper; small branches are moved
19-24	Fresh Breeze	Small trees in leaf begin to sway; crested wavelets on inland water
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32-38	Moderate Gale	Whole trees in motion; inconvenience in walking against wind
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Score	Description
0	No damage. Fewer than 5 small scar spots are present on the membranes.
1	Light damage. Less than 50% of flight membrane is depigmented (spolting), which is often visible only with transillumination.
2	Moderate damage. Greater than 50% of wing membrane covered with scar tissue (spolting). Scarring is visible without transillumination. Membrane exhibits some necrotic tissue and possibly few small holes (<0.5 cm diameter). Forearm skin may be flaking and discolored along the majority of the forearm.
3	Heavy damage. Detached wing membrane and necrotic tissue. Isolated holes >0.5 cm are present in membranes. Necrotic or receding pteroplatagium and/or rhinosternum are evident.



Biologists: A. Kriowski, J. Keinhenz

Site Name/#: 15

USGS Quad: Watson

Distance to closest water source (meters): 15m Type of water source: creek
Water source name: —

Bank Height: 2 meters Channel Width: 4 meters Stream Width: 3 meters
Substratum: Bedrock Boulder Cobble ☒ Gravel Sand Silt/Clay
Still Water Present (Y/N): N Average Water Depth: 15 m or cm Clarity (H,M,L): L

Subdominant Canopy Species (< 40 cm/16" dbh)

Acer ginnsharivum

Estimated dbh range: Lg: 40 Sm: 15

Estimated canopy closure: ☐ Closed ☒ Moderate ☐ Open

Roost tree potential consists of: ☒ Large Trees ☐ Snags ☐ Neither

Roost tree potential for the area is: ☐ High ☐ Moderate ☒ Low

Roost potential comments: tight bark

Subcanopy clutter: ☐ Closed ☒ Moderate ☐ Open

Subcanopy comprised largely of: ☐ Lower Branches of Canopy Trees ☒ Saplings ☐ Shrubs

Common Subcanopy Species: Acacia negundo

Habitat Description: Woodlot near creek / cropland
AnaBat Habitat: N/A

Check all that apply:

☐ Mature Upland Forest ☐ Recently Logged Forest ☒ Crop/Pasture Land ☐ Other _____
☐ Young Upland Forest ☒ Forest Edge ☒ Stream/River _____
☒ Mature Lowland Forest ☒ Woodlot ☐ Vernal Pool _____
☐ Young Lowland Forest ☒ Old Field ☐ Deepwater Lake/Pond _____

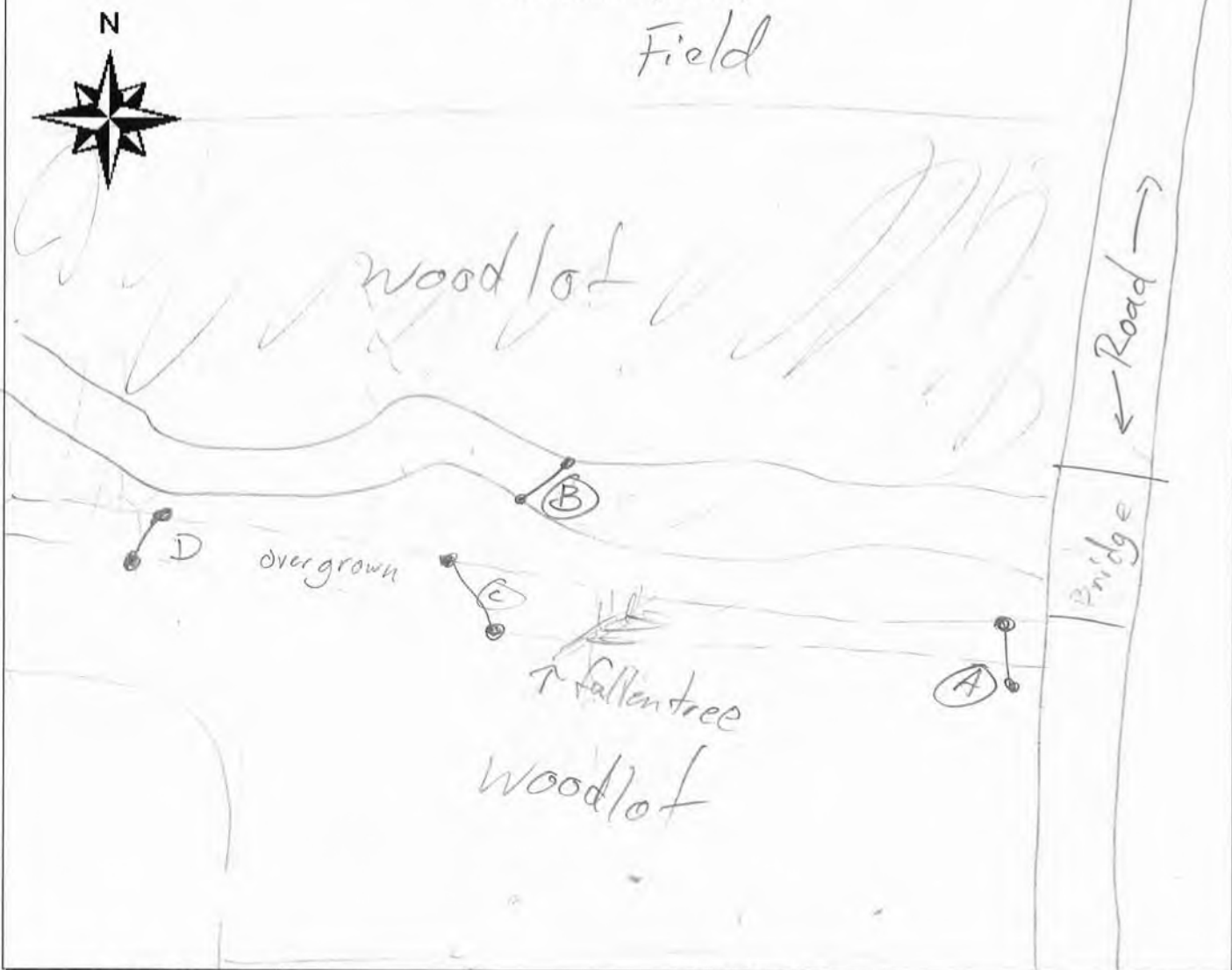
Herbaceous Cover: Sparse Moderate X Dense



NET SITE HABITAT DESCRIPTION (continued)

Project #: 340	State/County: Seneca, OH	Site Name/#: 15	Initials: ABK
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SKETCH: NETS A and B
and AnaBat (if used)



LEGEND

Nets: ● — ●

COMMENTS



BAT CAPTURE DATA

Project #: 340 Date: 7/26/11
 Project Name: Republic
 Biologists: A. Krynitzki, J. Klennerman Site name/ID: 15
 State: OH County: Seneca
 GPS Unit #: 7 Camera #: 11

WEATHER DATA

Time (xxxx h)	Temp (°C)	Wind Speed (estimated - see chart)*	% Cloud Cover (estimated)	Comments
2030	24.1	1-3	40%	
2100	22.7	1-3	20%	
2200	22.2	1-3	20%	
2230	21.6	1-3	15%	
2300	20.9	1-3	10%	
2330	20.6	1-3	5%	
2400	20.3	1-3	5%	
3030	17.8	1-3	5%	
1100	14.3	1-3	5%	
1130	14.1	1-3	5%	
2100	18.9	1-3	0%	

Net/Trap/ or AnaBat	Net/Trap/ AnaBat Serial #	Latitude	Longitude	Length (m)	Height (m)	Time Up (xxxx h)	Time Down (xxxx h)	Picture #	Waypoint #
A	net	41° 12' 02.9" N	83° 00' 54.7" W	9	6	2050	0156	0665	340A15
B	net	41° 12' 04.1" N	83° 00' 56.6" W	6	6	2100	202	0671	340B15
C	net	41° 12' 02.6" N	83° 00' 57.6" W	9	7	2107	209	0669	340C15
D	net	41° 12' 02.7" N	83° 00' 59.4" W	6	6	2110	220	0670	340D15

Net Placement/Site Description: Nets placed over overgrown trail except B which is over creek

Capt #	Net/ Trap	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. ²	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Picture # /Guano/Hair Sample	Comments
1	B	M, Lvd	21:30	Ad	M	↓	7.2	27	E	0		
2	B	M, Lvd	21:30	Ad	M	↓	8.7	38	E	0		
3	B	M, Lvd	21:30	Jv	M	NR	7.4	37	E	0		
4	B	M, Lvd	21:30	Jv	M	NR	5	36	E	0		
5	B	M, Lvd	21:30	Jv	M	NR	6.8	36	E	0		
6	B	M, Lvd	21:35	Ad	M	↓	8.4	36	E	0		
7	B	M, Lvd	21:35	Ad	M	↓	7.3	37	E	0		
8	B	M, Lvd	21:35	Ad	M	↓	6.5	34	E	0		
9	B	M, Lvd	21:35	Jv	M	NR	6.5	36	E	0		

¹ Reproductive Condition: Female = NR/PG/L/PL; Male = ↑/↓ * Refer to table on the back

BAT CAPTURE DATA (continued)

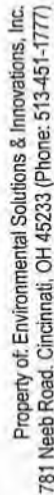
Project #: 340 Date: 7/25/11

Project Name: Site Name/ID: 15 Initials: ABK

Capt #	Net #	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. ²	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Picture # /Guano/Hair Sample	Comments
10	C	M. Sep	22:20	Ad	F	PL	6.2	34	M	0		
11	P	M. Sep	22:20	Ad	F	L	6.3	34	M	0		
12	D	M. Sep	22:47	Ad	F	PL	6.6	35	F	0		
13	B	E. fuscus	22:42	Ad	F	PL	19.3	47	F	0		
14	B	M. Sep	23:10	Ad	F	PL	6.3	34	M	0		
15	A	E. fuscus	23:07	Ad	M	↓	13.2	45	F	0		
16	B	M. Sep	00:21	Ad	F	DL	6.2	36	M	0		
17	B	E. fuscus	00:40	Ad	M	↓	16.8	46	M	0		
18	D	M. Sep	1:02	Ad	F	NR	5.3	34	E	0		
19	B	M. luc.	1:50	Ad	M	↑	4.4	37	M	0		
20	P	M. Sep	1:49	Jv	F	NR	7	35	M	0		
21	C	M. Sep	2:05	Ad	F	PL	6.3	35	F	0		
22	C	M. Sep	2:05	Ad	F	PL	7.4	36	E	0		

Score	Description
0	No damage. Fewer than 5 small scar spots are present on the membranes.
1	Light damage. Less than 50% of light membrane is depigmented (spotting), which is often visible only with transillumination.
2	Moderate damage. Greater than 50% of wing membrane covered with scar tissue (spotting). Scarring is visible without transillumination. Membrane exhibits some necrotic tissue and possibly few small holes (<0.5 cm diameter). Forearm skin may be flaking and discolored along the majority of the forearm.
3	Heavy damage. Deteriorated wing membrane and necrotic tissue. Isolated holes >0.5 cm are present in membranes. Necrotic or receding plagiopatagium and/or phriopatagium are evident.

Wind Speed (mph)	Description	Visible Condition
0	Calm	Smoke rises vertically
1-3	Light Air	Direction of wind shown by smoke but not by wind vanes
4-7	Light Breeze	Wind felt on face; leaves rustle; ordinary wind vane moved by wind
8-12	Gentle Breeze	Leaves and small twigs in constant motion; wind extends light flag
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19-24	Fresh Breeze	Small trees in leaf begin to sway; crested wavelets on inland water
25-31	Strong Breeze	Large branches in motion; telephone wires whistle; umbrellas used with difficulty
32-38	Moderate Gale	Whole trees in motion; inconvenience in walking against wind
39-46	Fresh Gale	Breaks twigs off trees; generally impedes progress



WEATHER DATA

Camera #: 11

MOON PHASE*

___ New moon
 ___ Waxing gibbous
 ___ Last quarter
 ___ Waning crescent
 ___ Full moon
 ___ Waxing crescent
 ___ Waning gibbous
 ___ First quarter

Net/Trap/Anabat #	Net/Trap Type ¹	Latitude	Longitude	Length (m)	Height (m)	Time Up (0000 h)	Time Down (0000 h)	Picture #
A	net	41° 12' 02.9" N	83° 00' 51.3" W	9	5	2110	215	340215
B	net	41° 12' 01.1" N	83° 00' 55.0" W	9	6	2105	205	340315
C	net	41° 12' 02.3" N	83° 00' 57.8" W	9	9	2107	210	340415

Net Placement/Site Description:

[illegible]

1 M = Monofilament ON = Old Nylon NN = New Nylon HT = Harm Trap: A = Anabat

- Refer to table on the back



NET SITE HABITAT DESCRIPTION

Project #: 340.07 Date: 20 July 2011 Biologists: D. J. Galt, S. Reeves
Project Name: Tetratech Republic Site Name/#: Site 16
State: OH County: Seneca USGS Quad: Fireside
Camera #: 4834 Picture #s: 3222 - 3232 GPS Unit #: E6846 Waypoint #: 023
Latitude: 41° 12' 27.6" N Longitude: 82° 57' 7.2" W
Distance to closest water source (meters): 250 m Type of water source: pond
Water source name: private pond (Red Mary)

ESTIMATED WATER SOURCE CHARACTERISTICS (IF UNDER NETS): N/A

Bank Height: N/A meters Channel Width: N/A meters Stream Width: N/A meters
Substratum: N/A Bedrock ☐ Boulder ☐ Cobble ☐ Gravel ☐ Sand ☐ Silt/Clay
Still Water Present (Y/N): N/A Average Water Depth: N/A m or cm Clarity (H,M,L): N/A

VEGETATION:

Dominant Canopy Species (> 40 cm/16" dbh)	Subdominant Canopy Species (< 40 cm/16" dbh)
<u>Ulmus americana</u>	<u>Fraxinus pennsylvanica</u>
<u>Acer saccharinum</u>	<u>Juglans nigra, Carya ovata</u>
	<u>Ulmus americana, Acer saccharinum</u>

Estimated dbh range: Lg: 100cm Sm: 40cm Estimated dbh range: Lg: 30cm Sm: 20cm

Relative abundance of dominant vs. subdominant (ratio): 1:25

Estimated canopy closure: ☐ Closed ☒ Moderate ☐ Open
Roost tree potential consists of: ☐ Large Trees ☐ Snags ☒ Both ☐ Neither
Roost tree potential for the area is: ☐ High ☒ Moderate ☐ Low

Roost potential comments: many snags; Carya sp., Ulmus sp., Acer sp.

Subcanopy clutter: ☐ Closed ☐ Moderate ☒ Open

Subcanopy comprised largely of: ☒ Lower Branches of Canopy Trees ☐ Saplings ☐ Shrubs

Common Subcanopy Species: Juglans nigra Ulmus americana
Carya ovata

Habitat Description: Mature woodlot near soyfield with some wetland
near 2 ponds

Check all that apply:

<input type="checkbox"/> Mature Upland Forest	<input type="checkbox"/> Recently Logged Forest	<input checked="" type="checkbox"/> Crop/Pasture Land	<input type="checkbox"/> Shrub/scrub Swamp
<input type="checkbox"/> Young Upland Forest	<input type="checkbox"/> Pine Plantation	<input type="checkbox"/> Stream/River	<input type="checkbox"/> Vernal Pool
<input type="checkbox"/> Mature Lowland Forest	<input checked="" type="checkbox"/> Woodlot/Forest Edge	<input type="checkbox"/> Emergent Wetland	<input checked="" type="checkbox"/> Deepwater Lake/Pond
<input type="checkbox"/> Young Lowland Forest	<input checked="" type="checkbox"/> Old Field	<input type="checkbox"/> Forested Swamp	<input type="checkbox"/> Other

Herbaceous Cover: ☒ Sparse ☐ Moderate ☐ Dense

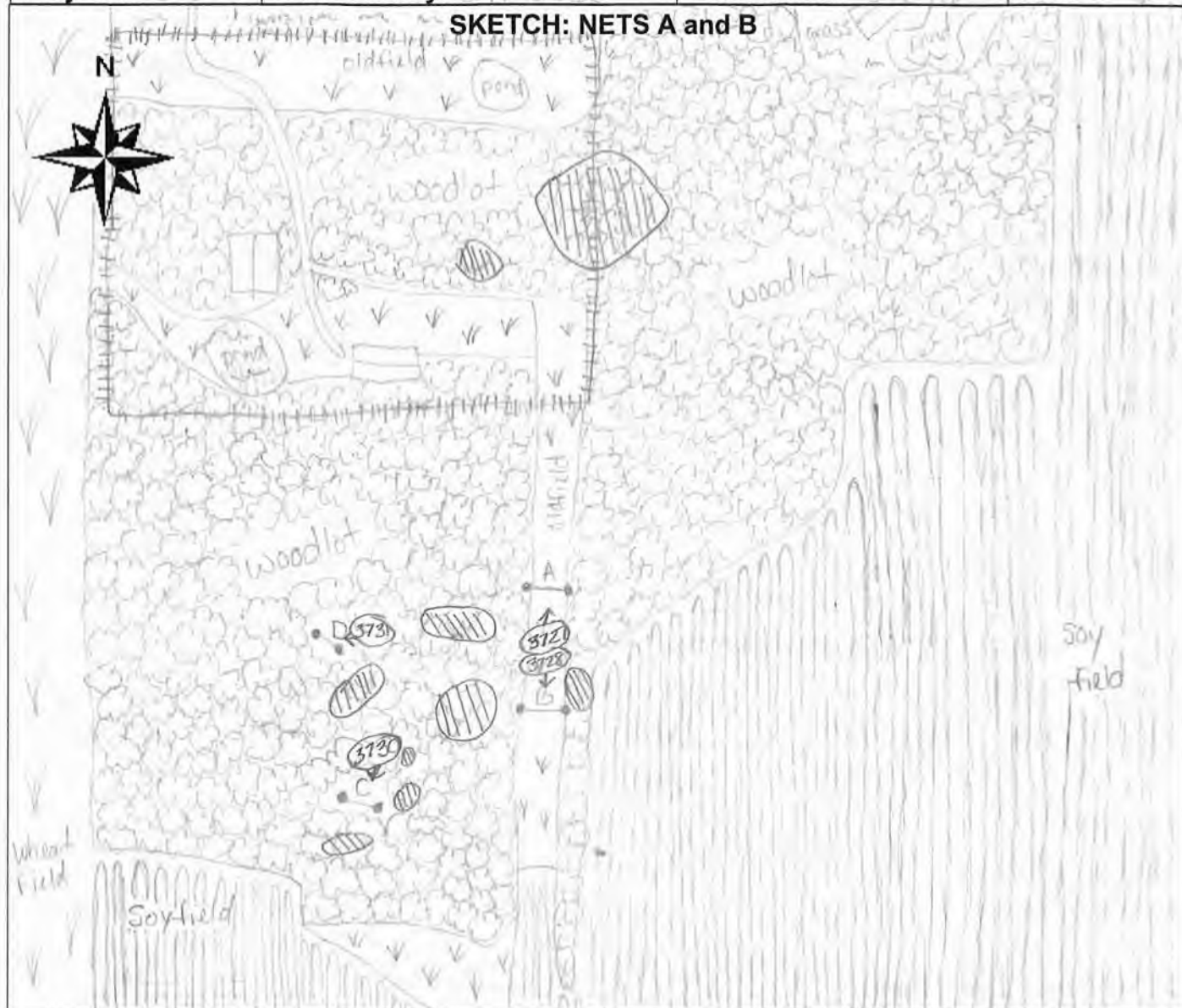


Property of: Environmental Solutions & Innovations, Inc.
781 Neeb Road, Cincinnati, OH 45233 (Phone: 513-451-1777)

NET SITE HABITAT DESCRIPTION (continued)

Project #: 340.02	State/County: OH/Seneca	Site Name/#: Site 11a	Initials: SR
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SKETCH: NETS A and B



LEGEND

Nets: ● — ●

Fence: —+—+—+—+—

House: □

Wet Area: (hatched circle)

Photo Aug 10: (circle with arrow)

COMMENTS

woodlot has ephemeral wet areas (4-5) and is burned every 5-10 yrs. for brush control; last burn 2+ yrs; Many snag in varying stages of death



BAT CAPTURE DATA

Project #: 340.02 Date: 20 July 2011
 Project Name: Tetrahylus Republic
 Biologists: D. J. Smith, S. R. Davis Site name/ID: Site 16
 State: Ohio County: Seneca
 GPS Unit #: E6846 Camera #: C-1834

WEATHER DATA

Time (xxxx h)	Temp (°C)	Wind Speed (estimated - see chart)*	% Cloud Cover (estimated)	Comments
2100	28.2	1-3	30%	
2130	27.5	0	30%	
2200	27.3	1-3	30%	
2230	27.0	0	0%	
2300	27.1	0	0%	
2330	27.0	1-3	0%	
0000	27.3	4-7	0%	
0030	27.6	4-7	0%	
0100	26.9	8-12	0%	
0130	26.5	8-12	0%	
0200	26.3	8-12	10%	

Net/Trap/ or AnaBat	Net/Trap/ AnaBat Serial #	Latitude	Longitude	Length (m)	Height (m)	Time Up (xxxx h)	Time Down (xxxx h)	Picture #	Waypoint #
Net	A	41° 12' 27.6" N	82° 57' 07.2" W	12	9.2	2050	0150	3727	023
Net	B	41° 12' 26.5" N	82° 57' 07.2" W	12	9.2	2055	0155	3728	024
Net	C	41° 12' 25.2" N	82° 57' 07.3" W	6	6.2	2100	0200	3730	025
Net	D	41° 12' 27.2" N	82° 57' 07.8" W	6	6.2	2105	0205	3731	026

Net Placement/Site Description: Note: A-B in old location stop placed on new wing - cont'd

Capt #	Net/ Trap	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. ²	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Picture # (Guano/Hair Sample)	Comments
1	C	<i>Eptesicus fuscus</i>	2200	Ad	F	PL	18.1	44	M	0	N/A	
2	C	<i>E. fuscus</i>	2200	Ad	F	PL	19.9	49	M	0	N/A	
3	C	<i>E. fuscus</i>	2200	Jv	M	↑	14.4	44	M	0	N/A	
4	B	<i>E. fuscus</i>	2215	Jv	M	↑	11.8	42	M	0	small hole in left wing	
5	B	<i>E. fuscus</i>	2215	Jv	F	NR	10.3	40	M	0	N/A	
6	B	<i>E. fuscus</i>	2215	Ad	M	↑	18.8	45.5	M	0	N/A	
7	B	<i>E. fuscus</i>	2205	Ad	F	PL	21.4	46	M	0	N/A	
8	A	<i>E. fuscus</i>	2220	Ad	F	PL	16.7	43	M	0	N/A	
9	B	<i>E. fuscus</i>	2240	Jv	F	NR	14.9	45	M	0	N/A	

¹ Reproductive Condition: Female = NR PG L PL, Male = ↑ ↓ * Refer to table on the back



BAT CAPTURE DATA (continued)

Project #:	340.02	Date:	20 July 2011	Initials:	DL SR							
Project Name:	Televatch Republic	Site Name/ID:	Site 116									
Capt #	Net #	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. 2	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Picture # /Guano/Hair Sample	Comments
10	B	Eptesicus fuscus	2205	Ad	F	PL	22.6	43	M	0	N/A	
11	B	E. fuscus	2245	Ad	F	L	20.5	46	M	0	N/A	
12	B	E. fuscus	2300	Jv	M	↑	13.5	44.5	M	0	N/A	
13	B	E. fuscus	2320	Ad	M	↑	22.4	44.5	M	0	N/A	
14	C	E. fuscus	2320	Ad	M	↑	16.7	41.5	M	0	N/A	
15	C	E. fuscus	2320	Ad	F	PL	20.2	45	M	0	N/A	
16	C	E. fuscus	2320	Ad	M	↑	16.6	44	F	0	N/A	
17	A	E. fuscus	2330	Jv	M	↑	13.5	43	M	0	N/A	
18	A	E. fuscus	2340	Ad	M	V	16.0	44	M	0	N/A	
19	B	E. fuscus	2350	Jv	F	NR	14.8	43.5	M	0	N/A	
20	A	E. fuscus	0015	Ad	M	↑	21.8	48	M	0	N/A	
21	C	E. fuscus	0030	Ad	F	PL	20.0	45.5	M	0	N/A	body in right wing, 3707
22	D	Myotis subdorsalis	0030	Ad	M	↑	6.4	35	M	0	N/A	
23	B	E. fuscus	0045	Ad	F	PL	20.9	44.5	M	0	N/A	
24	C	E. fuscus	0115	Jv	M	↑	14.0	41	M	0	N/A	
25	A	E. fuscus	0145	Ad	M	↑	30	34.5	M	0	N/A	

Score	Description
0	No damage. Fewer than 5 small scar spots are present on the membranes.
1	Light damage. Less than 50% of flight membrane is depigmented (spotting), which is often visible only with transillumination.
2	Moderate damage. Greater than 50% of wing membrane covered with scar tissue (spotting). Scarring is visible without transillumination. Membrane exhibits some necrotic tissue and possibly few small holes (<0.5 cm diameter). Forearm skin may be fading and discolored along the majority of the forearm.
3	Heavy damage. Deteriorated wing membrane and necrotic tissue. Isolated holes >0.5 cm are present in membranes. Necrosis or receding plagiopatagium and/or chiroptagium are evident.

Wind Speed (mph)	Description	Visible Condition
0	Calm	Smoke rises vertically
1-3	Light Air	Direction of wind shown by smoke but not by wind vanes
4-7	Light Breeze	Wind felt on face, leaves rustle, ordinary wind vane moved by wind
8-12	Genie Breeze	Leaves and small twigs in constant motion, wind extends light flag
13-18	Moderate Breeze	Raises dust and loose paper, small branches are moved
19-24	Fresh Breeze	Small trees in leaf begin to sway, crested wavelets on inland water
25-31	Strong Breeze	Large branches in motion, telephone wires whistle, umbrellas used with difficulty
32-38	Moderate Gale	Whole trees in motion, inconvenience in walking against wind
39-46	Fresh Gale	Breaks twigs off trees, generally impedes progress



BAT CAPTURE DATA

Project #: 340-02 Date: 22 July 2011
 Project Name: Tetrotech Republic
 Biologists: D. J. J. J. J. Site name: Site 112
 State: Ohio County: Saline
 GPS Unit #: E6844 Camera #: 04834

WEATHER DATA

Time (xxxx h)	Temp (°C)	Wind Speed (estimated - see chart)*	% Cloud Cover (estimated)	Comments
2100	24.3	0	30%	
2130	23.1	0	30%	
2200	22.9	0	30%	
2230	23.3	1-3	10%	
2300	23.2	4-7	60%	
2330	23.1	4-7	60%	Thunder
0000	23.2	1-3	60%	Thunder
0030				
0100				
0130				
0200				

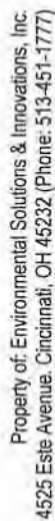
Net/Trap/ or AnaBat	Net/Trap/ AnaBat Serial #	Latitude	Longitude	Length (m)	Height (m)	Time Up (xxxx h)	Time Down (xxxx h)	Picture #	Waypoint #
Net	A	41° 12' 27.6"N	82° 57' 7.2"W	12	9.2	2050	0150	3727	023
Net	B	41° 12' 21.5"N	82° 57' 7.2"W	12	9.2	2055	0155	3728	024
Net	C	41° 12' 25.2"N	82° 57' 10.3"W	6	6.2	2100	0200	3730	025
Net	D	41° 12' 27.2"N	82° 57' 10.8"W	6	6.2	2105	0205	3731-2	026

Net Placement/Site Description: Nets A & B in old landing strip within woodlot, Nets C & D in open area in woodlot.

Capt #	Net/Trap	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. 2	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Picture # /Guano/Hair Sample	Comments
1	B	<i>E. fuscus</i>	2125	Jv	M	↑	11.2	44	M	0	N/A	
2	A	<i>E. fuscus</i>	2130								Escaped Net	
3	B	<i>E. fuscus</i>	2135	Ad	F	↓	18.9	41	M	0	N/A	
4	A	<i>Long. b. b. b.</i>	2150	Ad	F	NR	13.5	40	M	0	3735	
5	A	<i>E. fuscus</i>	2200	Ad	F	↓	19.1	45.5	M	0	N/A	
6	C	<i>E. fuscus</i>	2200	Ad	M	↑	19.1	40	M	0	N/A	
7	B	<i>E. fuscus</i>	2220	Jv	M	↑	12.3	43	M	0	N/A	
8	B	<i>E. fuscus</i>	2220	Jv	M	↑	14.0	44	M	0	N/A	
9	A	<i>E. fuscus</i>	2220	Ad	M	↑	18.5	46	M	0	N/A	Recaptured from 20 July 2011

* Reproductive Condition: Female = NR/PG/L/PL; Male = ↑/↓ * Refer to table on the back

* Transmitter bat (172.118)



BAT CAPTURE DATA (continued)

Date: 22 July 2011

Project Name: Tetra Tech Europe

Site Name/#:

Sita No

Initial:

[illegible]

Wind Speed (mph)	Description	Visible Condition
0	Calm	Smoke rises vertically
1-3	Light Air	Direction of wind shown by smoke but not by wind vanes
4-7	Light Breeze	Wind felt on face; leaves rustle; ordinary wind vane moved by wind
8-12	Gentle Breeze	Leaves and small twigs in constant motion; wind extends light flag
13-18	Moderate Breeze	Raises dust and loose paper; small branches are moved
19-24	Fresh Breeze	Small trees in leaf begin to sway; crested wavelets on inland water
25-31	Strong Breeze	Large branches in motion; telephone wires whistle; umbrellas used with difficulty
32-38	Moderate Gale	Whole trees in motion; inconvenience in walking against wind
39-46	Fresh Gale	Breaks tops off trees; generally impedes progress

Score	Description
0	No damage. Fewer than 5 small scar spots are present on the membranes.
1	Light damage. Less than 50% of flight membrane is depigmented (spotching), which is often visible only with transillumination.
2	Moderate damage. Greater than 50% of wing membrane covered with scar tissue (spotching). Scarring is visible without transillumination. Membrane exhibits some necrotic tissue and possibly few small holes (<0.5 cm diameter). Forearm skin may be flaking and discolored along the majority of the forearm.
3	Heavy damage. Detached wing membrane and necrotic tissue. Isolated holes >0.5 cm are present in membranes. Necrotic or receding plagiopatagium and/or chironotagium are evident.



BAT CAPTURE DATA

Project #: 340.02 Date: 24 July 2011
 Project Name: Tetra Tech / Ward's Republic
 Biologists: D Jeffcoat, S Stevens Site name/ID: Site 1b
 State: OH County: Solara
 GPS Unit #: E60846 Camera #: C4834

WEATHER DATA

Time (xxxx h)	Temp (°C)	Wind Speed (estimated - see chart)*	% Cloud Cover (estimated)	Comments
2100	24.0	0	80%	---
2130	22.8	0	50%	---
2200	22.1	0	---	---
2230	22.1	0	---	---
2300	22.1	0	---	---
2330	21.9	0	---	---
0000	21.7	0	100%	---
0030	21.9	0	80%	---
0100	21.8	1-3	100%	---
0130	21.7	0	100%	---
0200	22.2	0	100%	---

Net/Trap/ or AnaBat	Net/Trap/ AnaBat Serial #	Latitude	Longitude	Length (m)	Height (m)	Time Up (xxxx h)	Time Down (xxxx h)	Picture #	Waypoint #
Net	A	41° 12' 27.6" N	82° 57' 7.2" W	12m	9.2m	2015	0205	3727	023
Net	B	41° 12' 26.5" N	82° 57' 7.2" W	12m	9.2m	2025	0200	3728	024
Net	C	41° 12' 25.2" N	82° 57' 10.3" W	6m	6.2m	2035	0150	3730	025
Net	D	41° 12' 22.2" N	82° 57' 10.8" W	6m	6.2m	2045	0145	3731-32	026

Net Placement/Site Description:

Nets are placed in the Barn old runway. Nets are in for controlled woodland with peripheral woods after rain.

Capt #	Net/ Trap	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. ²	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Picture # / Guano/Hair Sample	Comments
1	C	Myotis sodalis	2120	Ad	F	PL	7.0	37.0	E	0	3788 - 3799	
2	B	Eptesicus fuscus	2205	Ad	M	↑	16.3	44.5	M	0	N/A	
3	B	E. fuscus	2205	Jv	M	↑	13.4	44.0	M	0	N/A	
4	B	E. fuscus	2215	Ad	M	↑	19.8	45.5	M	0	N/A	
5	A	E. fuscus	2230	Jv	M	↑	14.7	44.0	M	0	N/A	
6	C	E. fuscus	0000	Ad	F	L	24.0	45.5	F	0	wd transmitter 172.1108	
7	D	Myotis septentrionalis	0000	Ad	M	↑	6.2	35.0	M	0	N/A	
8	B	E. fuscus	2345	Jv	M	↑	13.9	42.5	M	0	N/A	
9	B	Myotis lucifugus	0015	Jv	M	↑	7.1	36	M	0	3820-3827	

¹ Reproductive Condition: Female = NR/PG/L/PL; Male = ↑/↓ * Refer to table on the back



Project #: 340.02

Date: 24 July 2011

Project Name: The United Republic

Initials: DJ, SR

[illegible]

Wind Speed (mph)	Description	Visible Condition
0	Calm	Smoke rises vertically
1-3	Light Air	Direction of wind shown by smoke but not by wind vanes
4-7	Light Breeze	Wind felt on face; leaves rustle; ordinary wind vane moved by wind
8-12	Gentle Breeze	Leaves and small twigs in constant motion; wind extends light flag
13-18	Moderate Breeze	Raises dust and loose paper; small branches are moved
19-24	Fresh Breeze	Small trees in leaf begin to sway; crested wavelets on inland water
25-31	Strong Breeze	Large branches in motion; telephone wires whistle; umbrellas used with difficulty
32-38	Moderate Gale	Whole trees in motion; inconvenience in walking against wind
39-46	Fresh Gale	Breaks twigs off trees; generally impedes progress

Score	Description
0	No damage. Fewer than 5 small scar spots are present on the membranes.
1	Light damage. Less than 50% of flight membrane is depigmented (spotting), which is often visible only with transillumination.
2	Moderate damage. Greater than 50% of wing membrane covered with scar tissue (spotting). Scarring is visible without transillumination. Membrane exhibits some necrotic tissue and possibly few small holes (<0.5 cm diameter). Forearm skin may be flaking and discolored along the majority of the forearm.
3	Heavy damage. Deleterious wing membrane and necrotic tissue. Isolated holes >0.5 cm are present in membranes. Necrotic or receding pteropagus and/or chiropteragus are evident.



NET SITE HABITAT DESCRIPTION

Project #: 340.02 Date: 13 July 2011 Biologists: E. Bousquet, S. Reeves
Project Name: Tetrahedron Republic Site Name/#: Site 20
State: OH County: Summa USGS Quad: Fire side
Camera #: EBK600K Picture #s: 2983-2986 GPS Unit #: E9528 Waypoint #: 34020
Latitude: 41° 11' 04.5" N Longitude: 83° 00' 26.3" W
Distance to closest water source (meters): 0m Type of water source: stream
Water source name: unnamed stream

ESTIMATED WATER SOURCE CHARACTERISTICS (IF UNDER NETS):

Bank Height: 5.2 meters Channel Width: 2.5 meters Stream Width: 0 meters
Substratum: Bedrock Boulder Cobble Gravel ☒ Sand Silt/Clay
Still Water Present (Y/N): N Average Water Depth: 0 m or cm Clarity (H,M,L): N/A

VEGETATION:

Dominant Canopy Species (> 40 cm/16" dbh)	Subdominant Canopy Species (< 40 cm/16" dbh)
<u>Populus deltoides</u>	<u>Fraxinus sordida</u>
<u>—</u>	<u>Juglans nigra</u>
<u>—</u>	<u>Acer saccharum</u>

Estimated dbh range: Lg: 100 Sm: 40 Estimated dbh range: Lg: 40 Sm: 10

Relative abundance of dominant vs. subdominant (ratio): 1:1.75

Estimated canopy closure: ☒ Closed ☐ Moderate ☐ Open
Roost tree potential consists of: ☐ Large Trees ☐ Snags ☒ Both ☐ Neither
Roost tree potential for the area is: ☐ High ☒ Moderate ☐ Low
Roost potential comments: 4-5 snags present

Subcanopy clutter: ☒ Closed ☐ Moderate ☐ Open
Subcanopy comprised largely of: ☐ Lower Branches of Canopy Trees ☒ Saplings ☒ Shrubs

Common Subcanopy Species: Fraxinus americana Pyrus iostrata
Juglans nigra

Habitat Description: Mature woodlot with snags present and stream in corridor

Check all that apply:

<input type="checkbox"/> Mature Upland Forest	<input type="checkbox"/> Recently Logged Forest	<input checked="" type="checkbox"/> Crop/Pasture Land	<input type="checkbox"/> Shrub/scrub Swamp
<input type="checkbox"/> Young Upland Forest	<input type="checkbox"/> Pine Plantation	<input checked="" type="checkbox"/> Stream/River	<input type="checkbox"/> Vernal Pool
<input type="checkbox"/> Mature Lowland Forest	<input checked="" type="checkbox"/> Woodlot/Forest Edge	<input type="checkbox"/> Emergent Wetland	<input type="checkbox"/> Deepwater Lake/Pond
<input type="checkbox"/> Young Lowland Forest	<input checked="" type="checkbox"/> Old Field	<input type="checkbox"/> Forested Swamp	<input type="checkbox"/> Other <u>—</u>

Herbaceous Cover: ☐ Sparse ☐ Moderate ☒ Dense



Property of: Environmental Solutions & Innovations, Inc.
781 Neeb Road, Cincinnati, OH 45233 (Phone: 513-451-1777)

NET SITE HABITAT DESCRIPTION (continued)

Project #: 340.02	State/County: OH/Seneca	Site Name/#: Site 20	Initials: SR
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SKETCH: NETS A and B

The sketch map shows a landscape with several woodlots. A stream flows from the top left towards the bottom center. A 'Farmer's field' is located near the stream. A 'steep slope' is indicated on the left bank. An 'old field' is shown on the right bank. A 'wheat field' is at the bottom. A 'dry stream' is on the right side. Two trails are marked: 'TRAIL' and 'ATV TRAIL'. Two net locations are marked: 'A' near the dry stream and 'B' near the stream. Elevation markers '2983' and '2984' are shown. A north arrow is in the top left. The map is bounded by 'E. Township Rd 138' at the bottom.

LEGEND	COMMENTS
<p>Nets: ● — ●</p> <p>Dipping Angle: </p>	<p>NOTE: Net B could not be placed over stream as intended due to clustered overhanging canopy and steep sloped bank</p>



Project #: 34D.02 Date: 13 July 2011
Project Name: Tetatech Republic
Biologists: E. Cosinger, S. Reeves Site name#: Site 20
State: Ohio County: Seneca
GPS Unit #: E9528 Camera #: ER Kodak

Property of: Environmental Solutions & Innovations, Inc.
4525 Este Avenue, Cincinnati, OH 45232 (Phone: 513-451-1777)

WEATHER DATA

Time (xxxx h)	Temp (°C)	Wind Speed (estimated - see chart)*	% Cloud Cover (estimated)	Comments
2100	24.2	0	20%	—
2130	20.4	0	25%	—
2200	19.3	0	20%	—
2230	18.1	0	0%	—
2300	17.7	0	0%	—
2330	17.2	0	0%	—
0000	16.8	1-3	0%	—
0030	16.6	1-3	0%	—
0100	16.3	0	0%	—
0130	16.1	0	0%	—
0200	15.8	0	0%	—

Net/Trap/ or AnaBat	Net/Trap/ AnaBat Serial #	Latitude	Longitude	Length (m)	Height (m)	Time Up (xxxx h)	Time Down (xxxx h)	Picture #	Waypoint #
Net	A	41° 11' 62.2"N	83° 00' 22.1"W	6	6.2	2045	0145	2983	35
Net	B	41° 11' 02.2"N	83° 00' 23.9"W	18	9.2	2050	0150	2986	36
Net	C	41° 11' 04.0"N	83° 00' 20.8"W	6	6.2	2055	0155	2984	37
Net	D	41° 11' 04.7"N	83° 00' 22.8"W	9	9.2	2100	0200	2985	38

Net Placement/Site Description: Not A river drive stream bed. Net across wide corridor. Nets on ATV trails in woods.

[illegible]

* Refer to table on the back



WEATHER DAI A

Property of: Environmental Solutions & Innovations, Inc.
e Avenue, Cincinnati, OH 45232 (Phone: 513-451-1777)

Time (xxxx h)	Temp (°C)	Wind Speed (estimated - see chart)*	% Cloud Cover (estimated)	Comments
21:50	22.7	0	0	
22:24	23.4	0	0	
22:55	23.6	8-12	0	
23:09	23.3	9-12	0	
01:04	23.1	8-12	0	
01:25	23.1	8-12	0	

Net/Trap/ or AnaBat	Net/Trap/ AnaBat Serial #	Latitude	Longitude	Length (m)	Height (m)	Time Up (xxxx h)	Time Down (xxxx h)	Picture #	Waypoint #
W5T	A	41° 11' 07.0"N	83° 00' 20.4"W	6	6.2	7045	0145	2983	35
W5T	B	41° 11' 02.7"N	83° 00' 25.9"W	18	9.2	7050	0150	2984	36
W5T	C	41° 11' 04.0"N	83° 00' 20.8"W	6	6.2	7055	0155	2984	37
W5T	D	41° 11' 04.3"N	83° 00' 24.9"W	9	9.2	7100	0200	2985	38

Net Placement/Site Description: Net A across dry stream, Net B across grassy road, Nets C and D across ATV tracks

Capt #	Net/Trap	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. ²	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Comments Picture # /Guano/Hair Sample
1	B	Eptesicus fuscus	24:32	JV	F	NR	11	45	E	0	—
2	B	Eptesicus fuscus	21:52	JV	F	NR	9	44	E	0	—
3	B	Eptesicus fuscus	22:09	JV	F	NR	13.5	42	E	0	—
4	B	Eptesicus fuscus	22:24	Ad	F	L	18.5	46	M	0	—
5	B	Eptesicus fuscus	22:24	JV	M	NR	12.5	45	M	0	2990
6	B	Eptesicus fuscus	22:24	JV	F	NR	12	46	M	0	—
7	B	Eptesicus fuscus	22:24	JV	M	NR	12.5	43	M	0	—
8	B	Eptesicus fuscus	22:11	JV	M	NR	13.5	45	M	0	—
9	B	Latimus lineatus	23:11	JV	F	NR	22.5	52	M	0	2992-2997

Reproductive Condition: Female = NR PG LPL, Male = $\uparrow \downarrow$



BAT CAPTURE DATA (continued)

Project #: 340.02

Date: 16 July 2011

Project Name: Tetralobus Reproduc

Site Name/ID: S18 20

Initials: SLB

Capt #	Net #	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. 2	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Picture # /Guano/Hair Sample	Comments
10	B	<i>Eptesicus fuscus</i>	23:30	J	M	11E	12.5	45	M	0	—	
11	B	<i>Eptesicus fuscus</i>	23:30	J	M	11E	13.0	42	M	1	—	
12	B	<i>Eptesicus fuscus</i>	23:30	J	M	11E	11.0	41	E	0	—	
13	B	<i>Eptesicus fuscus</i>	23:30	J	M	11E	14.0	45	M	0	—	
14	C	<i>Eptesicus fuscus</i>	23:30	Ad	M	✓	18	46	F	0	—	

Wind Speed (mph)	Description	Visible Condition
0	Calm	Smoke rises vertically
1-3	Light Air	Direction of wind shown by smoke but not by wind vanes
4-7	Light Breeze	Wind felt on face; leaves rustle, ordinary wind vane moved by wind
8-12	Gentle Breeze	Leaves and small twigs in constant motion; wind extends light flag
13-18	Moderate Breeze	Raises dust and loose paper; small branches are moved
19-24	Fresh Breeze	Small trees in leaf begin to sway; crested wavelets on inland water
25-31	Strong Breeze	Large branches in motion; telephone wires whistle; umbrellas used with difficulty
32-38	Moderate Gale	Whole trees in motion; inconvenience in walking against wind
39-46	Fresh Gale	Breaks twigs off trees; generally impedes progress

Score	Description
0	No damage. Fewer than 5 small scar spots are present on the membranes
1	Light damage. Less than 50% of flight membrane is depigmented (spotting), which is often visible only with transillumination
2	Moderate damage. Greater than 50% of wing membrane covered with scar tissue (spotting). Scarring is visible without transillumination. Membrane exhibits some necrotic tissue and possibly few small holes (<0.5 cm diameter). Forearm skin may be flaking and discolored along the majority of the forearm
3	Heavy damage. Deteriorated wing membrane and necrotic tissue. Isolated holes >0.5 cm are present in membranes. Necrotic or receding plagiopatagium and/or chiroptagium are evident



NET SITE HABITAT DESCRIPTION

Project #: 340.01 Date: 14 Jul 2011

Biologists: J. Basiger & M. Flynn

Project Name: Republic

Site Name/#: 21

State: OH County: Seneca

USGS Quad: Watson

Net/Trap/ or AnaBat	Net/Trap/ AnaBat Serial #	Latitude	Longitude	Picture #	Waypoint #
<u>net</u>	<u>A</u>	<u>41° 10' 42.9"N</u>	<u>83° 0' 13.9"W</u>	<u>814</u>	<u>21A</u>
<u>net</u>	<u>B</u>	<u>41° 10' 42.1"N</u>	<u>83° 0' 15.0"W</u>	<u>813</u>	<u>21B</u>
<u>net</u>	<u>C</u>	<u>41° 10' 44.3"N</u>	<u>83° 0' 16.6"W</u>	<u>815</u>	<u>21C</u>
<u>net</u>	<u>D</u>	<u>41° 10' 45.3"N</u>	<u>83° 0' 17.7"W</u>	<u>818</u>	<u>21D</u>

Distance to closest water source (meters): 0

Type of water source: Stream

Water source name: unknown

ESTIMATED WATER SOURCE CHARACTERISTICS (IF UNDER NETS):

Bank Height: 1 meters Channel Width: 6 meters Stream Width: 2 meters

Substratum: Bedrock Boulder Cobble Gravel Sand Silt/Clay

Still Water Present (Y/N): Y Average Water Depth: 0.5 m or cm Clarity (H/M/L): M

VEGETATION:

Dominant Canopy Species (> 40 cm/16" dbh)

Acer negundo
Acer rubrum
Acer saccharum

Subdominant Canopy Species (< 40 cm/16" dbh)

Acer negundo
Acer rubrum
Acer saccharum

Estimated dbh range: Lg: 70 Sm: 40

Estimated dbh range: Lg: 39 Sm: 5

Relative abundance of dominant vs. subdominant (ratio): 1:100

Estimated canopy closure: Closed Moderate Open

Roost tree potential consists of: Large Trees Snags Neither

Roost tree potential for the area is: High Moderate Low

Roost potential comments: most large trees have tight bark, no snags

Subcanopy clutter: Closed Moderate Open

Subcanopy comprised largely of: Lower Branches of Canopy Trees Saplings Shrubs

Common Subcanopy Species:

Acer rubrum
Acer saccharum

Habitat Description: large woodlot containing sm. stream surrounded by open croplands

AnaBat Habitat:

Check all that apply:

Mature Upland Forest Recently Logged Forest Crop/Pasture Land Other
Young Upland Forest Forest Edge Stream/River
Mature Lowland Forest Woodlot Vernal Pool
Young Lowland Forest Old Field Deepwater Lake/Pond

Herbaceous Cover: Sparse Moderate Dense



NET SITE HABITAT DESCRIPTION (continued)

Project #: 340.01	State/County: OH	Site Name/#: 21	Initials: MF
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SKETCH: NETS A and B
and AnaBat (if used)



LEGEND

Nets: ● — ●

COMMENTS



WEATHER DATA

MOON PHASE*

___ First quarter
 ___ Waning gibbous
 ___ Waxing crescent
 ___ Full moon
 ___ Waning crescent
 ___ New moon
 ___ Waxing gibbous
 ___ Last quarter

First quarter _____
Waning gibbous _____

_____ Waning crescent

Net/Trap/Anabat #	Net/Trap Type¹	Latitude	Longitude	Length (m)	Height (m)	Time Up (0000 h)	Time Down (0000 h)	Picture #
A	B	41° 10' 42.9" N	83° 0' 13.9" W	18	7	2050	205	814
B	B	41° 10' 47.1" N	83° 0' 15.6" W	9	6	2045	216	813
C	B	41° 10' 44.3" N	83° 0' 16.6" W	6	6	2040	215	815
D	B	41° 10' 45.3" N	83° 0' 17.7" W	6	6	2035	220	818

Net Placement/Site Description:

Capt #	Net #	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. ²	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Comments Picture # /Guano/Hair Sample
1	A	<i>Eptesicus fuscus</i>	2150	Ad	F	L	19.25	44	M	0	
2	C	<i>M. lucifuga</i>	2225	Ad	M	~	~	38	M	0	
3	C	<i>M.otis septentrionalis</i>	2211	Ad	F	L	~	32	M	~	
4	D	<i>E. fuscus</i>	2200	Ad	M	~	13	45	M	3	
5	A	<i>Eptesicus</i>		Ad	M	~	12.25	43	E	0	
6	D	<i>E. fuscus</i>									Net escape
7	D	<i>E. fuscus</i>									Net escape
8	A	<i>E. fuscus</i>	2300	Ad	M	~	17	15	F	0	
9	A	<i>E. fuscus</i>	2300	Ju	F	PR	12.25	16	M	0	
10	A	<i>E. fuscus</i>	2300	Ju	F	NR	14.75	13	M	0	

1 M = Monofilament; ON = Old Nylon; NN = New Nylon; HT = Harp Trap; A = Anabat

² Reproductive Condition: Female = NR/PG/L/PL; Male = \uparrow/\downarrow



BAT CAPTURE DATA (continued)

Project #:

Date: 12 July 11

Project Name:

Site Name: # 21

Initials:

Capt #	Net #	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. ²	Wt (g)	RFA (mm)	Belly (FIM/E)	Wing Index* (0-3)	Picture # (Guano/Hair Sample)	Comments
11	A	E. F. S. S. S. S. S.	3330	Ad	F	L	17	44	M	0		
12	A	E. F. S. S. S. S. S.	3330	Jv	M	N	17	40	M	0		
13	C	E. F. S. S. S. S. S.	3330	Jv	M	N	17	40	M	0		
14	C	E. F. S. S. S. S. S.	3330	Jv	M	N	17	42	M	0		
15	C	E. F. S. S. S. S. S.	3330	Jv	M	N	18	44	F	0		
16	C	E. F. S. S. S. S. S.	3330	Ad	F	L	18	44	F	0		
17	C	E. F. S. S. S. S. S.	3330	Ad	F	L	18	34	E	0		
18	D	E. F. S. S. S. S. S.	3330	Ad	M	N	17	42	C	0		
19	D	E. F. S. S. S. S. S.	3330	Ad	F	L	18	36	M	0		

Beaufort Wind Scale

Wind Speed (mph)	Description	Visible Condition
0	Calm	Smoke rises vertically
1-3	Light Air	Direction of wind shown by smoke but not by wind vanes
4-7	Light Breeze	Wind felt on face; leaves rustle; ordinary wind vane moved by wind
8-12	Gentle Breeze	Leaves and small twigs in constant motion; wind extends light flag
13-18	Moderate Breeze	Raises dust and loose paper; small branches are moved
19-24	Fresh Breeze	Small trees in leaf begin to sway; crested wavelets on inland water
25-31	Strong Breeze	Large branches in motion; telephone wires whistle; umbrellas used with difficulty
32-38	Moderate Gale	Whole trees in motion; inconvenience in walking against wind
39-46	Fresh Gale	Breaks twigs off trees; generally impedes progress

2010 Lunar Phases

New Moon	First Quarter	Full Moon	Last Quarter
Feb 13	Mar 23	Mar 29	Apr 6
Mar 15	Apr 21	Apr 28	May 5
Apr 14	May 20	May 27	Jun 4
May 13	Jun 18	Jun 26	Jul 4
Jun 12	Jul 18	Jul 25	Aug 2
Jul 11	Aug 16	Aug 24	Sep 1
Aug 9	Sep 15	Sep 23	Sep 30
Sep 8	Oct 14	Oct 22	Oct 30
Oct 7	Nov 13	Nov 21	Nov 28

Wing Index Key

Score	Description
0	No damage. Fewer than 5 small scar spots are present on the membranes.
1	Light damage. Less than 50% of flight membrane is depigmented (spitching), which is often visible only with transillumination.
2	Moderate damage. Greater than 50% of wing membrane covered with scar tissue (spitching). Scarring is visible without transillumination. Membrane exhibits some necrotic tissue and possibly few small holes (<0.5 cm diameter). Forearm skin may be flaking and discolored along the majority of the forearm.
3	Heavy damage. Deteriorated wing membrane and necrotic tissue. Isolated holes >0.5 cm are present in membranes. Necrotic or receding plagiopatagium and/or chiroptagium are evident.



BAT CAPTURE DATA

Project #: 346.01 Date: 14 Jul 2011
 Project Name: Republic
 State: OH County: Seneca
 Biologists: J. Basiger + M. Flynn
 Site name/ID: 21
 GPS Unit #: ESI Camera #: can 671

MOON PHASE*

☐ New moon ☐ Waxing crescent ☐ First quarter
☐ Waxing gibbous ☒ Full moon ☐ Waning gibbous
☐ Last quarter ☐ Waning crescent

WEATHER DATA

Time (0000 h)	Temp (°C)	Wind Speed (estimated - see chart)*	Wind Direction: From to	% Cloud Cover (estimated)	Comments
2100	20.9	—	—	50%	
2130	19.6	—	—	40%	
2200	18.8	—	—	40%	
2230	18.6	—	—	40%	
2300	17.8	—	—	40%	
2330	18.0	—	—	90%	
0000	18.6	—	—	80%	
0030	16.9	—	—	80%	
0100	16.4	—	—		
0130	16.0	—	—		
0200	15.7	—	—		

Net/Trap/Anabat #	Net/Trap Type ¹	Latitude	Longitude	Length (m)	Height (m)	Time Up (0000 h)	Time Down (0000 h)	Picture #
A	net	41° 10' 42.9" N	83° 0' 13.9" W	18	9	2035	200	814
B	net	41° 10' 42.1" N	83° 0' 15.0" W	6	6	2040	205	813
C	net	41° 10' 44.3" N	83° 0' 16.6" W	6	6	2045	210	815
D	net	41° 10' 45.3" N	83° 0' 17.7" W	6	6	2050	215	818

Net Placement/Site Description:

Capt #	Net #	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. ²	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Picture # /Guano/Hair Sample	Comments
1	C	<i>Lasiorus borealis</i>	2130	Ad	F	L	12.5	45	M	0	820	
2	D	<i>Eptesicus fuscus</i>	2230	Jv	M	✓	17.75	46	M	0		
3	D	<i>E. fuscus</i>	2300	Ad	F	PL	17	47	M	0		
4	D	<i>E. fuscus</i>	0000	Ad	F	PL	18.25	47	M	0		existing in juv. (2) wing fix
5	D	<i>E. fuscus</i>	0000	Ad	F	PL	20.75	47	F	0		
				</								

* M = Monofilament, ON = Old Nylon, NN = New Nylon, HT = Harp Trap; A = Anabat

² Reproductive Condition: Female = NR/PG/L/PL; Male = ↑/↓

* Refer to table on the back



NET SITE HABITAT DESCRIPTION

Project #: 340.02 Date: 14 July 2011 Biologists: E. Basiger, S. Reeves
Project Name: Tetratich Republic Site Name/#: Site 22
State: OH County: Seneca USGS Quad: Fire sale
Camera #: ESKodak Picture #s: 2968 - 2972 GPS Unit #: E9528 Waypoint #: 34022
Latitude: 41° 11' 18.3" N Longitude: 82° 59' 16.7" W
Distance to closest water source (meters): 450 m Type of water source: pond
Water source name: private pond (to East)

ESTIMATED WATER SOURCE CHARACTERISTICS (IF UNDER NETS):

Bank Height: N/A meters Channel Width: N/A meters Stream Width: N/A meters
Substratum: N/A Bedrock Boulder Cobble Gravel Sand Silt/Clay
Still Water Present (Y/N): N/A Average Water Depth: N/A m or cm Clarity (H,M,L): N/A

VEGETATION:

Dominant Canopy Species (> 40 cm/16" dbh) Subdominant Canopy Species (< 40 cm/16" dbh)
Acer rubrum, Acer saccharum Quercus palustris, Tilia americana
Quercus palustris, Quercus alba Fraxinus pennsylvanica
Tilia americana, Fagus grandifolia Ulmus rubra, Acer saccharum
Estimated dbh range: Lg: 80cm Sm: 40cm Estimated dbh range: Lg: 39cm Sm: 15cm
Relative abundance of dominant vs. subdominant (ratio): 1:30

Estimated canopy closure: ☒ Closed ☐ Moderate ☐ Open
Roost tree potential consists of: ☐ Large Trees ☐ Snags ☒ Both ☐ Neither
Roost tree potential for the area is: ☐ High ☒ Moderate ☐ Low

Roost potential comments: a few snags though cluttered by canopy

Subcanopy clutter: ☐ Closed ☒ Moderate ☐ Open
Subcanopy comprised largely of: ☒ Lower Branches of Canopy Trees ☐ Saplings ☐ Shrubs

Common Subcanopy Species: Quercus palustris Acer rubrum
Sassafras albidum

Habitat Description: Mature mesic woodlot adjacent to cornfields
with 9m corridor connecting fields

Check all that apply:

☐ Mature Upland Forest ☐ Recently Logged Forest ☒ Crop/Pasture Land ☐ Shrub/scrub Swamp
☐ Young Upland Forest ☐ Pine Plantation ☐ Stream/River ☐ Vernal Pool
☐ Mature Lowland Forest ☒ Woodlot/Forest Edge ☐ Emergent Wetland ☐ Deepwater Lake/Pond
☐ Young Lowland Forest ☒ Old Field ☐ Forested Swamp ☐ Other
Herbaceous Cover: ☐ Sparse ☒ Moderate ☐ Dense



Property of: Environmental Solutions & Innovations, Inc.
781 Neeb Road, Cincinnati, OH 45233 (Phone: 513-451-1777)

NET SITE HABITAT DESCRIPTION (continued)

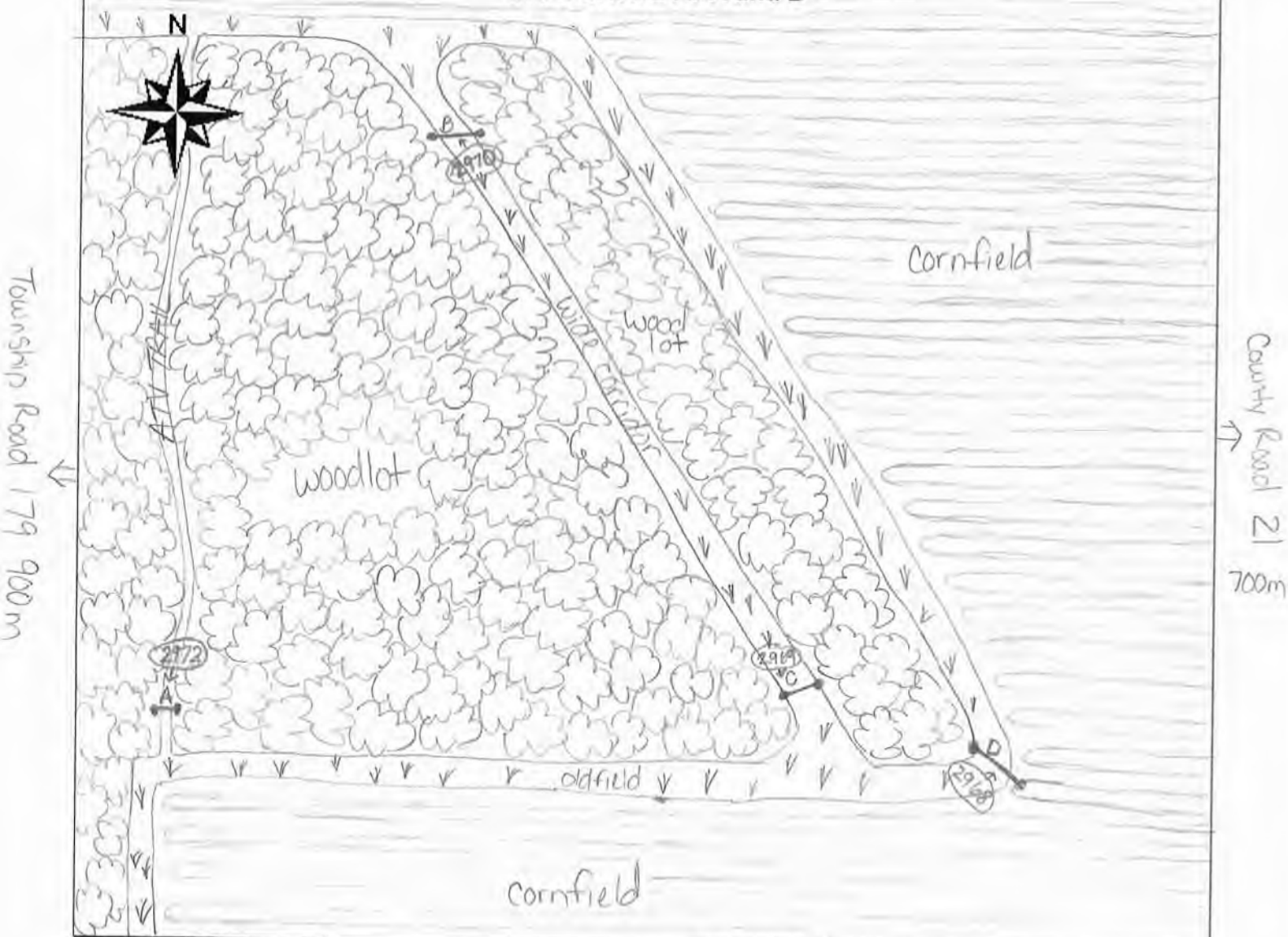
Project #: 340.02

State/County: OH/Seneca

Site Name/ #: Site 22

Initials: SR

SKETCH: NETS A and B



LEGEND

COMMENTS

Nets: ● — ●

Photo Angle: ###

N/A



BAT CAPTURE DATA

Project #: 340.02 Date: 12 July 2011
 Project Name: Tetrahedral Republic
 Biologists: E. Basinger, S. Reeves Site name#: Site 22
 State: Ohio County: Seneca
 GPS Unit #: E9528 Camera #: EBKodak

WEATHER DATA

Time (xxxx h)	Temp (°C)	Wind Speed (estimated - see chart)*	% Cloud Cover (estimated)	Comments
2100	26.1	0	40%	
2130	24.3	0	40%	
2200	23.0	1-3	50%	
2230	21.0	1-3	30%	
2300	20.5	1-3	60%	
2330	19.9	0	80%	rainy
0000	20.7	0	60%	hazy
0030	20.9	0	80%	
0100	21.3	1-3	50%	
0130	21.1	1-3	50%	
0200	20.2	4-7	50%	
0230	20.2	1-3	50%	

Net/Trap/ or AnaBat	Net/Trap/ AnaBat Serial #	Latitude	Longitude	Length (m)	Height (m)	Time Up (xxxx h)	Time Down (xxxx h)	Picture #	Waypoint #
Net A	A	41° 11' 27.4" N	82° 59' 08.7" W	6	6.2	2045	0145	2972	034
Net B	B	41° 11' 36.5" N	82° 59' 07.9" W	9	6.2	2050	0150	2970	033
Net C	C	41° 11' 27.8" N	82° 59' 05.6" W	9	9.0	2055	0155	2969	032
Net D	D	41° 11' 27.1" N	82° 59' 04.3" W	18	9.2	2100	0200	2968	031

Net Placement/Site Description: Net A, B, C in woodland corridors, Net D adjacent woodland over canopy

Capt #	Net/ Trap	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. ²	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Picture # /Guano/Hair Sample	Comments
1	C	<i>Eptesicus fuscus</i>	2120	Ad	F	PL	17.5	45	E	0	2949	
2	C	<i>E. fuscus</i>	2150	Ad	M	V	16.0	46	E	0	N/A	
3	C	<i>E. fuscus</i>	2150	Ad	F	PL	18.5	46	M	0	N/A	
4	D	<i>E. fuscus</i>	2200	Ad	F	PL	19.5	45	M	0	N/A	
5	C	<i>Lasiurus borealis</i>	2210	Jv	F	NR	8.0	36	E	0	2953	
6	C	<i>E. fuscus</i>	2210	Ad	M	↑	18.5	48	M	0	N/A	
7	C	<i>E. fuscus</i>	2210	Ad	F	PL	17.25	47	M	1	Some spotting present	
8	B	<i>E. fuscus</i>	2230	Ad	M	↑	16.3	47	M	0	N/A	
9	B	<i>E. fuscus</i>	2230	Ad	M	↑	14.8	45	F	0	N/A	

* Reproductive Condition: Female = NR PG L/PL; Male = ↑ ↓ * Refer to table on the back



BAT CAPTURE DATA (continued)

Project #: 340

Date: 12 July 2012

Project Name: Totrattech Republic

Site Name/ID: Site 22

Initials: EB, SR

Capt #	Net #	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. 2	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Picture # / Guano/Hair Sample	Comments
10	B	Eptesicus fuscus	2230	Ad	F	PL	20.0	49	M	0	N/A	
11	C	E. fuscus	2230	Jv	M	NR	13.1	44	M	0	N/A	
12	C	E. fuscus	2235	Ad	M	↑	18.8	46	M	0	N/A	
13	C	E. fuscus	2235	Ad	M	↑	17.2	48	M	0	N/A	
14	D	E. fuscus	2250	Ad	M	↓	20.0	48	F	0	N/A	
15	D	E. fuscus	2250	Ad	M	↓	17.1	46	M	0	N/A	
16	B	E. fuscus	2310	Ad	F	PL	21.0	46	M	1	N/A	left wing scar
17	C	Myotis septentrionalis	2315	Ad	M	↑	6.1	34	M	0	2957	
18	A	M. septentrionalis	2330	Ad	F	PL	6.5	36	M	0	2962	
19	A	M. septentrionalis	2330	Ad	F	PL	7.1	36	M	0	N/A	
20	C	E. fuscus	2340	Ad	F	PL	21.2	46	F	0	N/A	
21	B	E. fuscus	0050	Ad	F	NR	18.5	46	M	0	N/A	
22	B	E. fuscus	0050	Ad	F	PL	20.2	46	F	0	N/A	
23	A	M. septentrionalis	0110	Ad	F	PL	6.6	35	M	0	N/A	

Score	Description
0	No damage. Fewer than 5 small scar spots are present on the membranes.
1	Light damage. Less than 50% of flight membrane is depigmented (spotting), which is often visible only with transillumination.
2	Moderate damage. Greater than 50% of wing membrane covered with scar tissue (spotting). Scarring is visible without transillumination. Membrane exhibits some necrotic tissue and possibly few small holes (<0.5 cm diameter). Forearm skin may be flaking and discolored along the majority of the forearm.
3	Heavy damage. Deteriorated wing membrane and necrotic tissue. Isolated holes >0.5 cm are present in membranes. Necrotic or receding plagiopatagium and/or chiroptagium are evident.

Wind Speed (mph)	Description	Visible Condition
0	Calm	Smoke rises vertically
1-3	Light Air	Direction of wind shown by smoke but not by wind vane
4-7	Light Breeze	Wind felt on face; leaves rustle; ordinary wind vane moved by wind
8-12	Gentle Breeze	Leaves and small twigs in constant motion; wind extends light flag
13-18	Moderate Breeze	Raises dust and loose paper; small branches are moved
19-24	Fresh Breeze	Small trees in leaf begin to sway; crested wavelets on inland water
25-31	Strong Breeze	Large branches in motion; telephone wires whistle; umbrellas used with difficulty
32-38	Moderate Gale	Whole trees in motion; inconvenience in walking against wind
39-46	Fresh Gale	Breaks twigs off trees; generally impedes progress



BAT CAPTURE DATA

Project #: 340 Date: 14 July 2011
 Project Name: Tetra Tech Republic
 Biologists: F. Prosser, S. Davis Site name#: Site 22
 State: Ohio County: Seneca
 GPS Unit #: E9528 Camera #: FB Kodak

WEATHER DATA

Time (xxxx h)	Temp (°C)	Wind Speed (estimated - see chart)*	% Cloud Cover (estimated)	Comments
2100	19.1	1-3	10%	
2130	18.0	1-3	20%	
2200	14.2	0	10%	
2230	15.5	0	15%	
2300	14.3	0	15%	
2330	14.0	0	15%	
0000	14.9	0	40%	
0030	15.5	0	35%	
0100	13.9	0	30%	
0130	14.5	0	50%	
0200	14.8	0	50%	

Net/Trap/ or AnaBat	Net/Trap/ AnaBat Serial #	Latitude	Longitude	Length (m)	Height (m)	Time Up (xxxx h)	Time Down (xxxx h)	Picture #	Waypoint #
Net A		41° 11' 27.4" N	82° 59' 38.7" W	6	6.2	2045	0145	2972	034
Net B		41° 11' 30.5" N	82° 59' 37.9" W	9	6.2	2050	0150	2970	033
Net C		41° 11' 27.8" N	82° 59' 25.6" W	9	9.0	2055	0155	2919	032
Net D		41° 11' 27.1" N	82° 59' 04.3" W	18	9.2	2100	0200	2968	031

Net Placement/Site Description: Net is draped under the eaves in wide open area. Net is in field.

Capt #	Net/Trap	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. 2	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Picture # / Guano/Hair Sample	Comments
1	C	<i>Eptesicus fuscus</i>	2120	Ad	F	DL	18.8	47	E	0	N/A	
2	A	<i>Myotis septentrionalis</i>	2140	Ad	F	PL	6.8	34	E	1	near in left wing	
3	D	<i>E. fuscus</i>	2140	Ad	M	↓	14.6	47	E	0	N/A	
4	D	<i>E. fuscus</i>	2145	Ad	F	PL	17.6	45	M	0	N/A	
5	C	<i>E. fuscus</i>	2155	Ad	F	PL	17.0	46	M	0	N/A	
6	B	<i>E. fuscus</i>	2200	Ad	F	PL	16.8	46	M	0	N/A	
7	C	<i>E. fuscus</i>	2200	Ad	F	↓					recapture	
8	B	<i>E. fuscus</i>	2200	Ad	M	↓	17.0		M		N/A	
9	B	<i>E. fuscus</i>	2200								Escaped Bag	

* Reproductive Condition: Female = NR PG/L PL. Male = ↑ ↓ * Refer to table on the back



BAT CAPTURE DATA (continued)

Project #: 340.02 Date: 14 July 2011

Project Name: Tetrahedron Site Name/ID: Site 22

Initials: FA SP

Capt #	Net #	Species	Time	Age (Ad/Jv)	Sex (M/F)	Repro. 2	Wt (g)	RFA (mm)	Belly (F/M/E)	Wing Index* (0-3)	Picture # / Guano/Hair Sample	Comments
10	C	<i>Eptesicus fuscus</i>	2220	Ad	F	L	15.5	46	M	0	N/A	
11	C	<i>E. fuscus</i>	2220	Ad	F	L	17.9	45	F	1	Wetted ear-tissue	
12	D	<i>E. fuscus</i>	2230	Ad	F						Recapture	
13	C	<i>Myotis septentrionalis</i>	2240	Jv	F	NR	6.0	36	M	0	N/A	
14	B	<i>Lasiurus borealis</i>	2250	Ad	F	PL	13.0	44	E	0	N/A	
15	B	<i>E. fuscus</i>	2250	Ad	F	PL	18.7	48	M	0	N/A	
16	B	<i>M. septentrionalis</i>	2250	Jv	F	NR	5.8	35	M	0	N/A	
17	B	<i>E. fuscus</i>	2250	Ad	F	PL	17.8	36	M	0	N/A	
18	C	<i>E. fuscus</i>	2310	Ad	M	↓	17.2	46	M	0	N/A	
19	C	<i>E. fuscus</i>	2310	Ad	M	↓	16.4	47	M	0	N/A	
20	C	<i>Lasiurus borealis</i>	2340	Jv	F	NR	9.5	42	M	0	N/A	
21	C	<i>L. borealis</i>	2350	Ad	F	PL	13.9	41	M	0	N/A	

Score	Description
0	No damage. Fewer than 5 small scar spots are present on the membranes.
1	Light damage. Less than 50% of flight membrane is depigmented (spotting), which is often visible only with transillumination.
2	Moderate damage. Greater than 50% of wing membrane covered with scar tissue (spotting). Scarring is visible without transillumination. Membrane exhibits some necrotic tissue and possibly few small holes (<0.5 cm diameter). Forearm skin may be flaking and discolored along the majority of the forearm.
3	Heavy damage. Detached wing membrane and necrotic tissue. Isolated holes >0.5 cm are present in membranes. Necrotic or receding plagiopatagium and/or chiroptagium are evident.

Wind Speed (mph)	Description	Visible Condition
0	Calm	Smoke rises vertically
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4-7	Light Breeze	Wind felt on face, leaves rustle, ordinary wind vane moved by wind
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32-38	Moderate Gale	Whole trees in motion, inconvenience in walking against wind
39-46	Fresh Gale	Breaks twigs off trees, generally impedes progress

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in

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

Summary: Application Exhibit Q Part 4 of 8 electronically filed by Teresa Orahood on behalf of Dylan F. Borchers