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4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

ESI

NET SITE HABITAT DESCRIPTION

Project #: 340.01 **Date:** 16 July 11 **Biologists:** J. Basiger - N. Fl[illegible]

Project Name: Repub C **Site Name/#:** 23

State: OH **County:** Seneca **USGS Quad:** Fireside

Net/Trap/ or AnaBat	Net/Trap/ AnaBat Serial #	Latitude	Longitude	Picture #	Waypoint #
N1	A	41 ° 10 ' 26.2 "N	82 ° 57 ' 48.4 "W	840	23A
N2	B	41 ° 10 ' 27.5 "N	82 ° 57 ' 52.5 "W	839	23B
N3	C	41 ° 10 ' 29.2 "N	82 ° 57 ' 3[illegible].4 "W	838	23C
N4	D	41 ° 10 ' 30.7 "N	82° 57 ' 53.8 "W	837	23D

Distance to closest water source (meters): 10m Type of water source: Stream

Water source name: unknown

ESTIMATED WATER SOURCE CHARACTERISTICS (IF UNDER NETS):

Bank Height: _____meters Channel Width: _____meters Stream Width: _____meters

Substratum: ___Bedrock ___Boulder ___Cobble ___Gravel ___Sand ___Silt/Clay

Still Water Present (Y/N): _____ Average Water Depth: ____m or cm Clarity (H,M,L):____

VEGETATION:

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

Acer saccharinum
Carya ovata
Quercus alba

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

Acer saccharum
[illegible]
[illegible]

Estimated dbh range: Lg: 120 Sm: 20 Estimated dbh range: Lg: 39 Sm: 4

Relative abundance of dominant vs. subdominant (ratio): 1:75

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: [illegible]

Subcanopy clutter: ✓Closed ___Moderate ___Open

Subcanopy comprised largely of: ✓Lower Branches of Canopy Trees ✓Saplings ___Shrubs

Common Subcanopy Species: Acer saccharum, Acer saccharinum

Habitat Description: [illegible]

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 ✓Dense

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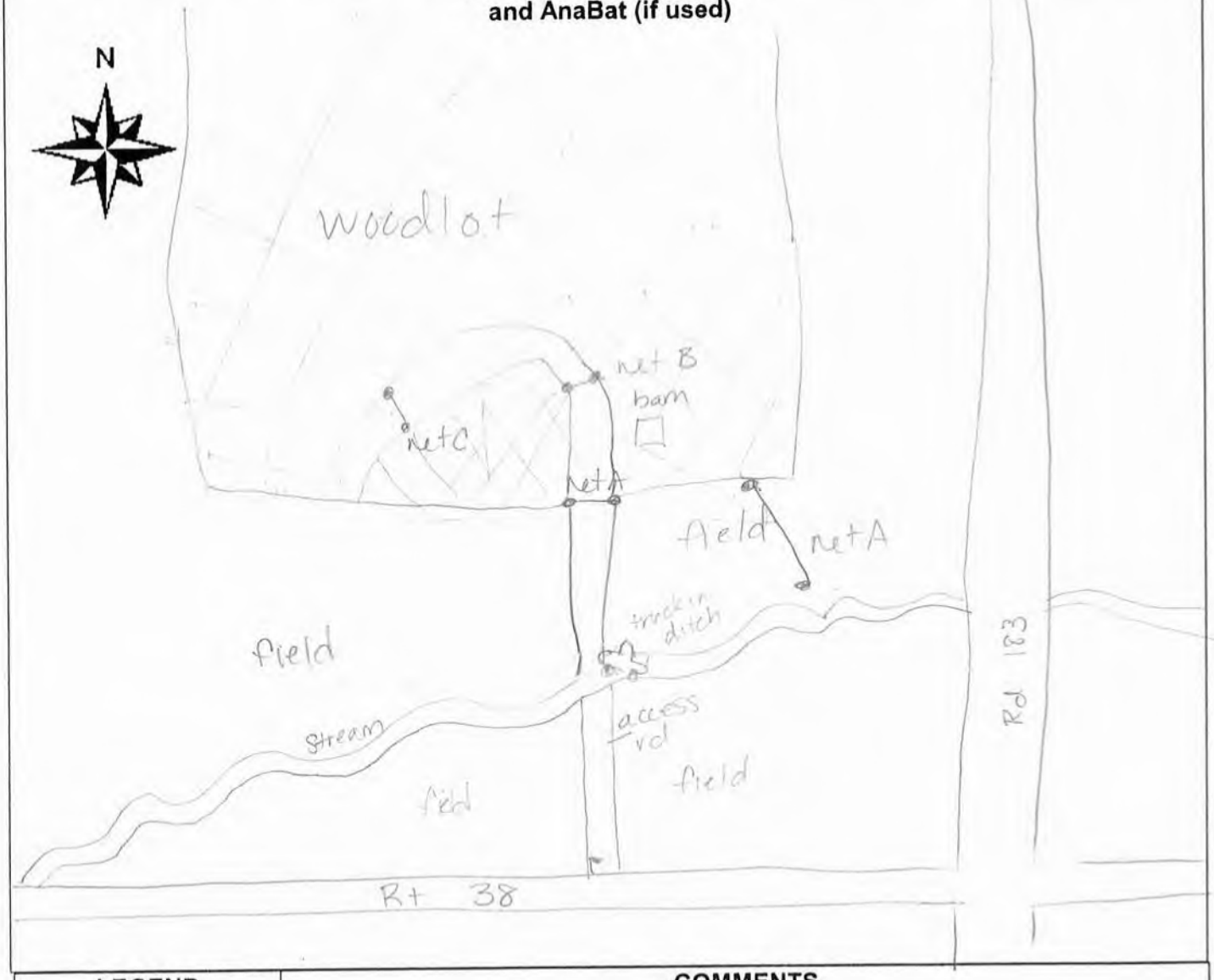
NET SITE HABITAT DESCRIPTION (continued)

Project #: 340.01	State/County: OH/Seneca	Site Name/#: 23	Initials: MF

SKETCH: NETS A and B and AnaBat (if used)



LEGEND	COMMENTS
Nets: ●——●	

ESI

BAT CAPTURE DATA

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

Project #: 340.01 Date: 13 July 11

Project Name: Republic

State: OH County:

Biologists: J. Badger M. Flynn

Site name/#: 23

GPS Unit #: ESI 469671 Camera #: CAM 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	—	—	0	
2130	20.1	—	—	0	
2200	18.7	—	—	10%	
2230	18.2	—	—	10%	
2300	17.8	—	—	10%	
2330	17.7	—	—	10%	
0000	16.9	—		0	
0030	16.4	—		0	
0100	16.1			0	
0130	15.9			0	
0200	15.6			0	

Net/Trap/Anabat #	Net/Trap Type[1]	Latitude	Longitude	Length (m)	Height (m)	Time Up (0000 h)	Time Down (0000 h)	Picture #
A	N	41° 10' 32.0" N	82° 57' 48.4" W	18	9	2100	0260	840
B	N	41° 10' 29.3" N	82° 57' 52.5" W	6	6	2055	0155	839
C	N	41° 10' 29.5" N	82° 57' 53.4" W	9	6	2050	0155	838
D	N	41 10 30.7	82 57 53.4	6	6	2045	0150	837

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	Eptesicus fuscus	2200	Ad	F	L	19	48	M	0	
2	B	Myotis septentrionalis	2205	Ad	F	L	6.25	34	E	0	807,809,812
3	D	M. septentrionalis	2240	Ad	M	↑	6.5	33	M	0	
4	D	E. fuscus	2240	Ad	M	↑	16.5	44	M	0	
5	D	E. fuscus	2240	Ad	M	↓	16.5	47	M	0	
6	D	E. fuscus	2310	Ad	M	↑	18.75	44	F	0	
7	D	E. fuscus	2310	Ad	M	↑	15.25	45	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 = ↑/↓
* Refer to table on the back

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BAT CAPTURE DATA

Project #: 340.01 Date: 16 July 11

Project Name: Republic

State: OH County: Seneca

Biologists: J. Basher, M. Flynn

Site name/#: 23

GPS Unit #: ESI [illegible] Camera #: Con ET1

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	26.7	—	—	0	
2130	26.5	—	—	0	
2200	25.0	1-3	E → W	0	
2230	25.5	1-3	E → W	0	
2300	25.5	1-3	SE → NW	0	

Net/Trap/Anabat #	Net/Trap Type[1]	Latitude	Longitude	Length (m)	Height (m)	Time Up (0000 h)	Time Down (0000 h)	Picture #
A	N	41° 10' 36.2" N	82° 57' 49.4" W	18	9	2100		840
B	N	41° 10' [illegible] "N	82° 57' 52.5" W	6	6	2035		839
C	N	41° 10' [illegible] "N	82° 57' 53.4" W	9	6	2050		838
D	N	41 10 [illegible]	82 57 53.4	6	6	2045		837

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	Eptesicus fuscus	2200	Ad	F	PL	18	47	M	0	Recap from first night
2	A	E. fuscus	2200	Ad	M	↓	15.75	44	M	0	*
3	C	Myotis septentrionalis	2220	Ad	M	↓	5.5	35	M	0	*
4	D	M. septentrionalis	2220	Ad	M	↓	6.5	33	E	0	*
5	D	E. fuscus	2220	Ad	M	↑	17.5	45	M	0	*
6	D	E. fuscus	2220	Ad	M	↓	17.25	45	E	0	*
7	A	E. fuscus	2300	Ad	F	PL	18.75	47	M	0	
8	A	Lasiurus borealis	2300	Jv	F	NA	9.5	41	M	0	pic 841
9	A	E. fuscus	2300	Ad	F	PL	16.75	48	F	0	
10	D	M. septentrionalis	2330	Ad	F	PL	5.5	33	M	0	

[1] M = Monofilament, ON = Old Nylon, NN = New Nylon, HT = Harp Trap; A = Anabat
* Refer to table on the back

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

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NET SITE HABITAT DESCRIPTION

Project #: 340.02 **Date:** 15 July 2011 **Biologists:** F. Bosiger, S. Reeves

Project Name: Tetratech Republic **Site Name/#:** Site 24

State: OH **County:** Seneca **USGS Quad:** Fireside

Camera #: Bkdnk **Picture #s:** 3518 – 3523 **GPS Unit #:** E9528 **Waypoint #:** 3408

Latitude: 41 ° 09 ' 56.5 "N **Longitude:** 82 ° 56 ' 51.9 "W

Distance to closest water source (meters): 400m Type of water source: ditch

Water source name: unnamed ditch / ephemeral stream

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)
- Quercus palustris
- Quercus alba
- Fraxinus pennsylvanica

Estimated dbh range: Lg: 90cm Sm: 40cm

Subdominant Canopy Species (< 40 cm/16" dbh)
- Carya ovata
- Acer rubrum
- Acer saccharum

Estimated dbh range: Lg: 30cm Sm: 25cm

Relative abundance of dominant vs. subdominant (ratio): 1:10

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: snags very small

Subcanopy clutter: ___Closed ___Moderate ✓ Open

Subcanopy comprised largely of: ✓ Lower Branches of Canopy Trees ___Saplings ___Shrubs

Common Subcanopy Species: Carpinus caroliniana, Crataegus sp.

Habitat Description: Mature mesic woodlot with few shrubs and open subcanopy near agricultural 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/ForestEdge	__Emergent Wetland	__Deepwater Lake/Pond
__Young Lowland Forest	__Old Field	__Forested Swamp	__Other _____

Herbaceous Cover: ___ Sparse ✓ Moderate ___Dense

Property of: Environmental Solutions & Innovations, Inc.
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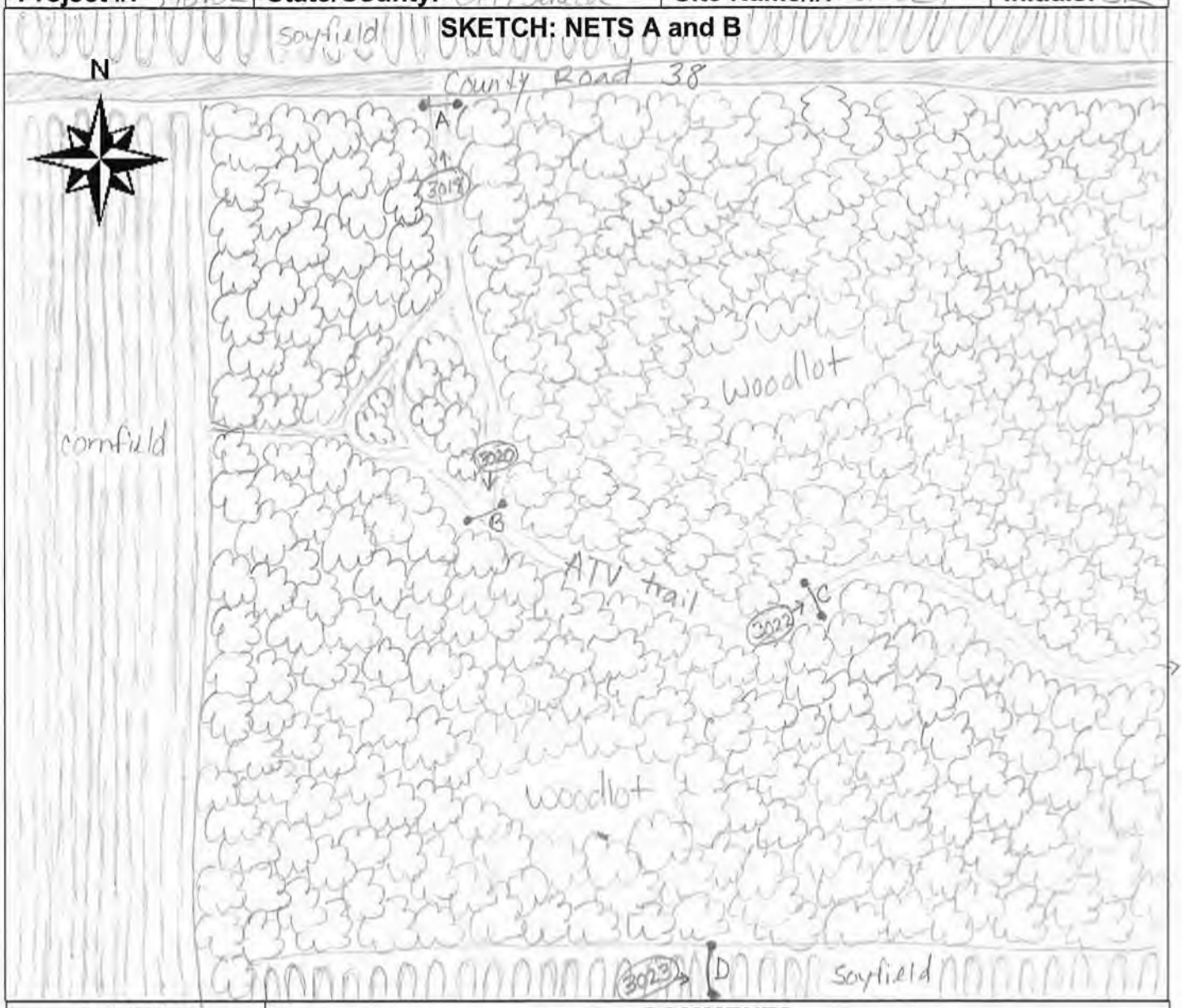
NET SITE HABITAT DESCRIPTION (continued)

Project #: 340.02	State/County: OH / Seneca	Site Name/#: Site 24	Initials: SR

SKETCH: NETS A and B



LEGEND	COMMENTS
Nets: ●——●	N/A
Photo Angle: ####	

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BAT CAPTURE DATA

Project #: 340.02 Date: 15 July 2011

Project Name: Tetratech Republic

Biologists: E. Bosner, S. Reeves Site name/#: Site 24

State: Ohio County: Seneca

GPS Unit #: E 9528 Camera #: EB Kodak

WEATHER DATA

Time (xxxx h)	Temp (°C)	Wind Speed (estimated – see chart)*	% Cloud Cover (estimated)	Comments
2100	24.5	1-3	0%	—
2130	22.9	1-3	0%	—
2200	22.4	1-3	0%	—
2230	21.6	0	0%	—
2300	21.4	0	0%	—
2330	21.4	0	0%	—
0000	21.2	0	0%	—
0030	20.9	0	0%	—
0100	21.0	0	0%	—
0130	20.8	0	0%	—
0200	20.6	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 ° 10 ' 6.8 "N	82 ° 56 ' 50.4 "W	6	6.2	2045	0145	3018	039
Net	B	41 ° 10 ' 4.6 "N	82 ° 56 ' 49.8 "W	6	6.2	2050	0150	3020	040
Net	C	41 ° 10 ' 4.1 "N	82 ° 56 ' 47.6 "W	9	9.2	2055	0155	3022	041
Net	D	41 ° 10 ' 1.9 "N	82 ° 56 ' 48.8 "W	18	9.2	2100	0200	3023	042

Net Placement/Site Description: Nets A, B, & C over ATV trail in woodlot, Net D out into soybeans

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	Myotis septentrionalis	2145	Ad	M	↑	6.0	36	E	0	2973 – 2978
2	C	Eptesicus fuscus	2200	Ad	F	PL	18.2	46	E	0	N/A
3	C	E. fuscus	2200	Ad	F	PL	19.0	49	F	1	2980-2981, few spots
4	D	E. fuscus	2210	Jv	M	↑	9.9	40	M	0	N/A
5	D	E. fuscus	2210	Jv	M	↑	11.9	45	M	1	spotting
6	D	E. fuscus	2210	Jv	M	↑	11.2	43	M	0	N/A
7	D	E. fuscus	2210	Ad	F	PL	18.0	48	M	0	2982
8	D	E. fuscus	2210	Ad	M	↓	17.3	43	M	0	N/A
9	C	M. septentrionalis	2250	Ad	F	PL	17.0	36	M	0	N/A

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

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BAT CAPTURE DATA (continued)

Project #: 340.02 Date: 15 July 2011

Project Name: Tetratech Republic Site Name/#: Site 24 Initials: EG, 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)	Comments Picture # /Guano/Hair Sample
10	D	Eptesicus fuscus	2250	Ad	F	PL			F		Escaped hand
11	D	E. fuscus	2250	Jv	F	NR	13.8	45	M	1	spotting
12	D	E. fuscus	2255	Jv	F	NR	11.0	44	M	1	spotting
13	B	Myotis septentrionalis	2300	Ad	F	PL	7.1	36	M	0	N/A
14	B	E. fuscus	2300	Ad	F	PL	23.2	45	F	0	N/A
15	C	E. fuscus	2325	Ad	M	↑	17.2	44	M	0	N/A
16	C	E. fuscus	2325	Ad	F	PL	20.2	45	F	0	one tiny hole
17	D	E. fuscus	2330	Jv	F	NR	14.9	46	M	1	parasites on wings
18	C	E. fuscus	2335	Ad	F	L	22.0	47	F	1	wing scar, no tear
19	C	E. fuscus	0000	Ad	M	↑	16.0	45	F	0	N/A
20	C	E. fuscus	0000	Ad	F	PL	19.5	47	M	1	spotting
21	C	E. fuscus	0005	Jv	M	↑	14.5	46	M	0	Parasites (mites) on wings
22	D	E. fuscus	0035	Ad	F	PL	21.1	49	F	0	N/A
23	D	E. fuscus	0030	Ad	F	PL	20.3	48	M	0	mites on wings
24	D	E. fuscus	0040	Jv	F	NR	14.9	49	M	0	N/A
25	D	E. fuscus	0040	Ad	F	PL	19.3	49	M	0	N/A
26	C	E. fuscus	0040								Escaped Net
27	C	E. fuscus	0045	Ad	F	PL	24.2	46	F	0	N/A

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 (splotching), which is often visible only with translumination.
2	**Moderate damage.** Greater than 50% of wing membrane covered with scar tissue (splotching). Scarring is visible without translumination. 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 chiropatagium are evident.

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BAT CAPTURE DATA

Project #: 340.02 Date: 18 July 2011

Project Name: Tetratech Republic

Biologists: E Basinger, S. Captain Site name/#: Site 24

State: Ohio County: Seneca

GPS Unit #: E9528 Camera #: EB Kodak

WEATHER DATA

Time (xxxx h)	Temp (°C)	Wind Speed (estimated – see chart)*	% Cloud Cover (estimated)	Comments
2100	24.5	1-3	0%	—
2130	23.7	4-7	0%	—
2200	23.7	4-7	10%	—
2230	23.8	4-7	20%	—
2300	24.0	4-7	60%	—
2330	24.2	8-10	100%	—
0000	24.4	4-7	100%	—
0030	24.6	8-10	100%	—
0100	24.9	8-10	75%	
0130	24.8	4-7	75%	
0200	24.8	4-7	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° 10' 6.8 "N	82° 56' 50.4 "W	6	6.2	2045	0145	3018	039
Net	B	41° 10' 4.6 "N	82° 56' 49.8 "W	6	6.2	2050	0150	3020	040
Net	C	41° 10' 4.1 "N	82° 56' 47.6 "W	9	9.2	2055	0155	3022	041
Net	D	41° 10' 1.9 "N	82° 56' 48.8 "W	18	9.2	2100	0200	3023	042

Net Placement/Site Description: Nets A, B, & C across ATV trail in woodlot. Net D out in soyfield from 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)	Comments Picture # /Guano/Hair Sample
1	B	Myotis septentrionalis	2140	Ad	F	PL	6.2	35	M	0	N/A
2	B	M. septentrionalis	2140	Jv	M	↑	6.2	35	M	0	N/A
3	C	Eptesicus fuscus	2150	Jv	F	NR	15.8	48	M	1	few spots 172.780
4	A	E. fuscus	2220	Ad	F	PL	17.4	47	F	0	N/A
5	C	E. fuscus	2225	Ad	M	↓	—	—	—	—	Recapture
6	C	E. fuscus	2225	Ad	F	PL	16.3	45	M	0	N/A
7	C	E. fuscus	2225	Jv	M	↑	15.8	46	M	0	N/A
8	D	E. fuscus	2234	Jv	M	↑	14.5	46	M	0	N/A
9	C	E. fuscus	2237	Ad	F	PL	19.7	47	F	0	N/A

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

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BAT CAPTURE DATA (continued)

Project #: 3610.02 Date: 18 July 2011

Project Name: Tetratech Republic Site Name/#: Site 24 Initials: EB, SC, 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)	Comments Picture # /Guano/Hair Sample
10	B	Eptesicus fuscus	2239	Jv	M	↑	12.5	42	F	0	N/A
11	D	E. fuscus	2245	Jv	F	NR	13.3	45	E	0	N/A
12	A	E. fuscus	2320	Jv	F	NR	15.6	46	M	0	N/A
13	E	E. fuscus	2325	Ad	M	↑	18.5	45	F	0	N/A
14	A	E. fuscus	2329	Jv	M	↑	13.9	43	M	0	N/A
15	C	E. fuscus	2325	Ad	F	PL	19.8	44	F	1	Spotting on wing
16	C	E. fuscus	2325	Jv	M	↑	15.1	45	F	0	N/A
17	C	Lasiurus borealis	2331	Ad	F	PL	15.1	41	M	0	3026-27
18	A	E. fuscus	2352	Jv	M	↑	16.3	46	M	0	N/A
19	B	Myotis septentrionalis	2355	Ad	F	PL	7.0	35	M	0	Collar on escaping
20	C	E. fuscus	2362	Jv	M	↑	14.6	45	M	0	N/A
21	B	E. fuscus	0020	Ad	F	[illegible]	19.9	44	F	0	tear scar on [illegible]
22	C	E. fuscus	0020	Ad	F	PL	22.2	48	F	0	N/A
23	E	M. septentrionalis	0020	Ad	M	↓	5.8	45	M	0	N/A
24	A	E. fuscus	0045	Jv	F	NR	13.7	44	F	0	N/A
25	C	Lasiurus cinereus	0045	Jv	F	NR	22.5	54	M	0	3028-3031

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 (splotching), which is often visible only with translumination.
2	**Moderate damage.** Greater than 50% of wing membrane covered with scar tissue (splotching). Scarring is visible without translumination. 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 chiropatagium are evident.

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

NET SITE HABITAT DESCRIPTION

Project #: 340 **Date:** 16-Jul-11 **Biologists:** D. Cosiar

Project Name: Republic **Site Name/#:** 26

State: OH **County:** Seneca **USGS Quad:** Fireside

Net/Trap/ or AnaBat	Net/Trap/ AnaBat Serial #	Latitude	Longitude	Picture #	Waypoint #
A	N	41° 10' 32.1 "N	82° 55' 54.5 "W	857	
B	N	41° 10' 31.3 "N	82° 55' 54.7 "W	858	
C	N	41° 10' 29.6 "N	82° 55' 52.1 "W	859	
D	N	41° 10' "N	82° 55' 53.1 "W	[illegible]	

Distance to closest water source (meters): 50 Type of water source: Stream

Water source name: —

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

Bank Height: _____meters Channel Width: _____meters Stream Width: _____meters

Substratum: ___Bedrock ___Boulder ___Cobble ___Gravel ___Sand ___Silt/Clay

Still Water Present (Y/N): _____ Average Water Depth: ____m or cm Clarity (H,M,L):____

VEGETATION:

Dominant Canopy Species (> 40 cm/16" dbh)
- Quercus alba
- Acer rubrum

Subdominant Canopy Species (< 40 cm/16" dbh)
- Acer rubrum
- Acer saccharum
- Fraxinus pennsylvanica

Estimated dbh range: Lg: 65 Sm: 40 Estimated dbh range: Lg: 39 Sm: 10

Relative abundance of dominant vs. subdominant (ratio): 1:3.5

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: _____ _____

Habitat Description: Large Woodlot surrounded by crop land

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 ___Dense

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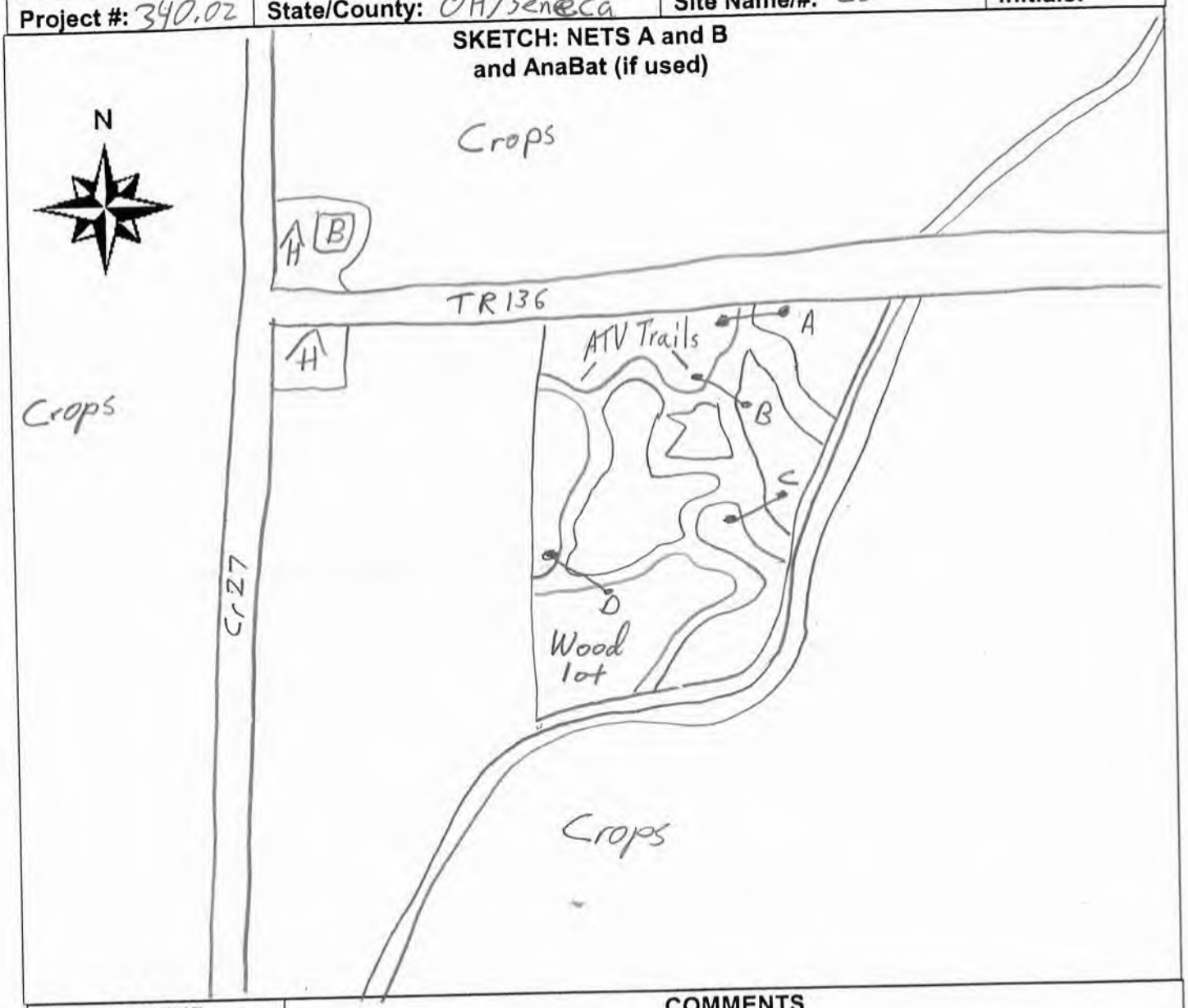
NET SITE HABITAT DESCRIPTION (continued)

Project #: 340.02	State/County: OH/Seneca	Site Name/#: 26	Initials:

SKETCH: NETS A and B and AnaBat (if used)



LEGEND	COMMENTS
Nets: ●——●	

ESI

BAT CAPTURE DATA

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

Project #: 340.01 Date: 15 Jul 2011

Project Name: Republic

State: OH County: Seneca

Biologists: J. Basiger + M. Flynn

Site name/#: 26

GPS Unit #: 31465670 Camera #: cam 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
2150	23.6	1-3	—	60%	
2130	23	0	—	60%	
2200					
2230					
2300					
2330					
0000	21.7	0	—	40%	
0030					
0100					
0130					
0200	21	0		100%	

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 ' 32.4 "N	82° 55 ' 54.5 "W	9	9	2050	155	857
B	net	41 ° 10 ' 31.3 "N	82° 55 ' 54.9 "W	6	6	2035	200	858
C	net	41 ° 10 ' 29.6 "N	82° 55 ' 57.1 "W	9	6	2040	205	859
D	net	41 10	82 55 53.7	6	6	2045	210	860

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	B	Eptesicus fuscus	2130	Ad	F	PL	17	45	E	0	825
2	C	Myotis septentrionalis	2130	Ad	F	PL	6.75	37	E	0	*826, 829
3	A	E. fusus	2200	Ad	F	PL	21	50	F	0	
4	A	E. fuscus	2230	Jv	F	NR	14.25	44	M	0	
5	A	E. fuscus	2230	Jv	M	↑	10.75	46	M	0	
6	B	E. fuscus	2230	Ad	F	PL	24.5	48	F	0	
7	D	E. fuscus	2230	Ad	F	PL	24.75	47	M	0	
8	C	E. fuscus	2230	Jv	M	↑	12.25	45	M	0	
9	C	E. fuscus	2230	Ad	F	PL	19	47	M	0	
10	C	E. fuscus	2230	Ad	M	↓	17.5	46	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 = ↑/↓
* Refer to table on the back

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BAT CAPTURE DATA (continued)

Project #: 340.01 Date: 15 Jul 2011

Project Name: Republic Site Name/#: 26 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 Picture # /Guano/Hair Sample
11	C	E fuscus	2230	Ad	F	PL	18.5	44	M	0	
12	C	E. fuscus	2230	JV	M	↑	15.75	44	M	0	
13	C	E fuscus	2230	Ad	M	↓	18.5	44	F	0	*
14	C	E fuscus	2230	Ad	F	PL	17.5	44	M	0	
15	C	E. fuscus	2230	Ad	M	↓	16.25	47	M	0	*
16	C	E fuscus	2230	Ad	M	↓	18	44	F	0	*
17	C	E. fuscus	2230	Ad	F	PL	18	48	E	0	
18	D	E fuscus	2300	JV	F	NR	14	47	M	0	
19	A	E. fuscus	2300	JV	F	NR	12.75	43	M	0	
20	B	E fuscus	2300	Ad	F	PL	24	48	F	0	
21	C	E fuscus	2300	Ad	F	PL	18.75	45	F	0	
22	C	E fuscus	2300	Ad	M	↓	17	45	F	0	*
23	C	E. fuscus	2300	Ad	F	PL	20.0	44	F	0	
24	C	E fuscus	2310	Ad	F	PL	21	46	F	0	
25	C	E fuscus	2350	Ad	F	PL	22	45	F	0	
26	D	E fuscus	2300	Ad	M	↑	18.25	43	F	0	*
27	D	E fuscus	2300	Ad	F	PL	24.25	47	E	0	172,740
28	B	E. fuscus	2345	Ad	M	↓	17.25	44	F	0	*
29	B	E. fuscus	2345	Ad	M	↑	16.5	46	F	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	Sept 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 (splotching), which is often visible only with translumination.
2	**Moderate damage.** Greater than 50% of wing membrane covered with scar tissue (splotching). Scarring is visible without translumination. 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 chiropatagium are evident.

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BAT CAPTURE DATA (continued)

Project #: 346.01 Date: 15 JUL 2011

Project Name: Republic Site Name/#: 2L 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 Picture # /Guano/Hair Sample
30	C	E fuscus	0015	Ad	F	PL	22	44	F	0	
31	B	E fuscus	0100	JV	M	↑	20.25	47	F	0	
32	B	E fuscus	0100	Ad	F	NL	22	47	F	0	
33	D	M. Septentrionalis	0100	Ad	F	L	6	34	M	0	
34	D	M. Septentrionalis	0100	Jv	F	NA	5.25	36	E	0	
35	D	M. Septentrionalis	0100	Ad	F	PL	6.75	34	M	0	
36	D	E. fuscus	0100	Ad	F	PL	20.25	45	F	0	
37	D	E. fuscus	0100	Ad	F	PL	17.5	45	F	0	
38	D	E fuscus	0100	JV	M	↑	15	47	M	0	
39	B	E fuscus	0130	Ad	F	PL	21.5	47	F	0	
40	B	E fuscus	0130	Ad	F	PL	21.25	49	F	0	
41	B	E fuscus	0200	Ad	F	NL	24	45	M	0	
42	D	E fuscus	0200	Ad	F	PL	—	—	F	—	escape
43	C	E fuscus	0200	Ad	F	PL	21.75	51	F	0	
44	C	M. septentrionalis	0200	JV	F	NR	6	35	E	0	
45	C	E fuscus	0200	Ad	F	PL	21.5	47	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
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BAT CAPTURE DATA

Project #: 340.01 Date: 18 July 2011

Project Name: Republic

State: OH County: Seneca

Biologists: Jack Basiger, Megan Flynn, Alexa Lantz

Site name/#: 26

GPS Unit #: 15 465670 Camera #: Canon 60D

MOON PHASE*

___New moon ___Waxing crescent X 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
2240	23.9	1-3	N→S	0	
2323	24.3	1-3	N→S	0	
0100	25.1	4-7	W→E	70	
0300	25.1				

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' 32.14"N	82° 55' 54.5"W	9	9	2100	0155	857 ✓
B	Net	41° 10' 31.5"N	82° 55' 54.9"W	6	9	2045	200	858 ✓
C	Net	41° 10' 29.6"N	82° 55' 54.0"W	9	6	2050	205	859 ✓

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	C	Lasiurus borealis	2130	Jv	F	NR	8.25	38	E	0	865
2	A	Eptiscus fuscus	2200	Ad	F	PL	21.0	45	M	0	
3	A	Eptiscus fuscus	2200	Ad	M	↓	17.5	46	M	0	
4	A	Eptiscus fuscus	2200	Ad	F	PL	18.5	46	M	1	
5	C	Eptiscus fuscus	2230	Jv	F	NR	15.5	44	M	0	
6	C	Eptiscus fuscus	2230	Jv	M	↑	12.0	45	M	0	
7	B	Eptiscus fuscus	2227	Jv	F	NR	15.0	46	M	0	
8	A	Eptiscus fuscus	2235	Ad	F	PL	22.0	49	F	0	
9	A	Lasiurus borealis	2225	Jv	F	N	10.0	42	M	0	
10	D	Eptiscus fuscus	2230	Ad	M	↓	19.5	45	F	0	

[1] 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 #	TRAP TYPE	Lat	Long	Length	Height	Time ↑	Time ↓	Picture #
D	Net	41° 10' 1/2" N	82° 55' 53.7" W	6	6	2055	210	860 ✓

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BAT CAPTURE DATA (continued)

Project #:_____ Date:_____

Project Name:_____ Site Name/#:_____ 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 Picture # /Guano/Hair Sample
11	A	Eptiscus fuscus	2225	Jv	F	NR	18.0	44	F	0	
12	D	Myotis Septentrionalis	2230	Jv	M	NR	5.0	32	M	0	
13	A	Eptiscus fuscus	2307	Ad	M	↑	16.0	41	M	0	
14	D	Eptiscus fuscus	2310	Jv	F	NR	20.0	49	F	0	
15	C	Eptiscus fuscus	2310	Ad	F	PL	20.5	47	F	0	
16	C	Eptiscus fuscus	2310	Ad	M	↓	18.0	48	F	0	
17	C	Eptiscus fuscus	2310	Ad	F	PL	20.5	47	F	0	
18	C	Eptiscus fuscus	2348	Ad	F	PL	22.5	49	F	0	
19	C	Eptiscus fuscus	2348	Jv	M	↑	16.5	47	F	0	
20	C	Eptiscus fuscus	2350	Jv	M	↑	13.0	44	F	0	
21	A	Eptiscus fuscus	2425	Jv	M	↑	15.0	44	F	0	
22	A	Eptiscus fuscus	2425	Jv	M	↑	15.0	49	F	0	
23	A	Eptiscus fuscus	2425	Jv	F	NR	15.0	47	F	0	
24	D	Eptiscus fuscus	2430	Ad	F	PL	21.5	47	F	0	
25	C	Eptiscus fuscus	2435	Jv	M	NR	15.5	44	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	Sept 30
Sep 8	Oct 14	Oct 22	Oct 30
Oct 7	Nov 13	Nov 21	Nov 28

Wing Index Key

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3	**Heavy damage.** Deteriorated wing membrane and necrotic tissue. Isolated holes >0.5 cm are present in membranes. Necrotic or receding plagiopatagium and/or chiropatagium are evident.

Property of: Environmental Solutions & Innovations, Inc.
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NET SITE HABITAT DESCRIPTION

Project #: 340.02 **Date:** 16 July 2011 **Biologists:** V. Brack, S. Reeves

Project Name: Tetratech Republic **Site Name/#:** Site 27

State: OH **County:** Seneca **USGS Quad:** Fireside

Camera #: G-1 **Picture #s:** 0190-0218 **GPS Unit #:** G7406 **Waypoint #:** 340

Latitude: 41 ° 09 ' 27.1 "N **Longitude:** 82 ° 59 ' 20.5 "W

Distance to closest water source (meters): 5m Type of water source: pond

Water source name: unnamed private pond

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)

Quercus bicolor
Fraxinus pennsylvanica
Quercus palustris

Estimated dbh range: Lg: 120cm Sm: 40cm

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

Fraxinus pennsylvanica
Quercus palustris
Acer saccharinum

Estimated dbh range: Lg: 31cm Sm: 18cm

Relative abundance of dominant vs. subdominant (ratio): 1:2.5

Estimated canopy closure: X Closed ___Moderate ___Open

Roost tree potential consists of: ___Large Trees ___Snags X Both ___ Neither

Roost tree potential for the area is: ___High X Moderate ___Low

Roost potential comments: high side of moderate, leaning toward High

Subcanopy clutter: ___Closed ___Moderate ___Open

Subcanopy comprised largely of: ___Lower Branches of Canopy Trees ___Saplings ___Shrubs

Common Subcanopy Species: Acer saccharinum, Fraxinus pennsylvanica

Habitat Description: Mature woodlot with 2 ponds in urban interface, agriculture nearby

Check all that apply:

__Mature Upland Forest	__Recently Logged Forest	X Crop/Pasture Land	__Shrub/scrub Swamp
__Young Upland Forest	__Pine Plantation	__Stream/River	__Vernal Pool
__Mature Lowland Forest	X Woodlot/ForestEdge	__Emergent Wetland	X Deepwater Lake/Pond
__Young Lowland Forest	__Old Field	__Forested Swamp	X Other Urban/Urban

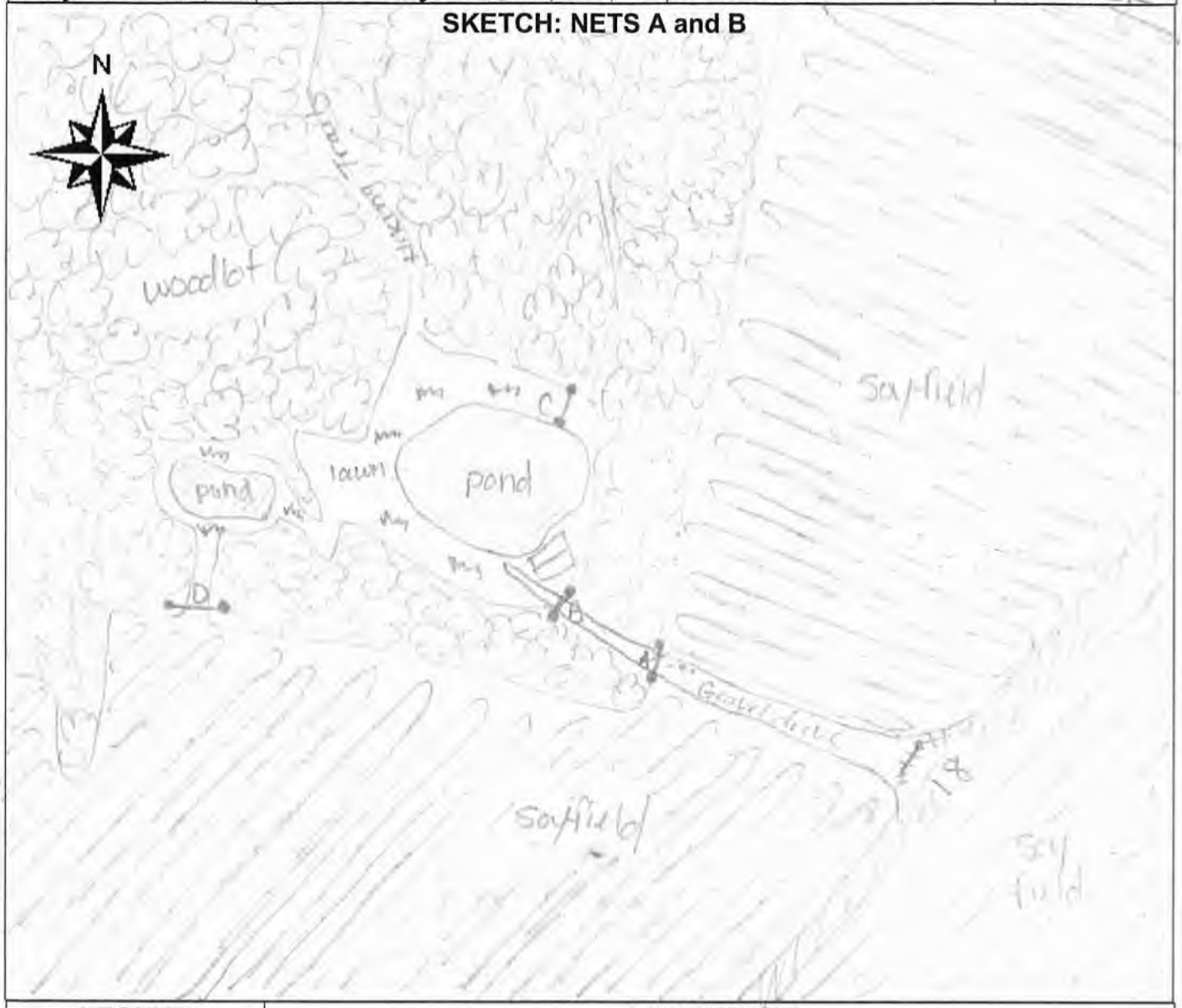
Herbaceous Cover: ___ Sparse ___Moderate X Dense

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: Seneca / OH	Site Name/#: Site 27	Initials: SR

SKETCH: NETS A and B



LEGEND	COMMENTS
Nets: ●——●	
Fence: ++++	
Cabin: ▭	

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

ESI

BAT CAPTURE DATA

Project #: 340.02 Date: 16 July 2015

Project Name: Tetratech Republic

Biologists: V Brack S Irvins Site name/#: Site 27

State: Ohio County: Seneca

GPS Unit #: G74036 Camera #: C6209

WEATHER DATA

Time (xxxx h)	Temp (°C)	Wind Speed (estimated – see chart)*	% Cloud Cover (estimated)	Comments
2100	23.9	0	0%	—
2130	22.9	0	0%	—
2200	22.7	0	0%	—
2230	21.7	0	0%	—
2300	—	1–3	0%	—
2330	22.5	1–3	0%	—
0000	21.8	1–3		—
0030	21.6	1–3		—
0100	21.4	1–3		—
0130	21.2	1–3		—
0200	21.4	1–3		—

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 ° 09 ' 30.1 "N	82 ° 59 ' 20.5 "W	6	6.2	2045	0145	0190	021
Net	B	41 ° 09 ' 27.8 "N	82 ° [illegible] ' 22.2 "W	6	6.2	2050	0150	0191	022
Net	C	41 ° 09 ' 30.1 "N	82 ° [illegible] ' [illegible] "W	9	6.2	2055	0155	0203	023
Net	D	41 ° 09 ' 28.0 "N	[illegible] ° [illegible] ' [illegible] "W	12	9.2	2100	0200	0218	024

Net Placement/Site Description: Nets A, B, & C across road with dead snags in wooded lot, Net D across [illegible]

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	D	Lasiurus borealis	2120	Jv	F	NR	10.0	41	E	0	109_0209
2	D	L. borealis	2120	Jv	F	NR	8.7	40	E	0	NA
3	D	Eptesicus fuscus	2150	Ad	F	PL	18.1	46	F	1	0210 – 0211
4	D	E. fuscus	2150	Ad	F	PL	16.8	43	E	2	0212 (healed scars)
5	D	E. fuscus	2210	Ad	M	½↓	15.5	44	M	1	Starting [illegible]
6	D	E. fuscus	2210	—	—	—	—	—	—	—	Escaped Net
7	D	E. fuscus	2210	—	—	—	—	—	—	—	Escaped Net
8	D	E. fuscus	2235	A	F	PL	19.9	45	F	1	—
9	D	E. fuscus	2235	Ad	M	↓	17.8	46	F	0	—

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

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BAT CAPTURE DATA (continued)

Project #: Texas Tech Republic Date: 10 July 11

Project Name: 340.02 Site Name/#: C6209 Initials: VB / 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)	Comments Picture # /Guano/Hair Sample
10	D	E. fuscus	2235	JV	M	↑	15.0	46	M	0	—
11	D	L. borealis									Escaped
12	C	E. fuscus	2315	A2	M	½↓	7.5	45	F	1	—
13	D	M. septentrionalis	2320	JV	F	↑	7.0	36	E	0	0213 / 0214
14	A	M. septentrionalis	2340	A	M	↑	7.2	36	F	0	—
15	D	E. fuscus	2350	JV	M	↑	15.1	35	M	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 (splotching), which is often visible only with translumination.
2	**Moderate damage.** Greater than 50% of wing membrane covered with scar tissue (splotching). Scarring is visible without translumination. 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 chiropatagium are evident.

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BAT CAPTURE DATA

Project #: 340.02 Date: 26 July 2011
Project Name: Tetratech / Republic
Biologists: D. Jeffcott Site name/#: Site 27
State: OH County: Seneca
GPS Unit #: 67406 Camera #: G-1

WEATHER DATA

Time (xxxx h)	Temp (°C)	Wind Speed (estimated – see chart)*	% Cloud Cover (estimated)	Comments
2100	21.9	—	10%	—
2130	22.1	—	10%	—
2200	22.1	—	10%	—
2230	21.8	—	0	—
2300	21.4	—	0	—
2330	19.7	—	0	—
0000	19.3	—	0	—
0030	19.3	—	0	—
0100	19.3	—	0	—
0130	18.9	—	0	—
0200	18.7	—	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 ° 09 ' 27.1 "N	82 ° 59 ' 20.5 "W	6	6.2	2045	0200	100-0190	021
Net	B	41 ° 09 ' 27.6 "N	82 ° 59 ' 22.2 "W	6	6.2	2050	0205	0191	022
Net	C	41 ° 09 ' 30.1 "N	82 ° 59 ' 22.1 "W	9	6.2	2055	0210	100-0203	023
Net	D	41 ° 09 ' 28.0 "N	82 ° 59 ' 27.1 "W	12	9.2	2100	0215	0218	024

Net Placement/Site Description: Nets A, B on small corridor/road leading back to pond Net C moved perpendicular to woodlot and pond Net D across opening from field to pond

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	D	Lasiurus borealis	2120	JV	M	↑	8.8	38.0	E	0	—
2	D	Eptesicus fuscus	2145	JV	F	NR	15.3	46.0	M	0	—
3	D	Lasiurus borealis	2145	—	—	—	—	—	—	→	escaped Net
4	B	Eptesicus fuscus	2155	JV	F	NR	16.2	44.0	M	0	—
5	D	Lasiurus borealis	2215	—	—	—	—	—	—	—	Escaped Net
6	D	Lasiurus borealis	2215	—	—	—	—	—	—	—	Escaped Net
7	D	Eptesicus fuscus	2215	JV	M	↑	16.9	44.0	M	0	—
8	D	Eptesicus fuscus	2215	JV	M	↑	12.9	45.0	M	0	—
9	D	Eptesicus fuscus	2215	JV	F	NR	16.0	47.0	M	0	—

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

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BAT CAPTURE DATA (continued)

Project #: 340.02 Date: 26 July 2011

Project Name: Terratech / Republic Site Name/#: Site 27 Initials: DA

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
10	D	Myotis septentrionalis	2215	Jv	M	↑	6.3	32.5	M	0	
11	D	Myotis lucifugus	2215	Ad	F	NR	8.5	36.0	M	0	100-0286
12	D	Myotis lucifugus	2315	Jv	M	↑	7.5	36.0	M	0	
13	D	Eptesic fuscus	0000	Jv	F	NR	16.1	46.0	M	0	
14	D	E. fuscus	0000	Jv	M	↑	14.5	45.0	M	0	
15	D	E. fuscus	0000	Ad	F	PL	20.1	45.0	M	0	
16	D	E. fuscus	0000	Jv	M	↑	15.0	41.5	M	0	
17	D	Myotis septentrionalis	0000	Jv	M	↑	6.9	34.0	M	0	
18	B	Eptesicus fuscus	0030	Jv	F	NR	15.9	44.0	M	0	
19	D	E. fuscus	0150	Ad	F	PL	20.2	48.0	M	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
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NET SITE HABITAT DESCRIPTION

Project #: 340.01 **Date:** 26-Jul-11 **Biologists:** J. Basiger

Project Name: Republic **Site Name/#:** 30

State: OH **County:** Seneca **USGS Quad:** Fireside

Net/Trap/ or AnaBat	Net/Trap/ AnaBat Serial #	Latitude	Longitude	Picture #	Waypoint #
A	N	41 ° 09 ' 12.1 "N	82 ° 55 ' 33.6 "W	910	30-A
B	N	41 ° 09 ' 11.6 "N	82 ° 55 ' 34.6 "W	909	30-B
C	N	41 ° 09 ' 10.6 "N	82 ° 55 ' 34.0 "W	909	30-C
D	N	41 ° 09 ' 09.2 "N	82 ° 55 ' 33.3 "W	906	30-D

Distance to closest water source (meters): 300 Type of water source: Stream

Water source name: UN

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

Bank Height: _____meters Channel Width: _____meters Stream Width: _____meters

Substratum: ___Bedrock ___Boulder ___Cobble ___Gravel ___Sand ___Silt/Clay

Still Water Present (Y/N): _____ Average Water Depth: ____m or cm Clarity (H,M,L):____

VEGETATION:

Dominant Canopy Species (> 40 cm/16" dbh)
Quercus rubra
Acer rubrum
Carya ovata

Estimated dbh range: Lg: _____ Sm: _____

Subdominant Canopy Species (< 40 cm/16" dbh)
Acer rubrum
Tilia americana
Quercus rubra

Estimated dbh range: Lg: _____ Sm: _____

Relative abundance of dominant vs. subdominant (ratio):_____

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: Large Carya ovata

Subcanopy clutter: ___Closed ✓ Moderate ___Open

Subcanopy comprised largely of: ___Lower Branches of Canopy Trees ✓ Saplings ✓ Shrubs

Common Subcanopy Species: Acer rubrum

Habitat Description: Large woodlots with crop fields on 3 sides

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 ___Dense

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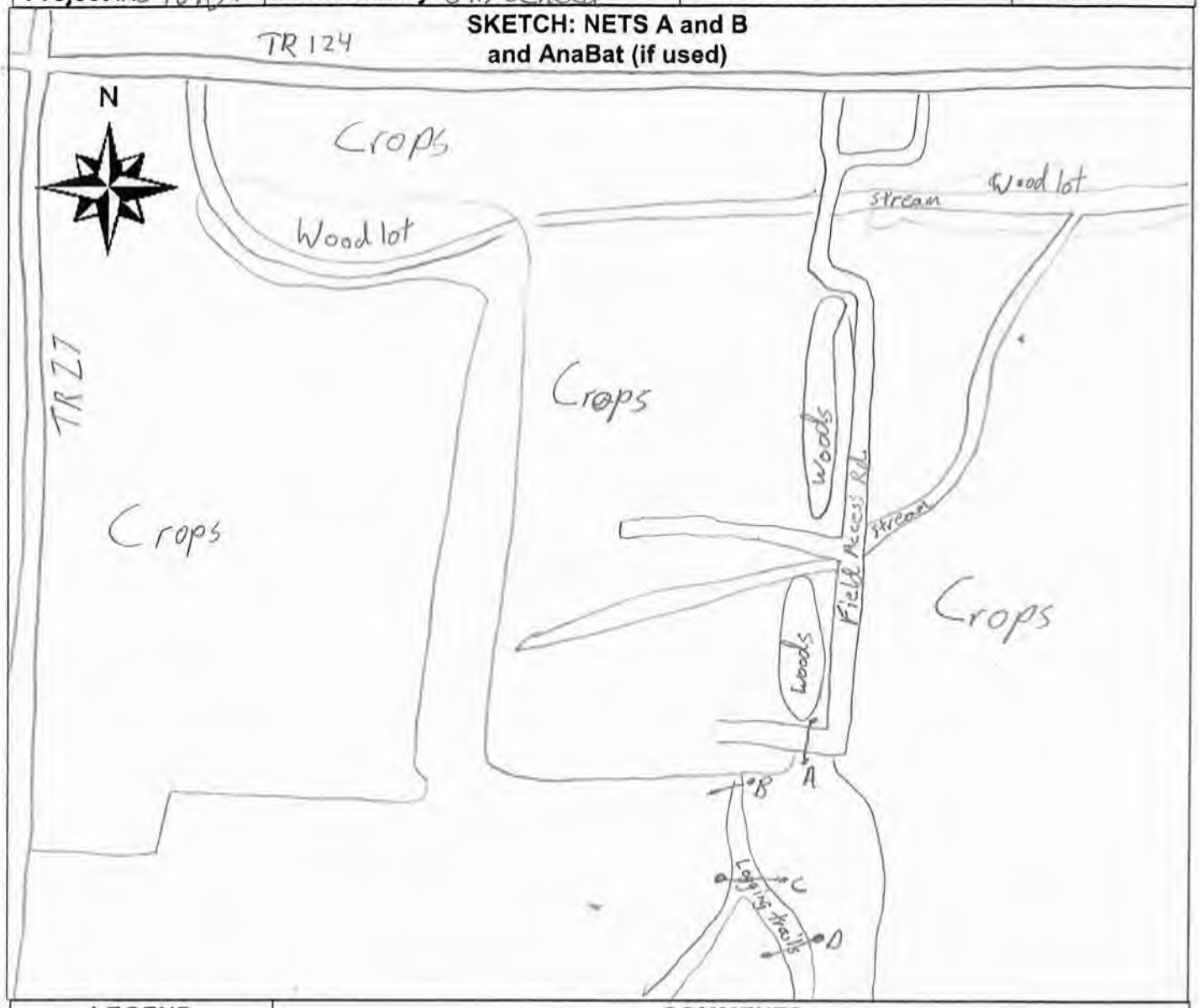
NET SITE HABITAT DESCRIPTION (continued)

Project #: 340.01	State/County: OH/Seneca	Site Name/#: 30	Initials:

SKETCH: NETS A and B and AnaBat (if used)



LEGEND	COMMENTS
Nets: ●——●	

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in

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

Summary: Application Exhibit Q Part 5 of 8 electronically filed by Teresa Orahood on behalf of Dylan F. Borchers