



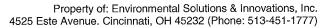
Project #: <u>340</u>	Date: 31-Jul-11 Biologis	sts: 5, Captain
Project Name: Republic	State: <u>OH</u> Cou	nty: <u>Senloa</u>
GPS Unit #:_A7	Waypoint: <u>218-2</u>	
_atitude: <u>4 ° 3 ' 06.</u>	<u>/</u> "N Longitu	ide: <u>42 ° 66 '44,6</u> "W
Roost Name/#: <u>@14 – </u>		
Radio-tagged bat present in t	ree: Yes No_ <u>></u>	
	ly if a radio-tagged bat is present in the	
	Sex(M/F): Age(Ad/J	
Capture date: <u>24-5ω-11</u>	Capture site: //_	_ Frequency: <u>/ 72, 214</u>
distinguish bats as silhouettes agains the roost to observe all exiting bats, the roost and do not make unnecessate.	e made at 2-minute intervals. Use the st the sky as they exit the roost. Please but not close enough to influence emeary noise and/or conversation, and minimitariture time:	e ensure that you are close enough to rgence (do not stand directly beneath nize use of lights).
Emergence Time	Number of Bats	Emergence Aspect
	110 0415	
	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
Describe emergence: Did bats circle, disperse, etc. What time transmittered bat fly?	s emerge simultaneously, fly off in e did the transmittered bat(s) em	n the same direction, loiter, erge? What direction did the



ROOST TREE DATA

⊃aqe	1	of	2

Project #: <u>3 40</u> Date: <u>27 - 24</u>	Biologists: S. Captar, M. tarmer
Project Name: Telad celu	State: 6 6 County: 2000
GPS Unit #: A 7 Waypoint: 2/8-3	Camera #: <u>4434</u> Picture #: <u>/04-3335, 3836</u>
Latitude: <u>41 ° 13 ' 12,0</u> "N	Longitude: <u>42 ° 56 '33.5</u> "W
Bat Species: M. Sodali 5	Sex(M/F): Age(Ad/Jv): Ad Repro.: PL
Capture Date: 24-5u/-11	Capture Site:
Frequency: 172,216	Roost Name/#: 218-3
ROOST TREE DATA	
Roost tree species: Larya ovata	(meters) Tree height(meters)
Tree health:Live	DeadPartial
Observed roost potential: Exfoliating Bar	kCracks/crevassesHollowUnknown
Bat vocalizations:Yes	≫_No
Guano on ground/foliage:Yes	×_No
Is guano fresh (if present)?:Yes	<u>≻</u> No
Guano volume (if present):	
DESCRIPTION OF SURROUNDING HABITAT Dominant Canopy Species (> 40 cm/16" dbh)	Subdominant Canopy Species (< 40 cm/16" dbh) Carya ovata Aces Saccharum
Estimated dbh range (cm): Lg: Sm:	Estimated dbh range (cm): Lg: 25 Sm: 10
Estimated canopy closure at roost:%	Lotimatod dom talligo (om). Lg om
Slope:SteepModerateSlig	ht None Slope aspect:
•	oderateOpen
Distance to nearest water source: 750 mor	Distance to nearest flight
Habitat Description: Many Cama over fee	stargetrees very dense vegetation
Check all that apply: Mature Upland ForestYoung Upland ForestMature Lowland ForestYoung Lowland ForestYoung Lowland ForestOld Field Comments:	ForestCrop/Pasture LandShrub/scrub SwampStream/RiverVernal Pool

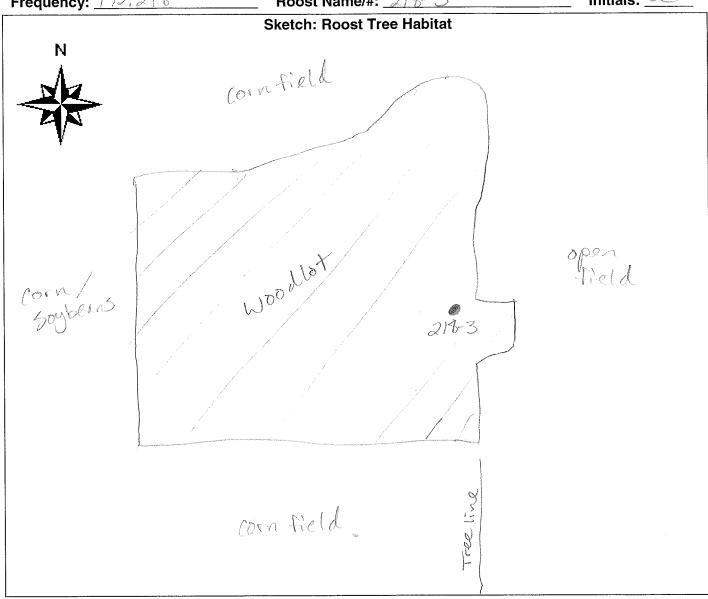




ROOST TREE DATA (continued)

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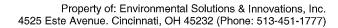
State/County: OH / Serveca Project Name/#: 340 Date: 27-Jul- ||
Frequency: 172,218 Roost Name/#: 218-3 Initials: 5C



Comm	ients: _								Sketch: Roost Tree
Stages	s of Deca	ay:							
Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9	
Live Figure 38	Declining	Dead	Loose bark	Clean	Broken	Decomposed		Stump	



Project Name: Tetratech	State: <u>○ 月</u> Co	gists: <u>S. Captain</u> ounty: <u>Scaec</u> a
Δ νως		
GPS Unit #://	Waypoint: <u> </u>	3
Latitude: <u>41 ° 13 ' 12</u> .	<u>O</u> "N Long	itude: <u>\$2 ° 56 ' 33.5</u> "W
Roost Name/#: <u>2/6-3</u>		
Radio-tagged bat present in	tree: Yes No only if a radio-tagged bat is present in the	ne roost
	,	/Jv): <u>Ad</u> Repro.: <u>PL</u>
		Frequency: ৃত্ত.১।র
distinguish bats as silhouettes agair the roost to observe all exiting bats the roost and do not make unnecess	nst the sky as they exit the roost. Plea	- '
Emergence Time	Number of Bats	Emergence Aspect
2124	Andrew Control	
77-1-1-2-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	704	
- 17 - 17 - 17 - 17 - 17 - 17 - 17 - 17		
	s emerge simultaneously, fly off e did the transmittered bat(s) er	in the same direction, loiter, nerge? What direction did the





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distinguish bats as silhouettes against the sky as they exit the roost. Please ensure that you are close enough the roost to observe all exiting bats, but not close enough to influence emergence (do not stand directly beneat the roost and do not make unnecessary noise and/or conversation, and minimize use of lights). Arrival time: Departure time: Total Bats: Emergence Time Number of Bats Emergence Aspect	Project #:	Date: 29 July Biol	ogists: MFgrmal
Latitude: # # # # # # # # # # # # # # # # # # #	Project Name: Pepulic	State: <u>0</u> (County: Seneca
Roost Name/#: Radio-tagged bat present in tree: Yes No Complete the following information only if a radio-tagged bat is present in the roost Bat species: Sex(M/F): Age(Ad/Jv): Repro: Capture date: Capture site: Capture site: Capture site: Capture site: Capture site: Frequency: 77.218 NOTE: Tallies of bat exits should be made at 2-minute intervals. Use the back lighting of the setting sun to he distinguish bats as silhouettes against the sky as they exit the roost. Please ensure that you are close enough the roost and do not make unnecessary noise and/or conversation, and minimize use of lights). Arrival time: Departure time: Total Bats: Emergence Time Number of Bats Emergence Aspect Aspect Describe emergence: Did bats emerge simultaneously, fly off in the same direction, loiter, circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?	GPS Unit #:A_5	Waypoint:	·
Radio-tagged bat present in tree: YesNo	Latitude: <u>4(° (3 ° 12</u> .	"N Lon	gitude: <u>42° 56′, 33,6</u> "W
Complete the following information only if a radio-tagged bat is present in the roost Bat species: Sex(M/F): Age(Ad/Jv): Age(Roost Name/#:		
Bat species: Sex(M/F): Age(Ad/Jv): Repro.: Prequency: 172,218 NOTE: Tallies of bat exits should be made at 2-minute intervals. Use the back lighting of the setting sun to he distinguish bats as silhouettes against the sky as they exit the roost. Please ensure that you are close enough the roost to observe all exiting bats, but not close enough to influence emergence (do not stand directly beneat the roost and do not make unnecessary noise and/or conversation, and minimize use of lights). Arrival time: Departure time: 130 Total Bats: Emergence Time Number of Bats Emergence Aspect 2 1 0	Radio-tagged bat present in t	ree: Yes No <u></u> X	
NOTE: Tallies of bat exits should be made at 2-minute intervals. Use the back lighting of the setting sun to he distinguish bats as silhouettes against the sky as they exit the roost. Please ensure that you are close enough the roost to observe all exiting bats, but not close enough to influence emergence (do not stand directly beneat the roost and do not make unnecessary noise and/or conversation, and minimize use of lights). Arrival time: Departure time: Total Bats: Emergence Aspect Emergence Time Number of Bats Emergence Aspect 2	Complete the following information on	ly if a radio-tagged bat is present ir	the roost
NOTE: Tallies of bat exits should be made at 2-minute intervals. Use the back lighting of the setting sun to he distinguish bats as silhouettes against the sky as they exit the roost. Please ensure that you are close enough the roost to observe all exiting bats, but not close enough to influence emergence (do not stand directly beneat the roost and do not make unnecessary noise and/or conversation, and minimize use of lights). Arrival time: Departure time: Total Bats: Emergence Aspect Emergence Time	Bat species:	Sex(M/F): Age(A	Ad/Jv): Ad Repro.:
NOTE: Tallies of bat exits should be made at 2-minute intervals. Use the back lighting of the setting sun to he distinguish bats as silhouettes against the sky as they exit the roost. Please ensure that you are close enough the roost to observe all exiting bats, but not close enough to influence emergence (do not stand directly beneat the roost and do not make unnecessary noise and/or conversation, and minimize use of lights). Arrival time: Departure time: Total Bats: Emergence Aspect Emergence Time Number of Bats Emergence Aspect 2	Capture date: <u>24Jul -//</u>	Capture site: 16	Frequency: <u>_/72, 218</u>
Describe emergence: Did bats emerge simultaneously, fly off in the same direction, loiter, circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?	distinguish bats as silhouettes agains the roost to observe all exiting bats, the roost and do not make unnecessa	It the sky as they exit the roost. P but not close enough to influence try noise and/or conversation, and r	lease ensure that you are close enough to emergence (do not stand directly beneath minimize use of lights).
circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?	Emergence Time	Number of Bats	Emergence Aspect
circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?	7/10		
circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?	2114		
circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?			
circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?			
circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?			
circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?		%:	
circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?			
circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?			
circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?			
circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?			
circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?			
circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?			
	circle, disperse, etc. What time transmittered bat fly?	e did the transmittered bat(s)	emerge? What direction did the



Page ___ of ___

	110031 ITTLE L	MENGENCE DATA
Project #:	Date: <u>2000 - 100</u> Biolog	ists: <u>Doola</u>
Project Name: 16 a 16 a 1	State: <u></u> Co	unty: <u> </u>
GPS Unit #:	Waypoint:	3
UTM Zone: Easting:	Waypoint: 2/6-	ng: <u>1. 24 2 </u>
Roost Name/#: <u>タ/も一ろ</u>		
Transmittered bat present i	n tree: Yes No	
Complete the following information	only if a radio-tagged bat is present in the	e roost
Bat species: M. Salaria	Sex(M/F): Age(Ad/	Jv): Repro.:
Capture date: 24 Tel- 1	Capture site: / 🎉	Frequency: 1921.878
	ats, but not close enough to influence unnecessary noise and/or conversation, earture time:	
Emergence Time	Number of Bats	Emergence Aspect
7.05H		
2056	0	
2058		
2100	second second	
2102	Taper	
7104	0	



Project #:	Date: <u>Selection</u>	Biologists: <u>೨೧೯೩</u>	\$ 4
Project Name: <u> Clade Su</u>			
GPS Unit #: <u>/ </u>	Waypoint:_	214-3	
UTM Zone: Easting:	12 12 m	Northing:	
Roost Name/#: <u>タ/カーツ</u>			
Transmittered bat present in	tree: Yes No	_	
Complete the following information on	ly if a radio-tagged bat is pre	sent in the roost	
Bat species: <u>M. 357, 775</u>	Sex(M/F):	\ge(Ad/Jv):	Repro.:
Capture date: <u>24 July 1</u>	Capture site: / 🎊	Frequer	ncy: <u>4735 273</u>
NOTE: Tallies of bat exits should be distinguish bats as silhouettes agains the roost to observe all exiting bats beneath the roost and do not make ur	at the sky as they exit the room, but not close enough to innecessary noise and/or converse.	ost. Please ensure that influence emergence (i.e.	you are close enough to e., do not stand directly
Arrival time: Depar	ture time:		

Emergence Time	Number of Bats	Emergence Aspect
2054		
2056	0	
2058	1	
2100	persona bennever	
2102	°ar-	
2.104	0	
2106	0	
2108	0	
2110	0	
2112	/	
2114		
2116	0	
Zu 1 18	Ô	



ROOST TREE DATA

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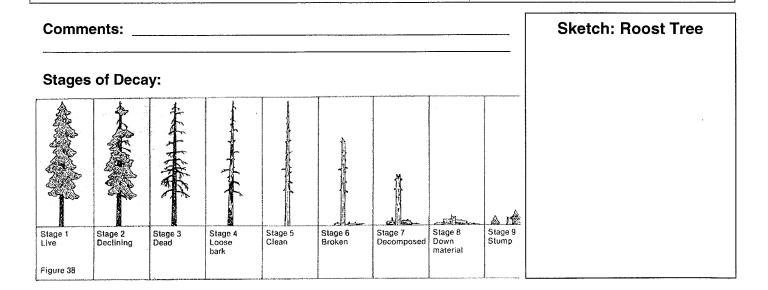
Project #: <u>340</u>	Date: <u>⊘% ⊃ v</u>	Biologis	ts: <u>5.0sp(am</u>	M, Farmer
Project Name: Tetatech		State: <u> </u>	County: <u></u>	e j. a
GPS Unit #: // Way	rpoint: <u>2/6 - 4</u>	Camera #: <u>4334</u>	Picture #: <u>/// /</u>	1-3937,3838
Latitude: 41 ° 13 ' 08-6	₂ "N	Longitude: <u>유</u> 교	<u>° 56 '37,7"</u> v	V
Bat Species: M. Soda (5)		Sex(M/F):	Age(Ad/Jv): <u></u>	∠ Repro.: PL
Capture Date: 34-54-11		Capture Site: /	6	in the second se
Frequency: 170.218		Roost Name/#:_	218-4	
ROOST TREE DATA				
Roost tree species: Carya o	vata	dbl	n: <u>30</u> cm	
Roost tree species: <u>Carya o</u> Estimated height from ground to	o roost: <u>20</u>	_(meters) Tre	ee height <u> </u>	(meters)
Exfoliating bark (%): 30	Distance from capt	ture site:/	_m or km (circle	one)
Tree health:	<u></u> Live	Dead	Pa	rtial
Observed roost potential:	$\underline{\times}$ Exfoliating Bark	Cracks/crev	/assesHo	ollowUnknown
Bat vocalizations:	Yes	<u></u> No		
Guano on ground/foliage:	Yes	<u>∠</u> No		
Is guano fresh (if present)?:	Yes	<u></u> No		
Guano volume (if present):				
DESCRIPTION OF SURROUN	DING HABITAT			
Dominant Canopy Species (> 4	0 cm/16" dbh)			es (< 40 cm/16" dbh)
		Canaova	da	
		9a:		
Estimated dbh range (cm): Lg:		Estimated d	on range (cm): L	g: <u>30</u> Sm: <u>10</u>
Estimated canopy closure at ro				
	ModerateSligh		ope aspect:	
Subcanopy Clutter:	Mod	derate	Open	
Distance to nearest water source	ce: <u>300</u> _m or k	(m (circle one)	Distance to near corridor: Ame	
Habitat Dagadatian				
Check all that apply: Mature Upland ForestYoung Upland ForestMature Lowland Forest	Recently Logged For Pine Plantation Woodlot/ForestEdge Old Field	Stream/ eEmerge	River\ nt Wetland[Shrub/scrub Swamp /ernal Pool Deepwater Lake/Pond Other

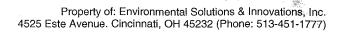


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ROOST TREE DATA (continued) Page ___ of ___

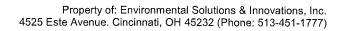
State/County: 01 /Seneca Project Name/#: 31/0 Date: 24 Sul (/ Initials: 4/ Frequency: 172.246 Roost Name/#: 216-4 **Sketch: Roost Tree Habitat**







Project #: 3 4 6	Date:	28 16-11	Biologist	s: <u>///</u>	A Markey
Project Name: Republic		State: 💇	Coun	ty:_5e	neca
GPS Unit #: / 5		Waypoint:_			
Latitude: <u>4/ ° 13 , 09</u>	<i>3,</i>		Longitud	e: <u>82</u>	56,377 "W
Roost Name/#:/					
Radio-tagged bat present in	tree: Yes_	No	-		
Complete the following information of					
Bat species: 👌 🗸 🗸 😸	Sex(M/F	F): A	\ge(Ad/Jv)): Hd	Repro.: PL
Capture date:	Capture	site:		Freque	ency:
the roost to observe all exiting bats, the roost and do not make unnecess. Arrival time: Depa	ary noise and/o	r conversation,	, and minimiz	ze use of li	ghts).
Emergence Time	Nur	nber of Bat	s	Em	ergence Aspect
2212		waren.			
2215		**************************************			
<u>}</u> . 1.		<u> </u>			
					-
		- <u> </u>			·
					, parting of the part
Describe emergence: Did bats 'rcle, disperse, etc. What tim 'mittered bat fly?		-	-		





Project #: 340	Date: <u>29-5ul-ll</u> Biolog	ists: M. Flynn
		inty: Beneca
GPS Unit #:	Waypoint: <u>2/3</u> - Ц	
Latitude: <u>41 ° 13 ' 04.</u>		ude: <u>82 ° 56 '33,7</u> "W
Roost Name/#: <u>216~4</u>		
Radio-tagged bat present in	tree: Yes No <u>⊱</u>	
Complete the following information or	nly if a radio-tagged bat is present in the	roost
Bat species: M. 50dalis	Sex(M/F): Age(Ad/	Iv): <u>Ad</u> Repro.: <u>PL</u>
Capture date: <u>AY-5uI-II</u>	Capture site: //	Frequency: <u>/ 72.2/8</u>
the roost to observe all exiting bats, the roost and do not make unnecessa	st the sky as they exit the roost. Pleas but not close enough to influence emeary noise and/or conversation, and minimum time: 2/25 Total Bate	ergence (do not stand directly beneath mize use of lights).
Emergence Time	Number of Bats	Emergence Aspect
2110	/	
	1	
		,
	(Spr	
Describe emergence: Did bats circle, disperse, etc. What time transmittered bat fly?	emerge simultaneously, fly off in the did the transmittered bat(s) em	n the same direction, loiter, erge? What direction did the



	Date: 30-JU-201 Biolog	
oject Name: <u>Republic</u>	State: <u>⊘</u> ├ ├ Co	
	Waypoint: <u> </u>	
titude: <u>41 ° 13</u> , 09		tude: <u>82 ° 56 , 33,7</u> "W
ost Name/#:		
dio-tagged bat present in	tree: Yes NoX	
	only if a radio-tagged bat is present in the	
		/Jv): <u>Ad</u> Repro.: <u>PL</u>
pture date: 24-Jul 11	_ Capture site: / C	Frequency: <u>/ ⊃ ⊋ , ⊋ / \$</u>
	sary noise and/or conversation, and mir	J.
	arture time: <u>থাব</u> Total Ba	
Emergence Time	Number of Bats	ts: Emergence Aspect
	Number of Bats	



ROOST TREE DATA

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Project #: <u>347</u> Date: <u>29-Ju</u>	1-11 Biologists: 5. Captain 4 M. Farmer
Project Name: Tetratech Republic	State: Off County: Serce a
GPS Unit #: 47 Waypoint: 218-5	
Latitude: <u>41 ° 12 '38.6</u> "N	Longitude: <u>67 '03.4</u> "W
Bat Species: M. Sodal; 5	Sex(M/F): F Age(Ad/Jv): Ad Repro.: PL
Capture Date: 24-Jul-11	Capture Site: 16
Frequency: 170,214	Roost Name/#:_ <u>2/8~5</u>
ROOST TREE DATA	
Roost tree species: Carya ovata	dbh: <u>40</u> cm
Estimated height from ground to roost: 35	(meters) Tree height (meters)
Exfoliating bark (%): 40 Distance from cap	oture site: / O o mor km (circle one)
Tree health:	DeadPartial
Observed roost potential:	Cracks/crevassesHollowUnknown
Bat vocalizations:Yes	<u></u> ∠No
Guano on ground/foliage:Yes	<u></u> No
Is guano fresh (if present)?:Yes	<u></u> ∠No
Guano volume (if present):	<u> </u>
DESCRIPTION OF SURROUNDING HABITAT	
Dominant Canopy Species (> 40 cm/16" dbh)	Subdominant Canopy Species (< 40 cm/16" dbh)
Carya ovata	Carya ovata
	Heer saccharum
	Populus de Hoides
Estimated dbh range (cm): Lg: 40 Sm: 40	Estimated dbh range (cm): Lg: 35 Sm: 10
Estimated canopy closure at roost: <u>05</u> %	
Slope:SteepModerateSligh	•
Subcanopy Clutter:ClosedMo	
Distance to nearest water source: 25 mor	
Habitat Description: <u>Deciduous woodlot between</u>	ntwo houses. Niers edge of lawnw/a pond.
Check all that apply: Mature Upland ForestYoung Upland ForestMature Lowland ForestYoung Lowland ForestYoung Lowland ForestOld Field Comments:	Stream/RiverVernal Pool



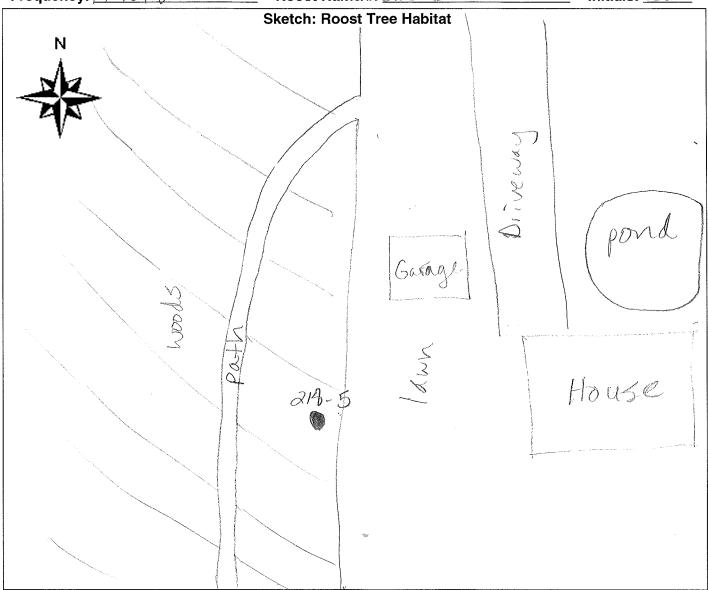
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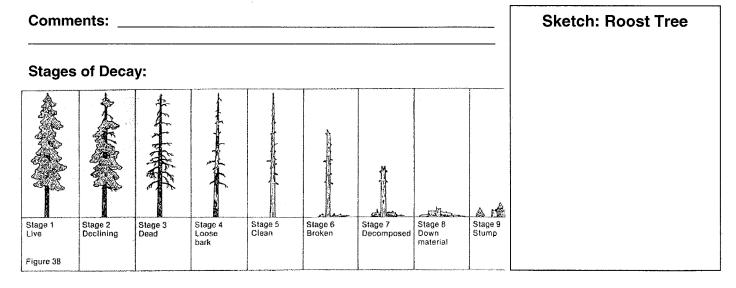
ROOST TREE DATA (continued)

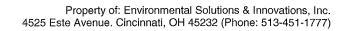
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State/County: 6H / Seneca Project Name/#: Tetratech Date: 29-5ul-11

Frequency: 172, 2, 4 Roost Name/#: 215-5 Initials: 55









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GPS Unit #:_A7	Waypoint: <u>2/4</u>	unty: <u>Sence a</u>
Latitude: <u>41 ° 12 ' 3</u> 4,	<u>~</u> "N Longit	ude: <u>40 ° 57 ' 65.5</u> "W
Roost Name/#: <u>214-5</u>		
Radio-tagged bat present in t	ree: Yes <u> </u> No	
_	ly if a radio-tagged bat is present in the	n 1
Bat species: M. sodalis	Sex(M/F): Age(Ad/	Jv): <u>Ad</u> Repro.: <u>Pl</u>
Capture date: <u>&U-5a1-11</u>	Capture site: 16	Frequency: <u>/ 72. 218</u>
the roost and do not make unnecessa Arrival time: <u>2025</u> Depai	rture time: <u>//</u> Total Bat	s:
Emergence Time	Number of Bats	Emergence Aspect
2053	-	NW)
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ROOST TREE DATA

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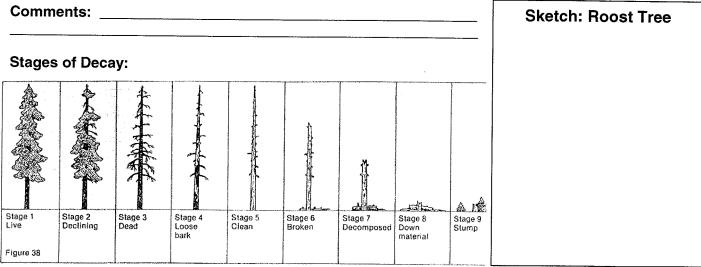
Project #: 340 Date: 30-50	d-11 Biologists: 5. Captain
Project Name: Tetalech Republic	State: OH County: Sene Ca
GPS Unit #: A 7 Waypoint: 214-6	Camera #: <u>4934</u> Picture #: <u>104-3446, 3847</u>
Latitude: <u>41 ° 13 ' 17,9</u> "N	Longitude: <u>40 ° 66 ' 33.6</u> "W
Bat Species: M. Sndall S	Sex(M/F): Age(Ad/Jv): Ad Repro.: PL
Capture Date: 24-04-11	Capture Site:
Frequency: 172,215	Roost Name/#: 2/10-6
ROOST TREE DATA	
Roost tree species: Carya Ovata	
Estimated height from ground to roost:/	
Exfoliating bark (%): 30 Distance from cap	ture site:m orkm (circle one)
Tree health:	DeadPartial
Observed roost potential:	Cracks/crevassesHollowUnknown
Bat vocalizations:Yes	<u>∠</u> No
Guano on ground/foliage:Yes	<u>∖_</u> No
Is guano fresh (if present)?:Yes	<u></u> No
Guano volume (if present):	
DESCRIPTION OF SURROUNDING HABITAT	
Dominant Canopy Species (> 40 cm/16" dbh)	Subdominant Canopy Species (< 40 cm/16" dbh)
	Quereusaba
	Populus grandidentata
Estimated dbh range (cm): Lg: 4/0 Sm: 4/0	Estimated dbh range (cm): Lg: <u>35</u> Sm: <u>/</u>
Estimated canopy closure at roost: <u>75</u> %	
Slope:SteepModerateSligh	nt None Slope aspect:
Subcanopy Clutter:ClosedMod	derateOpen
Distance to nearest water source:	Distance to nearest flight km (circle one) corridor:meters
Habitat Description: Deciduous Porest w/an	ate trail, slightly less disturbed that rest of
Check all that apply: Mature Upland ForestYoung Upland ForestMature Lowland ForestYoung Lowland ForestYoung Lowland Forest Comments: Check all that apply:Recently Logged Formula in the property in the property is the property in the property in the property is the property in the property is the property in the property in the property is the property in the property in the property is the property in the property in the property in the property is the property in the	orestCrop/Pasture LandShrub/scrub Swamp Stream/RiverVernal Pool

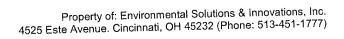


Property of: Environmental Solutions & Innovations, Inc. 4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

ROOST TREE DATA (continued) Page 2 of 2

State/County: <u>OA/seneca</u> Frequency: <u>72.214</u>	Project Name/#: Tetalech Roost Name/#: 218-6	Date: <u>3○Jul- </u> Initials: <u>5</u> <
Frequency: 72.214		Initials:
	woodlot	
	CR - 32	





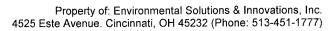


Dunia at #1 3117	Date: 30-541 Biologi	sts: 5, Captain
Project #:	State: 611 Cou	inty: <u>Servea</u>
Project Name: Pepublic	Julian State Old of	
	Waypoint: <u>⊘ֈ֍-</u> ⊘	23 - C/ 137 / WAI
Latitude: <u>41 ° 13 '17.9</u>	"N Longit	ude: <u>32 ° 56</u> ' <u>33,6</u> "W
Roost Name/#: 216-6		
Radio-tagged bat present in	tree: Yes_ <u>//</u> No	a ve est
	nly if a radio-tagged bat is present in the	Popro:
Bat species: M. Sodalis	_ Sex(M/F): Age(Ad/	Jv): Ad Repro.: PC
Capture date: 24-541/11		Frequency: 172,218
distinguish bats as silhouettes again the roost to observe all exiting bats, the roost and do not make unnecess	ist the sky as they exit the roost. Plea, but not close enough to influence emery noise and/or conversation, and minarture time:	e back lighting of the setting sun to help se ensure that you are close enough to hergence (do not stand directly beneath himize use of lights). ts: 3
Emergence Time		Emergence Aspect
		unknown
0-4	**)	UNIBYIONIVE
2059	3	VATRATION Y
2059	3	VATE HOAVE
2059		V& T& TIGATE
2054		
2054		
2054		
2054		
2054		
2054		
2054		
2054		



roject #: <u>340</u>	Date: 31-5ul-11 Biologi	ists: M. farmer
		unty: <u>5eneca</u>
•	Waypoint:_ <i>②/</i> {-/_	
atitude: <u>(/) ° 73</u> , <u>(7.</u>		ude: <u>82 ° 56 ' 33,6</u> "W
oost Name/#: <u>&/&-6</u>	OR ALL LANDSHIP COLORS AND AN AREA COLORS AND AN AREA COLORS AND AREA COLORS A	<u></u>
adio-tagged bat present in t	ree: Yes No_ <u></u>	
	ly if a radio-tagged bat is present in the	
		Jv):_ <i>Ad</i> Repro.: <i>PL</i>
apture date: 24 - Jul - II	Capture site: <u>/</u> 6	Frequency: _/7Z, 218
stinguish bats as silhouettes agains e roost to observe all exiting bats, e roost and do not make unnecessa	it the sky as they exit the roost. Pleas	
Emergence Time	Number of Bats	Emergence Aspect

	, , , ,	
rcle, disperse, etc. What time ansmittered bat fly?	emerge simultaneously, fly off in a did the transmittered bat(s) em	erge? What direction did the
rcle, disperse, etc. What time ansmittered bat fly?		erge? What direction did the





Project Name: Republic GPS Unit #: Latitude: 13 '179 "N Roost Name/#: 218 6 Radio-tagged bat present in tree:	Waypoint:	
Latitude: <mark>13 '179 "</mark> N Roost Name/#: 218 6		C. 3 24 20 1
Roost Name/#: 218~6	Long	C
		itude: <u>82 ° 56 [,] 33,6</u> "W
Radio-tagged bat present in tree:		
itaaio taggoa bat procentiii ii acci	Yes No UNK	W.
Complete the following information only if a r		he roost
Bat species: Massed a 165 Se	ex(M/F): <u> </u>	//Jv): Repro.:
Capture date: 24Jul -// Capture	apture site: <u>/</u> 6	Frequency: 12, 218
distinguish bats as silhouettes against the s the roost to observe all exiting bats, but not the roost and do not make unnecessary nois Arrival time: 2030 Departure to	close enough to influence ender and/or conversation, and mi	mergence (do not stand directly beneath nimize use of lights).
Emergence Time	Number of Bats	Emergence Aspect
ar'09		4-
21:11		
al 13	4.	
2115		
2117	2	1 Civicia.
2119		:
2111	"sa	
21 2 5	No. of Contract of	
	/	. V
11.25 21.27		
21.25 21.27 21.24		
21 2 3 21 3 3 21 3 3		



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Project #: 34/\(\text{\beta}\) Date:	Jul-11 Biolo	ogists: <u>5. Captain</u> County: <u>Seneca</u>
Project Name: 1 et ratech		
USGS Quad:	GPS Unit #:_ <i>A5</i>	Maypoint:
Bat Species: M. Sodatis		
Transmitter Frequency: 172,214		
Comments: So 2: Union connectary or	(3)	

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
	u1°14′17.3	22054316	218	A205	240	160
52	41°14′17.2	32°58'31.6 32°58 15.4	213	0000	32	
502		000 000		0005	64	
3C2				0010	79'	
				0015	84	
502				0020		
42				0025		
500				∞30	66	
4/2				∞ 35	778	
11				0040	Carrier State of the State of t	
11				0045	,	
11				0050	31	
11				0055	54	
11			40.	0100	65	
11				0105	Colo	
11				0110	Canada 200 (19.20)	
5C Q				0115	de l'ann de l'année l'	
20.00	110 - 1 - 2 - 1	32°55'04.4		0145	262	
3C 3	4101315.1	50 09.7		7 2	261	
503				0165	263	
503				0/000	270	
503						



Page	of
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	Jul 11 Biologists: M Flynn
Project Name: Republic	State: OH County: Serveca
USGS Quad:	GPS Unit #: <u>465570</u> Waypoint: <u>019</u>
Bat Species: Myotis Sodalis	
Transmitter Frequency: 172.218	
Comments:	

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
10USE	410 ja! 46.0"	188188 289	172.218	9130	¿~.	no Sianal
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	,		9135	parties 100	
				CME	<	1,
				9,45	Acres construction	f /
				41.00	w.c	and the state of the second and days to help days, the state of the state of the second and the
				0 40	200	*
				60165	£	*/
				10:05	Bilderon, ja	
	1		:	10110	egres	/ /
				10:15		Ą1
				10:30	and the same of	
				101.25	por me e e e	. , , , , , , , , , , , , , , , , , , ,
				10130		
			70	10 36		travel
			****	1000		472326
				10:45		- HANLY
5 C	41 11 17.2	50 75 51 6	172,318	10150		Merso Scatton
				10:55		Arouel Arouel 12° 21°
				11:00		26"
***				1155		V 9 013731
				11110	Walter springer and delivery on the	# 1 ·
				1115		(1) (1)
				11:30	<u> </u>	
				11:25		30 30
				11130		[0]
				111.39	*	po Signal
				11.00	4 .	
				41345	4	1040
				4:50		1040



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1 495	OI .

FIXED TELEMETRY DATA (continued)

Project #: <u>340.61</u>	Date: <u>25ปีป ก</u>	State: <u> </u>	County: Scart CA	Initials: <u></u> ₩⊑
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Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
				11156	4150	1150
				13100	George .	
				14:05	1 2	no signal
	****			19/10	1770	1040
				10 (14)		10.13.65
		***		13:20	108°	I I II
					-1 62°	1030
				12130	13005	100
				12:35		180
				1 1775 11 11 1		116 519:33
				12145	A. S.	C //
				12 150	1780 1580	
				12:56	1280	
				1:00	1260	
				1:05		10 5 00
				1,06	AND A	H / !
				1115		12
				1,20	1340	
				1:25	12,30	A01
				1:30		Voo Shirty J
				1/35	200	10 10 10 10 10 10 10 10 10 10 10 10 10 1
				(140		,
				1145		1
				1:50		*
			498	1 '55	,	No.
			-	a:00	200	4
				a:00 3.36	1343	
		,		210	No Separa	10 000
		<u> </u>		215		11
				1.00	energy.	
				âdă.	g	1
				6.30		<u> </u>
					-	
				~		



Page<u></u> of 2

Project #: <u>346</u>	Date: 25-Jul-1 Biologists: M, tarmes	
Project Name: Tetratech	State: OH County: Seale	
USGS Quad:	GPS Unit #: /// Waypoint: //	15 F
Bat Species: M. sodali 3	Constituted Side	
Transmitter Frequency: /フ②,	213	
Comments:	\	
	√	

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
MSF	4113 36.9	42 56 10.9		3445	26	
				0050	200,	
				0055	2.00	
				6100	73-7	
				0125	237	
				210	2.10	
				0115	159° 240° 223°	
				0170	240°	
				0135	223	
				0130	150°	
				0174	1501	
				0140	604	
				0145	1 *\	
			- Care	0150	1253	
				6135	1353	
				000	155	
				0205		
				0210		
				0215		
		1707				
				-		



Page / of \bigcirc

FIXED TELEMETRY DATA (continued)

Project #: 340 Date: 25 State: 614 County: Seneca Initials: ME

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
	41013'36,9"	82°56 10,9"		2/20		
				235	79	VALUE OF THE PARTY
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			2140	42	11.794
				1-/145	91,5	
			100	1150	60.0	
				7/59	26	
				7200	90,0	
				2205	81"	
				22.10	U.C.	
				22.15	60	
				2220	63	
				2235	<i>50</i>	
				1235	6	
				2735	40	
				277.46		and the state of t
				2248	44	
				2250	25 52	
				1457	52	
				2 300	92	
				2308	66	
			X	17516	[\$ a]	
			*	23(4	270	C
				2320	240.5	
				2325	233	The state of the s
				2730	alpha para a sa a sa a sa a sa a sa a sa a s	
				2335	244	1,70,000
				2540	2	
				2 345	115	
				235	760	
				2355	252	** and
				0000	234	CPaint Aigua)
				\$ 00 G	30 5	Com fall to
				2010	2.79	64.00
				00(5	16,11.	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
				7010		The his work and hand
				W026	Due South	
				2330	200	
				0.035	*Statement of the Color, and	
				J940	7.04	



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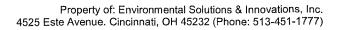
Project #: 346.62	Date: 25 July 2011 Biologists: S Rel VES
Project Name: Tetratech	Republic State: County: Seucca
USGS Quad: Fire 5ide	GPS Unit #: <u>F9528</u> Waypoint: <u>617</u>
Bat Species: Myphis Socia	
Transmitter Frequency: 17	2-2 8
Comments: Interference	- from madinery Dossibly at Miller Para
7	

Station #	Latitude 📈	Longitude ${\cal W}$	Frequency	Time (0000h)	Azimuth	Comments
Millerkun	41° 11'55.0"N	82° 56 53.9"	172.2181	2100:	Andreas are a second of the first of the first	No Signal:
) Miller Page	41° /1'55.0"	72°56′53.9′′	172,2181	2140		No squal
Miller Ban	· 41° 11′ 55.0″	82° 56' 53,9"	172.2181	2345		No signal
Miller	41° 11′ 55.0″	82° 56' 53,9"	172,2181	2350	And the second s	No sona
J Mille Barn	41° 11′ 55.51′	82° 56 53.9"	172.2161	0000	Accepted to September 1911 of the Accepted September 1911 of t	No Ginnal
Millerboo	41°11'55.0''	82° 56' 53.9''	172,2181	(2005	A THE PARTY OF THE	No signal
JHillurBan	411155.0"	82° 56' 53.9"	172,2181	0010	, management of the control of the c	No sinnal
Miller	41°11'55.0"	820 56 53.9"	172,2181	0015	Seminario de la constante de l	No 310 mg!
Miller Bain	41° 11' 55.0"	82° 56, 53.9"	172.2181	0020	Andreign to the Colombia of the Colombia and the Colombia of t	<u>Nosijiaj</u>
Millerbur	410 11'55.0"	82°56'53.9"	172,2181	0025		No signal
MillaRa	.41°11'55.0"	82.90'53.9"	172.218	0030		No Signal
JH/lly Ker	41155.8"	82°56'53.9"	72.2181	0035	and the second description of the second des	Nosiqual
32/79	4121 43,5"	82056 111,21	172.2181	0055	350"	and the same of th
32/79	41° 12' 43.5"	820 56 14.2"	172-218	0160	246	gia ha digaga an additional distribution and the same to the same
32/74	410 121 43.5"	820 56' 14.2"	172,2181	0105	352"	
32/79	410 12' 43.5"	82° 56' 14.2"	172.2181	0110	Service and Comment of the Service and Address o	No Signal
32/79	41' 12' 43.5"	820 56 14.211	172.2181	0115	4000,000 to 00000000000000000000000000000	No Signal
32/79	410 121 43,5"	820 56 14,2"	172,2181	0/20	3180	Victoria de la compansa de la compan
32/79	41° 12′ 43.5″	82° 56' 14.2"	172.2181	0125	3430	The state of the s
32/79	41°12' 43,5"	82° 56 14.2"	172.2181	0130	3590	Annual of the state of the stat
32/79	410 121 43.5"	82° 56' 14.2"	172.218	0135	3400	An extension of the first of th
32/79	410121 43.5"	82° 56' 14.2"	172,2191	0140	00	*Management by a contract of the second of t
32/79	41° 12' 43,5"	82° 56' 14.2"	172.2181	0145	Private designation commercial states	No Signal
32/79	416 12' 43.5"	82' 56' 14.2"	172.2181	0150	30	J
32/79	41012143.5"	82° 56 14.2"	1/2.4.01	0155	***************************************	No Signal
32/79	410 2 43.5	82° 56' 14.2"	172.2181	0200	25°	And the state of t



Project #: 340.01	Date: 26 Jul 11	_ Biologists: H Flanc	
Project Name: Republic	State:	OH County: See	<u>V. @^</u>
USGS Quad:	GPS Uni	t #: Wayp	oint:/MF
Bat Species: Myohs sod	alis_		ţ
Transmitter Frequency: 172	.218		
Comments:			
			-

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
3C	41014, 11.911	82058131111	172,218	22:10	12.2 °	
				<i>a</i> a:15	1220	
				<i>a</i> a:26	1200	
			:	aa!a5	1080	
				aa:36 3335	1120	
				8985	1380	
			**************************************	22:40	1240	
				aa:45	130°	
				23:10	1080	
ME	41 12 384	82 97 5920	and disposed and d	60:69	60° 32°	**************************************
			- National Control of the Control of	01:40	30 U	
		,		0150	Sle	
			The state of the s			
			/1			
			<u> </u>			
			1			
			1			
		A				
			Community of the Commun			
			When America			





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Project #: <u>347</u>	Date: 26-Jul-11 Biolog	jists: <u>S. Captain</u>
Project Name: Tetratech	State: OH	County: <u>Seneca</u>
USGS Quad:	GPS Unit #: <u>45</u>	Waypoint:
Bat Species: M. Sodalis		
Transmitter Frequency: 172.	218	
Comments: 40 & Emesson Co	eekbridge near 19	
V - 50	0 /	

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
503	41013'15.1	32° 55' 04.4	218	0225	292	
Table Sand				2238	al legerate (a. series et al. vicinity among the legeral from July	
				2235	262	
				2240	338	
				2245	310	***************************************
				2250	Employeements.	
				2255	# Or spire and a standard	
				2300	319	
				2305	214	
				23170	<i>\$65</i>	
				23/5	261	
				2320	266	
				2325	9/	<u> </u>
			***	0330	299	
				72:55	299	
				2346	361	
				2345	212	(A. 18.)
				2350	Manager 1997	
				2355	***************************************	
				7000		
				0005	291	
				0010	279	
				0015	No. 11 hours and recommended with the last of the last	
				2030	277	-Calvel
				0025	309	
				0030	300	
				0535	271	
				0040	230	
				0045	273	



Project #: 340.02 Date: 26 July 2011 Biologists: S Reeves
Project Name: Tstratech Republic State: ON County: Sancoa
USGS Quad: Fraside GPS Unit #: Flostly Waypoint: 32-79

Bat Species: Mychis Scolatic

Transmitter Frequency: 772, 218 Comments:

Station #	Latitude	Longitude 📳	Frequency	Time	Azimuth	Comments
32-79	46121 43,50	820 50 142"	172.2181	72.60	D 70	
SPECIAL STATE OF THE SPECIAL S		1 1	1 100 000	2200	1	-
				1400	-	MOVING + 0 NIEW LOCALE
	1118 10.1	-		0177		- Moving to Crecomit
dansari im	7/ 1/5	. \$2, 28	172,218	2215	076	
Union (in	_	82°58'14.	172,2191	2220	08/7	
Union Orm	410 121	PH 185,28	172,2181	2225	930	
Univergen	416 121 45	171 185 078	172.218	2230	1100	49 к. продоржавания в МУМУ — Мотолого подав.
Thion (Pro)	410151	b1,85,78	172,2181	2226	and the contract of the contra	NIN Canal
Unior Con	7 0 17	820 581	172,2181	224D	0	1 1
Umier Om	- -	820581	172,2181	2245	290	
Union	41012	85, 28,	172, 2181	27.90		NA CIONA
		85.081	172,2181	2255	# 100 POST OF THE PROPERTY OF	
Unignation		185,28	177,2181	2300	Applicate State or memory of the	
Union Con	41, 12	82°58'	172,2161	230 5	MANAGEMENT WITHOUT AND A 1995.	
Anima (Cas	2	195028	172.2191	2310	And the second second second second	NA Clark
United Person	-3"	125 . 28	172,2181	23/5	Management	
Maylar Cem	(1921	2,55	172,2181	2320	Annual photography of the same	1 ~
Unranda	121	35 028	172.2181	2325	Complete Section 1	1
Comments and adjustments of the contract of th			V-Branchip Inpo quantum de del resolucione	2330	Management and the second	
e and destination control des				2335	Contract columns against against all a	Many tod bron beet
Williamountain	A CONTRACTOR CONTRACTO		William Commission of the Comm	2.8410	No. outpeated 19 Western on	
of the second second second			VP validada de la propriação de platos	23445		Mario 20 de 100 Locals
Company of the last of the las	And the second s		and minute place approximate our	2350	Paradiana Consumprison Consumpr	12
January Contraction of the Contr			Appear county to make the property of the	2366	Mark Mark Street Street Street	MANIE 16 32-79
The second second second	the second control of		emboundard them by pain care over a reco.	0000	The professional profession and the Section 1997	
			di reproduptado misso adolida el 1944.	2000	Salahan and annual particular par	
	en e	A desirable of the second of t	approved for the contract of the problem of the contract of th	0198	The State of the S	7
The state of the s		an decrease la dispersamente communication con compatibility for the extension of the	Farm Catalogue (Special Control of Control o	Sors	Control March Control March Control	10
,	The second of th	The second state of the second		-		- 1

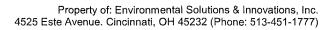


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FIXED TELEMETRY DATA (continued)

Project #: 340.2 Date: 24 July 2011 State: 044 County: Sancta Initials: 5R

Station #	Latitude 📈	Longitude _W	Frequency	Time (0000h)	Azimuth	Comments
32-7A	41112143,5"	82356 142.11	172.2181	0025	52 °	yan eren erendesen ha erejamena (eng. polynggalyan, arket ya erendese)
37 - 79	41012143.5"	970 51/1 14 211	172.2181	0030	930	
27-7A	49121 43,5"	820 56 14.2"	172, 2181	0035	970	*Top and recognitive in administration of the second of th
37-79	41012143.5"	82° 56' 14.2"	172.2181	004h	550	Act 1997 to the State of the St
27 - 79	4/9/12/43.51	821 541 14.21	1772,2181	0045	toon	
37-79	4/012143,5"	820 56 1412"	177, 2181	0050	400	and the state of t
32 - 79	410 121 43.5"	82° =10'14.2"	172.2161	0055	520	grander to the control of the contro
37 - 79	4 12' 43.53	82° 36' 14.2"	172:2181	0100	320	
27-74	4/0/21 43.5	82° 50' 14,2"	172.2181	0105	(237	· · · · · · · · · · · · · · · · · · ·
32 - 79	419/21 45,5	82" 36" 142"	172.2161	0110	145	Marine
32-74	4/1 19 1 42.54	82° SU MIL!	197. Z(8)	0115	0 3	· And the control of
2,2 74	41612' 45.5"	82° 56' 11 2"	100-7481	0120	7/	- ,
32 - 79	419 12 4/35"	821 SW 19 2"	1770.2781	0125		and the second s
37 - 174	40 121 4351	82° 56' H 2"	172.2181	0130	Marine Control	Na Sinul
Ry A	40 47 485	42° 56' 14 2"	192.7181	0135	11/	
37 - 79	40 12 13.S'	820 40 14.2"	177.8121	0140	Ž 0	
77-74	41" 12' 43,5'	822 56 14.2	100.013	0145	319	A CONTRACTOR OF THE CONTRACTOR
42 - 79	410 171 42.N	82° 510' 14.2"	1117.0181	0150	2950	
27 . 79	4/3/21 43.51	82° 56' 17 7"	1 7/1. 4/31	0155	5.650	
22 79	418 101 (15,5"	82° 57/142"	172.216	0200	2703	
37 74	4/3/2/ 1/25/1	82° 61, 112"	1 - 21, 2181	NŽN5_	276	Approximate the second
37. 4	41 77 63,57		13.1.172	0410	2823	when the transfer of the same
32 - 14	4-17-43,51	221 NO 121	173 3 17	1215	320	
137 - M	4/2/4/25	27 1 50 1 50 1	1777 J. 181	7/20	3140	The state of the s
32 79	41971435	720 56' 14,2"	1172.2181	02.55		No some
	410 121 43,511	870 5/114.2"	1-77-2181	0230	3420	The second secon
	4/12/4357	32° So 142"	175,3181	0237	330°	and the second s
	41012143.5"	72°56114,2"	172,2151	024(:		Continuo littericcione
	410 191 43,5"	5205114,211	172,2181	024/5	333 0	
	4/10/2/4/3.5"	820 cy, 1 14,21	172,2181	<u> </u>	343	
	4/012/43,5	82 56 14,2"	172,2181	02:11	340°	
	4/10/21 43.5 1	82°56' 14.2' 82°56' 14.2'	172.281	0300		No sinal
	1	Are Assert Asser				





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5670

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
		į.	172218	2205	243°	
					243° 199° 224° 225° 211°	
				2216	2240	
			V	1220	225°	
				2225	2110	
				2238	250° 220° 235° 235° 235° 180° 122°	
				2235	2-2-5	
				2249 2249 2258 2258 2300 2305	735	
				2249	2350	
				2250	235°	
				2255	1800	
				2360	122	
				2305	bossesses.	
				2510	entrate and entrate and entrated of entrate of en-	
				2315 2320 2325	Метет разручна портого	
				2320	AND THE OWNER OF THE PROPERTY	
				2325	çq°	
				2330	1310	
				2335	** Control of the Con	
				2340 2345	170°	40.00
				2345	153°	
				2350	141 °	****
				2365	1470	700.84
				0000	211	
				0405	200	114
				ماهد	2 42	
				0915		
				6020	140"	
				0025	758°	



Page	of

FIXED TELEMETRY DATA (continued)

Proiect #:	Date:	State:	County:	Initials:
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Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
77				0030	1407	
				a - 775	And the same of th	
				3045		
				J. 34. 5	Photographic and the second se	
				Specifical Control	and the same of th	
				4 5/15/15	No. 10 (10 10 10 10 10 10 10 10 10 10 10 10 10 1	
				Q 1 d	160°	
				54.44	170	A CONTRACTOR OF PROPERTY OF THE PROPERTY OF TH
				31.3	1808	
				5115	1800	
				612.7	20,00	
				0151	7.70	The state of the s
				(() () () () () () () () () (A STATE OF THE PARTY OF THE PAR
				U/34		
		<u> </u>			2000	- AND AND
		<u> </u>		0140		
				01-15	2 × 5 O	planta y galan ya mananin ya kata ya ca kata ya ca kata ya ca kata ya ca ka kata ya ca ka kata ya ca ka ka ka k
						The state of the s
				0155		
				0:200		
				722)	The second secon
				014		
				0225	1 2 CG	
			'Me	0230		
				000	1206	
				<i>4</i> 21.4.		
					2.5	



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Project #: 340	Date: 27	Tol Biol	ogists: <u>J Basique M. Farme</u> County: <u>Seneca</u>
Project Name: A A Rock		State: OH	County: Kilca
USGS Quad:		GPS Unit #:_A	/ Waypoint:
Bat Species: M. Sodatis	-	•	
Transmitter Frequency:	218	·	
Comments: 76 4 174 in (Garage di	ivenay	

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
			172.2180	2250	161° 156° 220°	
			1.	2255	156	
				2300	220	
			V	2365	2200	
				2310	entranscomments of the second	
					16 1 0	
				2320	160	
				2325	2110	
				2330	2106	
				2336	2100	
				2340 2345 2356 2355	programme and a programme and	6.41
				2345	210° 210° 190° 160° 110°	consider with the others to see if she was maring at all. They seed she was
				2356	210°	et all. They said she was
			492	2355	190	
				2000	1600	
				0005	110	
				0010	180	
				0015	1600	
				0020	190° 208° 200°	
				0025	208	
				5636	2000	
				6035	160°	
				0.40	1970	
				0045	Valuation and the Appellant Section (Control of Section 1997)	
		,		0150	176	
				0055	1680	
				0100	170°	
	2.00			2105	215°	
				0110		



FIXED TELEMETRY DATA (continued)

Project #:	Date:	State:	County:	Initials:
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Station	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
#				6115	1.00°	
				0120	(90° 243° 237°	
				0125	243°	
				0170	2370	
				0135	- which was a second of the second	
				0140	STEV TO THE SECOND CONTRACT OF THE SECOND CON	
				0145	226 240° 230°	Very faint
				6159	240	
				0 260	220	
				© 265) (bo	
				0216	1645	
		-		57.15		
				032C	1627	
				6225	16.50	
				0230	165	2
				1/4/20	The care	
					+	
	,					
			*26			



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Page	<u> </u>	0

		1
Project #: Date:_ <i>a</i> 2	7 July 11 Biologists: E. Rasi	zv. A. Kleinhenz
Project Name: <u>Republic-Wind</u>	State: b H County:_	Senera
USGS Quad:	GPS Unit #: Erin Wa	ypoint: <u>\\/</u> A
Bat Species: M. Sodalis		
Transmitter Frequency: 172, 219		
Comments:		
		and the second s

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
	41-12'44.2"	82656, 28.8	172,219	2225	22	Good Signal street
	1			2230	10	L.
. ,	CONTRACTOR OF THE PARTY OF THE	Milletinessan		2235	341	
2	41 12' 44.0	8 2 56 29.5		2240		
				22 45	25	
	7			2250	29	
				aa55	14-	
				3300	2	
				2305	18	missed due to visitor
				2310		Missed due to visitor
in the second	and the companion of the control of			2315	359	
)				2320	40	
1			\	2325	354	
			**	2330	1-1-1-	
!				a335		
				2340	11	
				2345	2	
				2350	18	
				2355	16	
				12400	18	
				2405	28	
				9410	38	
				2416	30	
				2420	32	
:				J4 J5	46	A STATE OF THE PROPERTY OF THE SAME OF THE
				2430	50	and the second s
1 	A 10 (A1) PROTEINS		\ \	2435	55	
1				2440	23	
	<u> </u>	W	- Secret	2445	55	

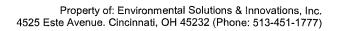


Page $\overline{\mathcal{A}}$ of $\overline{\mathcal{A}}$

FIXED TELEMETRY DATA (continued)

Project #: Rapable Wind Date: 27 J. L. DW State: OH County: Seneca Initials: ECB

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
- 2	410/244.0	42'5629.5	172.219	2450	2.7	
				2455	10	
				0000	46	Λ
			·	17005	19	
				0010	10	
				00 15	2-6	
				0020	22	
				0025	355	
				0000	6	
				0035	6	
				0040	#19###################################	ost stanal
				0045	25	
				W50 -		lost signal lost ball at azimo
				0055	274	
				0100	254	
				0106	là	
				0110	Market and the second s	signal was all ye leaving bot
	1			0115	34	•
			mer)	0126	[40]	
			***************************************	0195	15	
	N N	<u> </u>		0130	46	
	Question			,		,
		<u> </u>				
:			24			
				,		
				+		
	,				 	
		· · · · · · · · · · · · · · · · · · ·				
ļ		,		+		
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		<u>'</u>				
					 	
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Project #: 396.6) Date: a	373wll Biol	Biologists: M Flynn		
Project Name: Republic	State:_0 H	County: Serveca		
USGS Quad:	GPS Unit #:	Waypoint: MMF		
Bat Species: Myotis Sodalis				
Transmitter Frequency: 72.28				
Comments:				

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
MMF.			172.217	22:30	58°	-
				22:35	560	
				20,46	510	
				22:50	56 ⁵	
				aa:55	56	
				23:60	460	
				23:126	450	
				a3125	80°	
				23:30	800	
				28:35	66°	
				23/90	56°	
MMF2	41813 17.7"	82°55'04.4"		0045	260°	
				0650	2600	
				0055	270	
				0100	2650	
				0155	268° 268° 269° 260°	****
				0115	2680	
				0115	8845	
	,			0120	2600	THE CONTRACT
				6185	300	
			, a	0130	072°	
				0139	272	
				02:05	272 260°	
				02:19	2900	
				05.30	2520	
				02:30	180°	
war						



Page_	of	62
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Project #: 340 Date: 27-5u/-// Biologists: 5, Captain					
Project Name: Tetratech	State: <i>OH</i>	County: Seneca			
USGS Quad:	GPS Unit #: <u>A7</u>	Waypoint:			
Bat Species: M. Sodalis					
Transmitter Frequency: 172	218				
Comments: 74 near Emerge	m Creek Bridge (3C4)				
SC5: 74+179	<u> </u>				

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
5C4	41"14'62.8	ta° 57'23	218	2300	99	
,				2305	400000000000000000000000000000000000000	
				2310	Market for the second of the s	-
***************************************				2315	A CONTRACTOR OF THE PARTY OF TH	
		, , , , , , , , , , , , , , , , , , , ,		2320	Special section with the section of	
				2325 2340		
<u>5C 5</u>	41013/36.0	42057/215.3	213	2340	139	
				2345		
1000				2350	100	[ain]
r. aaaaa				2355	116	
· · · · · · · · · · · · · · · · · · ·				2000	162	
				0005	105	
				0010	132	
			Mar	0015	123	· · · · · · · · · · · · · · · · · · ·
				0020	129	
				00,25	126	A Paris Control of the Control of th
				0030	en	
	1			00035	Promise and the control on page 15.	
				501/0	126	,
				0045	121	
			· · · · · · · · · · · · · · · · · · ·	0050	116	
				0055	130	
			<u></u>	0100	119	
				0105	117	A STATE OF THE STA
				0110	*Annual Section 1	
*******				0115		
				0120	40-00-00 and an analysis of the	
				0/25	And your security and	
				0130	War and the state of the same	



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FIXED TELEMETRY DATA (continued)

Project #: 547 Date: 57-546-1/ State: 6/4 County: 54-64	Initials: <u></u>
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Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
				0135	,,	
				0140	and the real	
				<u> </u>		
MMFL	410 12 451	42° 57'53.1	216	0200	117	
 		, and the second	,	2255		
				0210	Appen produced and	
				0215	Contraction of the Contraction o	
				0220	and the second s	
				<i>0225</i> <i>8230</i>	#10-10-m/s/MES/MES/miles	
				8230	4,	
		- All				
		A STATE OF THE STA				

						<u>.</u>
		1				
		www.				



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Project #: 340.01 Date: 6	R&Jul 11 Biol	ogists: M. Flynn
Project Name: Republic	State: OH	County: Seneca
USGS Quad:	GPS Unit #:	Waypoint:
Bat Species: Myphs sodalis	_	
Transmitter Frequency: 172.218		
Comments:	1	
·		

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
			172.218	823D	20°	
				2235	30° 36°	
				2240	250	
				a245	3489	
			WD(415) - 1 34111	8 2.50	3460	
				22155	00	
				2300	3549	
				2365	R550	
	-			28:b	825°	
				2320	180	
				2325	269	
				2336	26°	
				7335	320	
			*Appr	2340	80	
				2345	300	
		;		2355	100	
				7855	60	
				6500	200	
				00.05	120	
				0010	190	
				0015	20'	
				0025	3543	
				0630	354°	
				5036	25%	
				6040	00	
				0045	120	
				0050	100	
				0055	Q°	
				0100	3480	



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FIXED TELEMETRY DATA (continued)

Project #:	Date:	State:	County:	Initials:

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
*				0100	398° 6512	
				31 0	8640	
				6115	2686 2720 2720 27120 27120	
				0170	7520	
				6126	a150	
				0130 0135	2120	
				0135	auso	
				0140	L 2621	
		1.00		0145	27°	
				6150	220	
				0166	320	
				6959	260	***************************************
				0365	44,272	
				02.10	400	
				0015	18-0	
				0990	3589	
				152.75	53.550	White the second
				58.40	157	
			33-0			
			-			
	1,000,000					P. C.
			:			
7						
				~		

Page of___



Project #: 340

Comments: 174 4 74

Project Name: Tetratech

USGS Quad:

Bat Species: M. 5cda 113

Transmitter Frequency: 172,214

		5. Captain	
State:	<u> </u>	ounty: <u>Scale</u>	<u>K</u>
GDS Unit	#· 47	_ Waypoint	r Kris

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
5C G	1/12/13/36.9	12°57'22.7	213	2245	159	
			- William - Will	2250	151	
	and the second s			ww.55	162	Fair
				2300	165	
V-01	A STATE OF THE STA			2306	150	
				2310	164	
				2315	133	The second section of the second seco
				2320	129	
THE RESIDENCE OF THE				2427	133	
				70	p	
mercian harmon meningan, a hali				7.5		
				2340	101	
Frank or comment of page of				194	t comment	and the second s
				2350	124	
				2355	secondary.	
777000				0000	Market in the second control of the second c	
				<u>0000</u>	131	
				6010	140	
				0015	126	
				9820	122	
				0025	137	
-4				0030	131	
				<u> 16035</u>	131	
				MALIA	13)	faint
				0045	139	
				<u> </u>	125	
				0055	126	
				2100	132	
				0105	and a second and a second	



Page ___ of ___

FIXED TELEMETRY DATA (continued)

Project #: <u>3년</u>	Date: <u>24-⊃α(-</u>)(State: <u>5 /-/</u>	County: <u>JOHA A</u>	Initials:
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Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
SC 5			24	0110	158	
				Jolls	160	
				15126		
··				0129		
				01:50		
	g a volume 1 1					
	413 11.6	92 57 23.9	211	0145	120	
				0150	MANUAL CONTRACTOR	
****				0/55	1223	
				1000	105	WWW.
				0205	99	
				0010	100	
				0215	109	
				0220	10a	
	Monada and the second s			0225	Programmer.	
				C2937	125	
* · · · · · · · · · · · · · · · · · · ·	7 (2) 10 (2)					
	- 1 1 T A.			-		
	The second secon					
		The state of the s				
				-		
		V 77 MANUAL	***			
A						
			w			- Annual
		197.93				
				-		
				 		
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			,			
						The state of the s



FIXED TELEMETRY DATA Date: 29 Jul 11

ologists:	(les
Coun St <u>17621</u> 0	Waypoint:

Page__of__

Project Name: <u>Le public</u> USGS Quad: Bat Species: <u>M. Sudalis</u>			State: OH County: GPS Unit #: (5) 11/6/210 Waypoint:				
ransmi	tter Frequency:	218					
Comme	nts:						
		. 2000			and the second s	The second secon	
					and the second s		
	:						
Station	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments	
#	110 - 110 - 2)	820 36 766	718	2300	loo		
İ	- NT 10" (4.7)	- U - 30 . 24.0	1	1	T - 0 - 1		
	1,1		1718	7305	72 ()		

Station	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
#	(10/10/19.7))	82° 56'56.6"	718	2300	1000	
			218	7305	72.0	
	and the second	the same and the s	719	7310	7 4 9	10 cm - 10 cm
	A STATE OF THE PERSON OF THE P		718	7315	540	
			718	7330	190	
		Z .	718	7325	HIO	
			718	7330	350	
	The state of the Constitution of the Constitut		2.18	2335	77-70	and the second s
			218	2340	230	And the state of t
	and the second s		318	7345	777 0	
		And the state of t	3/8	7.356	390	
	The second of th		718	2355	410	
<u> </u>			318	0000	390	
			218	<u>a 0/a5</u>	* 36	
			718	0010	210	
	The same of the sa		718	2015	170	
y many a comme	And the second s		218	0020		
			218 .	0025	1	and the second s
			21/8	00 30	130	
			218	0035	230	And the second of the second o
	The state of the s		219	0049	1190	- Marie - Mari
			718	0045	800	
			3/2	0050	358°	
1	· Mary		312	0055	1380	
		19	518	10100	133'	
			318	<u> </u>	890	A CONTRACT OF THE PARTY OF THE
1			218	oibe	1/60-	Ca. I
			5.18	0115	maggio-species	no Sianal
	and the same and t		518		All regions of the State of the	No signal



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FIXED TELEMETRY DATA (continued)

Project #: Date:	State:	County:	Initials:
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Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
			218	0125	123°	
	***************************************		218	01:30	4450-	No 5:30 = 1
			218	0135	-secondores	ns
			7.8	0140	2000	n (
			2.18	0145	580	
			2.8	0150	1/2/0	
			718	0155	240	
			718	0200	1090	
			7.18	07.05	100	
	44.44.4		718	0/50	520	
	i		716	6719	1110	
			218	0550	1080	
			718	0225	1170	
			7/8	75730	(090	
			1965			

	BANK MANAGEMENT OF THE PROPERTY OF THE PROPERT					
	AND A COLUMN TO SERVICE AND A				1	
				The second secon		



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Project #: 710	Date:	<u> 28 Jul 2011</u> Bi	iologists:	
Project Name: Tetrater USGS Quad:		State: OH _ GPS Unit #:	~ <i>(</i> *)	0
Bat Species: M. Sodalis Transmitter Frequency: 172	1218			~
Comments:				

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
T .			7.817	2240	240°	
				2245	210	
				Z-340	210	2250 LAW
				1505	210	2255 LMW
\\				7510		2300 LMU
				275	225°	2305 LMU
				2335	130	2310 LMW
				2315	210	
				2320 2325	245° 218°	
				2325	218°	
				2330	1900	
				2335	2100	
				2340	220°	
				2345	215°	
			*	2350	2150	
	11 11 11 11 11 11 11 11 11 11 11 11 11			23,549	2,000	
				2425	218° 226°	
				2005	226	
				00/0	C. C.	
				1015	2-13	
				0020		
				0075		
				0030	210°	
				0035	210°	
				2040	210°	
				6045		
				0050		
				J054	,	
				5100	2090	



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FIXED TELEMETRY DATA (continued)

Proiect #:	Date:	State:	County:	Initials:

Station	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
#				0 105	218	
				0 10	7000	
				0115	200°	Very Very Faint
				0120	man desperation of the second	could not locate
				0125	Control of the Contro	
				0130	" gettin messen medaggid	
				0135	And the second of the second o	
				0140		
				0145	2000	
				0 50	180	
				0155	1800	
				0200	1610	
				0200	180° 180° 161° 161° 168° 214°	
		<u></u>		1,210	1000	
				0210	7 100	
				020	1000	
				0 225	200° 206° 206°	
		salang paramatan panggan panggan salah		6230	1200	
				04.00	200	
-						
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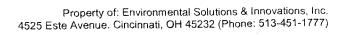


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Project #: Date Project Name: Lypy by C JSGS Quad: Bat Species: Solatis	A VI	ists:	
Transmitter Frequency: 172, 21 Comments:	<u> </u>		

tation	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
#		82°56′29,85″	172.8.8	(W)/C	250	
13	41012,43,16"	0200	C 1	781 5	340	
				1000		
				24.5%	3131	
				271.0		
					1000	
					5 (6) (5)	
				50100	3552	
				<u> </u>		
				72		
					5 10 10 1	
					177.70	
			****	4 2 20		
				<u> </u>		
				05:		
				5011		
				. 00 ac		
				202		
				70019		
				22:11	75.63 CD	
				(M) . 5	6 20	
				01:0	00 472	
				014	6 280	
				01115	5 23.2	
		for the second s		0.18		
				01:3	5 7/12	
				75 6	a 1 2 1	
-				51:3	9	

50° 01.10 OFF) ·=0. 200 25°)0110 200 W 15 00 10 0 190

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Page__of__



Project Name: Tetratech	Date: <u> </u>	₹
USGS Quad:	GPS Unit #:	Waypoint:
Bat Species: M. BodalīS		
Transmitter Frequency: 7	2.219	
Transmitter Frequency: 173 Comments: 14 at white		

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
LG.				2245		
:- An in special and a fall and a second				2250		
		The state of the s		2255	and the same of th	No constitution of the contract of the contrac
				2300	And the second s	
507	41°12'51.0	12° 55'343	214	2330	320	Management of the control of the con
			, .	2335	314	
				2340	30%	
				2345	307	The state of the s
				2350	318	reserving a compression of the first street and a second street and the second street an
				2355	320	
				0000		
				0005		
				2010	Notice that the second	
			No.	0015	301	
				0020	314	Andrew Communication Communica
				0025	Account of the second	
				0030	49	
- and below				5635	18	
				70040.		
				0:45	.50	
		And the second s		0050	12	
ALL PARKS A PARKS AND A PARKS	######################################			0055	72	
. Martine of all to be dead on the company				0100	35%	
				6106	344	Additional and the Control of the Co
				0110	334	and a filtration of the control of t
				10113	335	Transportation of the second o
				0120	332	The state of the s
				10/25	324	
·				0130	352	And the second s



Page 2 of 2

FIXED TELEMETRY DATA (continued)

Project #: 340 Date: 29 5 al- || State: OH County: 50 al- || Initials: 50

Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
<i>5</i> C7				0135	16	
				0140	26	
				0145	à	
				0150	2	
				0155	20	
				0200	41	
				0205	28	
				0210	360	
				6215	13	
				0220	<i>33</i> 2	
				0225	314	
				0230	302	
				0235	300	-laint
				0240	304	
				0245	304	
				-		
	100					
	141 - 401-01					¥ / man
			*Spr			
	7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					

						(P)



Project #: 340,1

USGS Quad:____

Project Name: Tetratich

Bat Species: Mydis Sodalis

FIXED TELEMETRY DATA

Date:	9 dul Biolo	ogists: No Farmer
\	State: <i>OH</i>	County: Scheca
	GPS Unit #: <i>A</i> _	S Waypoint: 20
10/15		(on 6P5#465670)

Page__of__

		172-218				
omment	ts:					
	The state of the s					
						and the second s
· water at a property of the delication						
Station	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
#				2255	180	
MAZ				2300	780	
	La company and the statement of the stat			23.05	180	geren mit blicht vieren gerennen beginde den versammen men men men bestellt i der der de der der de der der de
				12310	1790	
				2315	150	
	AND THE STATE OF T			2320	220	
				23,25	242	
				2330	242	
				2335	.578	
				2340	230	
				2345	238	
				2350	205	
				2355	200	
			-	0000	220	7.10 pm
				6005	225	
				6010	2-30	
				0015		
				60 20	#Open (Anna), and terraining and control of the open o	
	The second secon			00 75	90°	
		-		00 30	April 100 mary 100 ma	
	· · · · · · · · · · · · · · · · · · ·	The state of the s		60 36	100	
				0040	125	
				60 45	110	
				140 50	1709	



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FIXED TELEMETRY DATA (continued)

Project #: D	Date:	State:	County:	Initials:
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Station #	Latitude	Longitude	Frequency	Time (0000h)	Azimuth	Comments
				0125	130	
				6130		
				0135	Lamana	
				0/40	115	
				0/45	98	
				0/60	100	
	The state of the s			0/55	160	
	The second secon			02-00	130	
				62 65	110	
				02/0	110	
				0215	134	
				2220	147	
				02.29	220	
	and the second s			0230	Manager and a second	
				5235	One of the state o	
				0240	Constitution	
				0245	Company of the Control of the Contro	
				0250		
		The Road Add Towns of the Control of				
	and the second s		200			
						e e e e e e e e e e e e e e e e e e e
1						
						- 1

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ologists: Afmouski, Kleinhen
te Name/#:
amera#: Can 671 (Jack
<u> </u>
Capture Time: 0140
Condition Wt RFA (g) (mm)
cy number: 172, 122 (Best@ 178
lor number: NA
<u>80</u> minutes



Project #: 340	<u>) </u>	20 July 2011	Biologists:	<u> 12 a Si c</u>	<u> </u>	
Project Name:_	Republic		Site Name/#:			
State: <u>OH</u>	County: <u>Screece</u>	<u> </u>	Camera #: <u><i>Co</i></u>	n 671		
Picture #:	879 - 881	1,00	upt. #016_			
	ophiscus fusc		Capture Time			
Age	Sex	•	ive Condition	Wt (g)	RFA (mm)	
Ad or Jv	M or F	F=(NR/PG	/L/PL; M=↑/↓	13.5	45	
FINAL CHECK: 1) Transmitter 2) Signal rece 3) Band attac 4) Condition of 5) Description		grams Ban	d/color number: 17			
RELEASE HIVE	=: <u> </u>	JIAL HULD III	//E	เนเธอ		
RELEASE LOC	ATION:		a standard and a stan			
COMMENTS:						
A Section Control of the Control of						
	Roost Pic 890	-91				



Project #: 340,01	Date: July 30	∠ Biologists:	Jack	Basiger
Project Name: Repu	blic	Site Name/#:	17	
State: Ohio County:	Seneca	Camera #:	canfi	1
Picture #: 965 - 969	7			
Bat Species:	icus	Capture T	ime: 🔀	2,00
Age Se Mon Mon Mon Transmitter weight = 30	grams	PG/L/PL; M=↑/↓ Frequency number:	72,22 <i>50</i>)
2) Signal receiving (freque3) Band attachment (Y/N):4) Condition of animal:	Yes.			
RELEASE TIME: 2250	TOTAL HOLD	TIME: <u>50</u>	minutes	
RELEASE LOCATION:	apture site			Management of the state of the
COMMENTS:	•			
			,	
		a de la companya de l		

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Project #: <u> </u>	Date: <u>24 Jul-1</u>	Biologists: <u>A→</u> K	niawski			
Project Name: Republic		Site Name/#:/	<u>/</u>			
State: County:	Scalca	Camera #:				
Picture #:						
Bat Species: E, Fu6 Cu	15	Capture Time	:			
Age S Ad or Jv M	Sex Reprod or F F=(NR	luctive Condition /PG/L/PL; M=↑/↓	Wt RFA (g) (mm)			
Transmitter weight =35	grams	Frequency number: 172.	540			
Transmitter + bat total weight	= grams	Band/color number: n/a				
Signal receiving (freqBand attachment (Y/f	ent (Y/N): // uency): // N): // e: goad TOTAL HOLD					
RELEASE LOCATION:	Site 14					
COMMENTS:						
w						



Project #:	<u> </u>	L2 July 2011	Biologists:	,	
Project Name:_	Tetratech 1	2epublic -	Site Name/#:	Site 1	LP
State:	County: Senec	0	Camera #:	1834	
Picture #:	3236 - 37)?]		w. · · · ·	
Bat Species:	Diesiaus fu	<u>Sus</u>	Capture Tim	e: <u>220</u>	0
Age Ad or Jv	Sex M or F		ve Condition L/PL; M=↑/↓	Wt (g)	RFA (mm)
Ad	State	A Commission of the Commission		19.1	1.45
Transmitter weight :	= <u> </u>	Frequ	ency number:	12.118	
Transmitter + bat to	otal weight =	grams Banda	color number:	U/A	· .
2) Signal rece3) Band attach4) Condition of	r attachment (Y/N): iving (frequency): nment (Y/N):N of animal:Na/Na of release:No cr	V 12 c 1172			
RELEASE TIME	: <u>2300</u> T	OTAL HOLD TIMI	E:mi	inutes	
RELEASE LOC	ATION: 01 00	pure tocation) <i>F</i>)		
COMMENTS:	V/A	·			
				r	
				U WWW.	3.
	,				

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Project #: <u>390</u> Date: <u>4,-34-11</u>					
Project Name:	Pepublic		Site Name/#:	4	
State: <u> </u>	County: <u>Level (s</u>		Camera #: <u>Can 67</u>		
Picture #:	Alexander and the second secon		Application in the second seco		****
Bat Species: <u></u>	Fuscus		_ Capture Tim	ie: <u>215</u> 7	<u> </u>
Age Ad or Jv	Sex M or F		tive Condition G/L/PL; M=↑/↓	Wt (g)	RFA (mm)
24	(Fig. 1)	NR.		116,3	
Transmitter weight =			equency number: / 7		
Transmitter + bat tot	al weight = $16,15$	grams Bar	nd/color number: <u>//</u>	<u>'a</u>	
	V		ME: <u>30</u> mi		
RELEASE LOCA	ATION: <u>50 e 21</u>	· ·			
COMMENTS:					
		70.00 · 100	, and the second		



Project #: 34	<u>6.01</u> Date:	15 Jul 2011	Biologists: 🗍	Basige	V + M.F
Project Name:	Republic		Site Name/#: 6	26	
State: 6	County: Se	nica	Camera #:	n 671	/
Picture #:	32 - 835				
Bat Species:_	Eptesicus fu	iscus	_ Capture Tim	ie: <u>2300</u>	
Age Ad or Jv	Sex M or F	F=(NR/PC	tive Condition G/L/PL; M=↑/↓	Wt (g)	RFA (mm)
Ad	F	PL		24.25	47
Transmitter weight	t = <u>6.35</u> grams	Fre	equency number: 173	2740	
			nd/color number:		N/A
3) Band attac4) Condition5) Description	eiving (frequency):chment (Y/N): of animal:	mal			
		"ONC	ME: <u>^60</u> mi	inutes	
RELEASE LO	CATION: Cap	ture site			
COMMENTS:					
And the second s					
Notes that the second of the s					
	ALCO TILE OF THE PARTY OF THE P				



Project #: <u>340.01</u>	Date: 24)u///	Biologists:	Basiger
Project Name: Republic		Site Name/#:_ 🧵	<i>SO</i>
State: OH County:		Camera #: <u>Cay</u>	1671
Picture #:			- 02
Bat Species: Eptesica	us fuscus	Capture Tim	ie: <u>Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z</u>
Age S Ad or Jv M o	ex Repro	ductive Condition R/PG/L/PL; M=↑/↓	Wt RFA (g) (mm) 15.75 49
Transmitter weight = 35	grams	Frequency number: 172	2,500
Transmitter + bat total weight :	= 16.10 grams	Band/color number:	
3) Band attachment (Y 4) Condition of animal: (iency): 172, 4997 No. 1000		
RELEASE TIME: 2230	TOTAL HOL	D TIME: 30m	inutes
RELEASE LOCATION:	Capture site		
COMMENTS:	,		
		and the second continues of the second se	



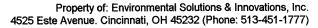
Project #: 39	(<u>0.01</u> Date:	7/30/11 1	Biologists:	Kniows	<u>ki </u>
Project Name:_	Jepubli	<u> </u>	Site Name/#:	La lan	
	County: <u>Sent</u>		Camera #:	1/	
Picture #:	0676 -068	32	1 III - 2412/1920/1970/III -		
Bat Species:	E. fuscus		Capture Tim	ie:_223	5
Age Ad or Jv	Sex M or F			Wt (g)	RFA (mm)
Transmitter weight =	= <i>0,35</i> grams		ency number: / 😕	2.950	
2) Signal recei3) Band attach4) Condition of	ving (frequency):/				
RELEASE TIME	: <u>23<i>50</i> </u> то	OTAL HOLD TIME	: <u>75</u> _mi	inutes	
RELEASE LOCA	ATION:	1) location			
COMMENTS:	7	The contract of the contract o			
				 	



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Page _

Unit #: 6 9528	Waypoint: <u>/</u> /	
tude: <u>4/ ° // '55.</u>	<u>○</u> "N Longi	tude: <u>82 ° 56 ' 53 '</u> "W
st Name/#:		
o-tagged bat present in tr	ee: Yes No	
	y if a radio-tagged bat is present in th	s & .
species: 6. histus	Sex(M/F): Age(Ad/	/Jv): <u> </u>
ture date: 22 July 1	Capture site:	Frequency: 172, 118
	rure time: <u>੨। ੩ ੪</u> Total Ba	
val time: <u>205</u> 5 Depart	ture time: <u>2138</u> Total Ba	ts:
val time: <u>2055</u> Depart	ture time: <u>2138</u> Total Ba	ts:
ral time: <u>2055</u> Depart Emergence Time	ture time: <u>2138</u> Total Ba	ts:
Emergence Time	ture time: <u>2138</u> Total Ba	ts:
val time: <u>2056</u> Depart Emergence Time 2000 2000 2000 2000 2000 2000 2000 2000	ture time: <u>2138</u> Total Ba	Emergence Aspect
val time: <u>2055</u> Depart Emergence Time 2000 2000 2004 2006 2000 2000 2000 2000 2000 2000 2000 2000 2000	ture time: <u>2138</u> Total Ba	ts:
Val time: <u>2055</u> Depart Emergence Time 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000	ture time: <u>2138</u> Total Ba	Emergence Aspect
val time: <u>2055</u> Depart Emergence Time 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000 2000	ture time: <u>2138</u> Total Ba	Emergence Aspect N;S;W;E-A
Emergence Time 2(00) 2(00) 2(00) 2(00) 2(00) 2(00) 2(10) 2(10) 2(10)	ture time: <u>2138</u> Total Ba	Emergence Aspect W-NW N;S;W;E-A
val time: <u>2055</u> Depart Emergence Time 2(pv 2(02) 2104 2100 2112 2112 2114 2116 2118	ture time: <u>2138</u> Total Ba	Emergence Aspect W-NW N;S;W;E-MG
Emergence Time 2055 Depart 2000 2002 2004 2006 2	ture time: <u>2138</u> Total Ba	Emergence Aspect W-NW N;S;W;E-MG





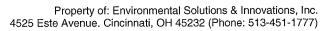
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ROOST TREE EMERGENCE DATA

Project #: 340, 01	Date: / Biolog	
Project Name: <u> </u>	State: 🗀 Co	ounty: <u>Source</u>
GPS Unit #: <u>E - 9524</u>	Waypoint: <i>O</i>	17
Latitude: <mark>4 ° 11 ° 5</mark> 5,	<u>∩</u> "N Longi	tude: <u>﴿ </u>
Roost Name/#:		
Radio-tagged bat present in tr	ree: Yes No	not lead
Complete the following information on	ly if a radio-tagged bat is present in	the roost
Bat species: Effective fug	Sex(M/F):Age(Ad	/Jv):_ <i>Ad</i> Repro.:
Capture date: 22 Lul 200	Capture site:	Frequency: \
DISTINGUISH DATS AS STINOUETTES AGAINST The roost to observe all eviting bats, h	out not close enough to influence en	ase ensure that you are close enough to nergence (do not stand directly beneath
he roost and do not make unnecessar		
he roost and do not make unnecessar		
he roost and do not make unnecessar Arrival time: <u>2035</u> Depart	ture time: <u>ALA</u> Total Ba	ts:
he roost and do not make unnecessar Arrival time: <u>2035</u> Depart	ture time: <u>ALA</u> Total Ba	ts:
he roost and do not make unnecessar Arrival time: <u>2035</u> Depart	ture time: <u>ALA</u> Total Ba	Emergence Aspect
he roost and do not make unnecessar Arrival time: <u>2035</u> Depart	ture time: <u>ALA</u> Total Ba	Emergence Aspect
he roost and do not make unnecessar Arrival time: <u>2035</u> Depart	ture time: <u>ALA</u> Total Ba	Emergence Aspect
he roost and do not make unnecessar Arrival time: 2035 Depart Emergence Time	ture time: <u>ALA</u> Total Ba	Emergence Aspect
he roost and do not make unnecessar Arrival time: 2035 Depart Emergence Time	ture time: <u>ALA</u> Total Ba	Emergence Aspect
he roost and do not make unnecessar Arrival time: 2035 Depart Emergence Time	ture time: <u>ALA</u> Total Ba	Emergence Aspect
he roost and do not make unnecessar Arrival time: 2035 Depart Emergence Time 2045 2049 2049	ture time: <u>ALA</u> Total Ba	Emergence Aspect
he roost and do not make unnecessar Arrival time: 2035 Depart Emergence Time	ture time: <u>ALA</u> Total Ba	Emergence Aspect
Arrival time: <u>2035</u> Depart Emergence Time	ture time: <u>ALA</u> Total Ba	Emergence Aspect
Arrival time: 2035 Depart Emergence Time	ture time: <u>ALA</u> Total Ba	Emergence Aspect

Describe emergence: Did bats emerge simultaneously, fly off in the same direction, loiter, circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?

HON FOW South. Tagged bad not Meard

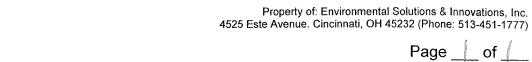




ROOST TREE DATA

Page		of	
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	1 R
Project #: 340 Date: 34	Jul 11 Biologists: J. Dasigel
Project Name: Readobs	State: 64/ County: Scalea
GPS Unit #: SS 7 Waypoint: N/	<u> </u>
Latitude: <u>41 ° 13 ' 39</u> 2"N	Longitude: <u>42 ° 57 ' 0.4</u> "W
Bat Species: 8 Auscus	Sex(M/F): <u> </u>
Capture Date: 30 Jul //	Capture Site: / Z
Frequency: 17/2.005	Roost Name/#: <u>-2-25-1</u>
Roost tree species: Estimated height from ground to roost: Exfoliating bark (%): Tree health: Observed roost potential: Bat vocalizations: Guano on ground/foliage: Is guano fresh (if present)?: Guano volume (if present):	m capture site:m or km (circle one)DeadPartial
DESCRIPTION OF SURROUNDING HABIT	 -
Dominant Canopy Species (> 40 cm/16" dbh	3dbdoffillant Carlopy Species (< 40 cm/ 10 dbh)
Estimated dbh range (cm): Lg: Sm: Estimated canopy closure at roost: %	* ' ' ' ' '
Slope:SteepModerate	_SlightNone Slope aspect:
Subcanopy Clutter:Closed	ModerateOpen
Distance to nearest water source: 300 (Distance to nearest flight corridor:meters
Habitat Description: Large area of c	i op Tana
Check all that apply: Mature Upland ForestYoung Upland ForestMature Lowland ForestYoung Lowland ForestYoung Lowland Forest Comments: Recently LoggPine PlantatioWoodlot/ForeOld Field	onStream/RiverVernal Pool



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		\triangle	TDEE	EMERG		-
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•	_					

Project #:	Date: Old B	iologists: 40 No 6 1 1 Son 1
Project Name: Republic	State: 🔼	County:
GPS Unit #:	Waypoint:	<i>y</i> , , , , , , , , , , , , , , , , , , ,
Latitude: 41 ° /3 ,39	<u></u>	ongitude: <u>우고 ° 5월 ' GO/왕</u> "W
Roost Name/#: 225		
Radio-tagged bat present in	tree: Yes <u> /</u> No	
Complete the following information or	nly if a radio-tagged bat is preser	nt in the roost
Bat species: Estericus fu	secs Sex(M/F): F Age	e(Ad/Jv): <i> Ad</i> Repro.: <i>YC</i>
Capture date: 30 50 14	20/Capture site: 12	Frequency: 172,225
distinguish bats as silhouettes against	st the sky as they exit the roost. but not close enough to influen ary noise and/or conversation, ar	
Emergence Time	Number of Bats	Emergence Aspect
011	First emerge do	
	36 7010	The state of the s
	G Cot day	
	all tallied no	4
	Laure missed 50	rre
7135	last but Ellere	
1,24	SURVEY days	
<u> </u>		
The state of the s	Kyon West	Una S CASAVIGA.
went	and a	
	- E	
circle, disperse, etc. What time transmittered bat fly?	emerge simultaneously, fleedid the transmittered bat(y off in the same direction, loiter, s) emerge? What direction did the

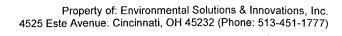


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ROOST TREE EMERGENCE DATA

Project #: <u>SHORS</u>	Date: Date: Diolog	
Project Name: <u>Republik</u>	State: 0// Co	unty: <u>Sepe ca</u>
GPS Unit #: $\frac{\mathcal{E}_{SI}-7}{2}$	State: 0// Cor	NIA
atitude: 💯 💍 ° 🤣 🔥 ' 👍	"N Longit	tude:°"W
Roost Name/#:	42	
Radio-tagged bat present in	tree: Yes No	
Complete the following information or	nly if a radio-tagged bat is present in the	e roost
Bat species:	Sex(M/F): Age(Ad/	Jv): <i>A</i> _/_ Repro.: <u>/</u> /
Capture date: 30 50 (v.26	// Capture site: /2	Frequency:
	rture time: Total Bat	ts:
		No. of the Control of
Arrival time: <u>2049</u> Depa	rture time: Total Bat	ts:
rrival time: <u>2049</u> Depa	rture time: Total Bat	ts:
Arrival time: <u>2049</u> Department D	rture time: Total Bat	ts:
rrival time: <u>2049</u> Depa	rture time: Total Bat	ts:
Emergence Time	rture time: Total Bat	ts:
Arrival time: <u>2049</u> Depa	rture time: Total Bat	ts:
Emergence Time	rture time: Total Bat	ts:
Emergence Time	rture time: Total Bat	ts:
Emergence Time	rture time: Total Bat	ts:
Emergence Time	rture time: Total Bat	ts:
Emergence Time	rture time: Total Bat	ts:





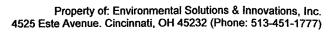
ROOST TREE EMERGENCE DATA

Project Name: Kenduc SPS Unit #: EGI-7	State:	
		inty:
	Waypoint:	MA
atitude: <u>4 ° 13 ' 31.0 "</u> N		ude: <u>****</u> ° <u>***</u> ' <u>****</u> "W
Roost Name/#:		
ladio-tagged bat present in tree:	Yes No	
complete the following information only if a		
Bat species: Eptogicus fuscus	ex(M/F): <u> </u>	lv): <u>/</u> // Repro.:/
Capture date: 30 5 cly 204 C	apture site: 12	Frequency:
ne roost and do not make unnecessary nois	time: <u>A145</u> Total Bats	
i	Number of Bats	i Emergence Aspect
Emergence Time	- Tumbor of Euro	
Emergence Time	<u></u>	NE /W
Emergence Time	<u> </u>	NE /N
Emergence Time	Ž	NE /N
Emergence Time	<u> </u>	NE //V
Emergence Time	13	NE /N
Emergence Time	13 13 24	
Emergence Time		
Emergence Time	13 2 2 3 3 3 3 1 3	
Emergence Time	13 24 34 34 34 34	
Emergence Time		
Emergence Time		

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ROOST TREE EMERGENCE DATA (continued)

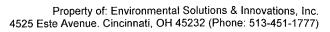
Project #: 240.01 Frequency 222	Project name: Roost #: 225	
Emergence Time	Number of Bats	Emergence Aspect
2127	1	,
9199	The state of the s	
213		
3 3	<u> </u>	
	(
39		
33	<u> </u>	
	45.0	
		*
	<u> </u>	





ROOST TREE EMERGENCE DATA

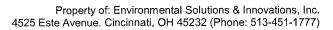
Project Name: <u>Trepublus</u>	State: Co	ounty: 32 AS CS
3PS Unit #: <u>670</u>	Waypoint:	NA
atitude: <u>4/ • 13. • 39.</u>	<u>, / </u>	ounty: <u>Sexuce</u> */A itude: <u>82°57, 00,8</u> "W
Roost Name/#: <u>725-</u>		WARRAGE PROPERTY OF THE PROPER
Radio-tagged bat present in t	tree: Yes_ <u>\/</u> No	
complete the following information or	nly if a radio-tagged bat is present in th	ne roost
Bat species: <u>E, Euscus</u>	Sex(M/F): Age(Ad	/Jv): <i>AU</i> Repro.:_ <i>IU</i>
Capture date: 30 July 201	Capture site: 12	Frequency: 172 225
IO FOORT AND BOT MAKE LINDECASS	ary noise and/or conversation, and mil	minize use of lights).
	rture time: <u>名パる</u> Total Ba	
Arrival time: <u>タベクラ</u> Depa	rture time: <u>名パる</u> Total Ba	
Arrival time: <u>タベルラ</u> Depa	rture time: <u>名パる</u> Total Ba	
Arrival time: <u>タベルラ</u> Depa	rture time: <u>名パる</u> Total Ba	
Arrival time: <u>タベクラ</u> Depa	rture time: <u>名パる</u> Total Ba	
Arrival time: <u>タベルラ</u> Depa	rture time: <u>名パる</u> Total Ba	
Arrival time: <u>タベクラ</u> Depa	rture time: <u>名パる</u> Total Ba	
Arrival time: <u>タベクラ</u> Depa	rture time: <u>名パる</u> Total Ba	
Arrival time: <u>名づら</u> Depa	rture time: <u>名パる</u> Total Ba	
Emergence Time	rture time: <u>名パる</u> Total Ba	
Arrival time: <u>名のり</u> Depa	rture time: <u>名パる</u> Total Ba	
Emergence Time	rture time: <u>名パる</u> Total Ba	
Emergence Time	rture time: <u>名パる</u> Total Ba	





Page __/_ of ____

ROOST TREE EMERGENCE DATA		
Project #: 340.91	Date: A G Biolog	gists: Laura TySon
roject Name: <u>Rocobb</u>	State: Of Co	ounty:
PS Unit #:	Waypoint:	ounty: New York
atitude: <mark>41 ° 13 ' 3</mark> 9.		itude: <u>३३ ° २ </u>
oost Name/#:		
adio-tagged bat present in t	ree: Yes_V_ No	
emplete the following information on	ly if a radio-tagged bat is present in th	ne roost
at species: Eptlicustus	GG/ Sex(M/F): Age(Ad	/Jv): Repro.:
apture date: 30 July 20	M Capture site:	Frequency: <u>コス・235</u>
	ry noise and/or conversation, and mil	nimize use of lights).
	rture time: 21 46 Total Ba	
rival time: <u>2030</u> Depar Emergence Time	rture time: 21 4/6 Total Ba	its: <u> </u>
rival time: <u>2030</u> Depar Emergence Time	rture time: 21 4/6 Total Ba	its: <u> </u>
rival time: <u>えつうつ</u> Depar Emergence Time ストロス ショウリ	rture time: 21 4/6 Total Ba	its: <u> </u>
Prival time: <u>えのうつ</u> Depar Emergence Time よしる るしいし るしいし	Number of Bats	its:
Prival time: <u>えつうつ</u> Depar Emergence Time ストロス ショロト	Number of Bats	its: <u> </u>
Emergence Time 2102 2104 2106 2106	Number of Bats	its: <u> </u>
rival time: 2030 Depar Emergence Time 2102 2104 2106 2110	Number of Bats / / / / / / / / / / / / / / / / / /	its:
Emergence Time 2102 2104 2106 2110 2110 2110	Number of Bats	its:
Emergence Time 2102 2104 2106 2112	Number of Bats	its:
rival time: 2030 Depar Emergence Time 2102 2104 2106 2112	Number of Bats	its: <u> </u>
Emergence Time 2102 2104 2106 2110 2110 2110	Number of Bats	its:
Emergence Time 2102 2104 2104 2109 2112	Number of Bats	its:

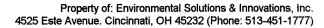




ROOST TREE DATA

Page	of
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Project #: 340 Date: 7/25	Biologists: A famous king 1 throwne
Project Name: Republic	State: OH County: Sandusky
GPS Unit #: 7 Waypoint: $390R14$	
Latitude: 41 ° 16 '19.6"N	Longitude: <u>82 ° 54 ' 17.5"</u> W
Bat Species: EFuscus	Sex(M/F): Age(Ad/Jv):\(\subseteq\nu\) Repro.:_\(\subseteq\nu\)
Capture Date: 1/24//	Capture Site:
Frequency: 172.580	Roost Name/#:_580-1
ROOST TREE DATA	
Roost tree species: Barn	dbh: cm
,	(meters) Tree height (meters)
Exfoliating bark (%): Distance from cap	ture site:m or km (circle one)
Tree health:Live	DeadPartial
Observed roost potential:Exfoliating Bark	Cracks/crevassesHollowUnknown
Bat vocalizations:Yes	No
Guano on ground/foliage:Yes	No
Is guano fresh (if present)?:Yes	No
Guano volume (if present):	<u> </u>
DESCRIPTION OF SURROUNDING HABITAT	
Dominant Canopy Species (> 40 cm/16" dbh)	Subdominant Canopy Species (< 40 cm/16" dbh)
Not in threat.	und in Hore 24
Estimated dbh range (cm): Lg: Sm:	Estimated dbh range (cm): Lg: Sm:
Estimated canopy closure at roost:%	
Slope:SteepModerateSligh	tNone Slope aspect:
Subcanopy Clutter:ClosedMo	derateOpen
Distance to nearest water source:m or	Distance to nearest flight km (circle one) corridor: meters
Habitat Description: Old barn o	
	and a war and a family
<u>Check all that apply:</u> <u>Mature Upland Forest</u> <u>Recently Logged Forest</u>	prest X Crop/Pasture LandShrub/scrub Swamp
Young Upland ForestPine Plantation	Stream/RiverVernal Pool
Mature Lowland Forest	eEmergent WetlandDeepwater Lake/Pond Forested SwampOther
Comments:	





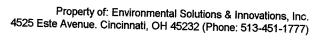
Page ___ of ___

ROOST TREE EMERGENCE DATA

Project #: 340 Add	Date: / 7 Aug	Biologists:	Causa Tyson
Project Name: Rehalide	State: 🖳	County:	Samousky
GPS Unit #:	Waypoin	t: <u> </u>	R14
Latitude: 4(• 16, 19.	<u>/_</u> "N	Longitude:	92°54, 1765 "W
Roost Name/#: 585		·	
Radio-tagged bat present in t	ree: Yes No	_UNK-Ty	
Complete the following information or	nly if a radio-tagged bat is	present in the roos	s t
Bat species: Etvgccg	Sex(M/F):	Age(Ad/Jv):_	PREPRO.: NR
Capture date: 24 えしょ26	// Capture site:	14 F	requency: 2,58
NOTE: Tallies of bat exits should be distinguish bats as silhouettes against the roost to observe all exiting bats, the roost and do not make unnecessa	t the sky as they exit the i but not close enough to in	roost. Please ens ifluence emergenc	ure that you are close enough to se (do not stand directly beneath
	ture time: <u>2106</u>	Total Bats: _	23_
Arrival time: <u>2028</u> Depar Emergence Time	ture time: <u>Alo</u> Number of Ba		Emergence Aspect
Arrival time: <u>2028</u> Depar		ats	Emergence Aspect
Arrival time: <u>シンスと</u> Depar		ats	· · · · · · · · · · · · · · · · · · ·
Arrival time: <u>2028</u> Depar		ats	Emergence Aspect
Arrival time: <u>2028</u> Depar		ats	Emergence Aspect
Arrival time: <u>2028</u> Depar		ats V	Emergence Aspect
Arrival time: <u>2028</u> Depar		ats V	Emergence Aspect
Arrival time: <u>2028</u> Depar		ats V	Emergence Aspect
Arrival time: <u>2028</u> Depar		ats V	Emergence Aspect
Arrival time: <u>2028</u> Depar	Number of Ba	ats V	Emergence Aspect
Arrival time: <u>2028</u> Depar	Number of Ba	ats V	Emergence Aspect
Arrival time: <u>2028</u> Depar	Number of Ba	ats V	Emergence Aspect
Arrival time: <u>2028</u> Depar	Number of Ba	ats V	Emergence Aspect
Arrival time: <u>2028</u> Depar	Number of Ba	ats V	Emergence Aspect

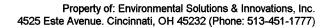
Describe emergence: Did bats emerge simultaneously, fly off in the same direction, loiter, circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?

Lessing - And product of the state of the of the did of the did of





Project #: 340,01	Date: <u>/// Augil</u> Biolo	gists: Launa Turan
Project Name: Kondol	State: OH Co	ounty: Sandan & Ray
GPS Unit #:	Waypoint:	4
Latitude: 4/ ° 16 '	Long	itude: <u>82 • 54 · 1765 "</u> W
Roost Name/#:		
Radio-tagged bat present in	n tree: Yes No UNV	2-Tynd bord
Complete the following information	only if a radio-tagged bat is present in	the roost
Bat species: Estelland to	<u> </u>	/Jv): W Repro.: NA
Capture date: 24 John 20	Capture site: 14	Frequency: 255
the roost to observe all exiting bats the roost and do not make unnecess	nst the sky as they exit the roost. Pleas, but not close enough to influence en sary noise and/or conversation, and mi	
Arrival time: 2032 Depart	arture time: <u> </u>	ts: <u>23</u> _
Emergence Time	Number of Bats	Emergence Aspect
2036	111 (3)	1 Enverged Huggard
	Manage Company	bock in holard.
	HI-1 (0)	Diside of born
	- Commence of the commence of	5 Litaboure
<u> </u>	1 2	day
<u> </u>	<u> </u>	
	3	
52 54 56	<u> </u>	
52 54 56 58	G G G	
		
		



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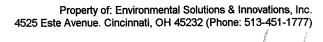


ROOST TREE EMERGENCE DATA

Project #: 340.01				
Project Name: <u>Republ</u>	L.C.	State:	County:	Smolusky
GPS Unit #:			340	
Latitude: 41 ° 16 ' 19.			Longitude:	92.54, 17.5"W
Roost Name/#: 580				
Radio-tagged bat present in t	ree: Yes_	No	UNK T	x 1/07 / WWW.
Complete the following information or	-			
Bat species: 5/04/Custus	Sex(M/	F): <u></u>	Age(Ad/Jv):_	<u> ラレ</u> Repro.: <u>ル</u> /
Capture date: 24 5 1 1 26 11				
NOTE: Tallies of bat exits should be distinguish bats as silhouettes agains the roost to observe all exiting bats, the roost and do not make unnecessar	t the sky as to but not close ry noise and/	hey exit the ro enough to inflor or conversation	ost. Please ens uence emergend n, and minimize	sure that you are close enough to ce (do not stand directly beneath use of lights).
Arrival time: 20 11 Depar	ture time:	<u>2057</u> т	otal Bats: _	<u>) </u>
Emergence Time	Nu	mber of Bat	ts	Emergence Aspect
2034		· Management	C. Carrier	Casatte
36		Commence	4	Zohn - Ca
<u> </u>		A CONTRACTOR OF THE PROPERTY O		<u> </u>
40		MT7008998		
: 42			5	
44			<u>J.</u>	
46		دنگ (
48				
50		<u> </u>		
22		Const.		,
<u> 54 </u>				
Describe emergence: Did bats circle, disperse, etc. What time	emerge sine did the tra	nultaneously nsmittered b	v, fly off in the pat(s) emerge	same direction, loiter, ? What direction did the

transmittered bat fly?

of dimerien,





Project #: 340 0 1			
Project Name: <u>Republic</u>	State: <u></u>	H Coun	ty: Sandusky
GPS Unit #:	Waypoint	: 340	OR 14
Latitude: <u>41 ° 16 ', 19</u> .	<u>८</u> "n →	Longitud	le: <u>82 • 54 · 1765 "</u> W
Roost Name/#: <u>585</u> -			
Radio-tagged bat present in t	ree: Yes No	_UN%-*	Tx rist Neurd
Complete the following information or	nly if a radio-tagged bat is	present in the	roost
Bat species: 4/04/04 fusco	Sex(M/F):	Age(Ad/Jv): Repro.:
Capture date: <u>२५ ५०५२०॥</u>	Capture site:	14	Frequency:
distinguish bats as silhouettes agains the roost to observe all exiting bats, the roost and do not make unnecessa Arrival time:	but not close enough to in ry noise and/or conversati	fluence emerg on, and minim	pence (do not stand directly beneath ize use of lights).
Emergence Time	Number of Ba	ats	Emergence Aspect
2022	## Add Association	<u> </u>	
		N. S.	
<u> </u>			
<u> </u>	Making and a second a second and a second and a second and a second and a second an		
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GF Control of the Con			
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	1 A	ļ	
50	<u> </u>		

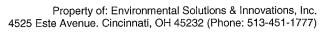
Describe emergence: Did bats emerge simultaneously, fly off in the same direction, loiter, circle, disperse, etc. What time did the transmittered bat(s) emerge? What direction did the transmittered bat fly?



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Page	/	of	1

Project #: 34 0 0	Date: 16/400	Biologists:	UNTO TYSON
Project Name: Republi	State: OH	County:	mdusky
GPS Unit #:	Waypoint:	340/1	(
Latitude: 41 ° 16 ' 19.6		.ongitude: <u> </u>	<u>• 54 ° 17.5</u> "W
Roost Name/#: 580-			
Radio-tagged bat present in t	ree: Yes No	mk-Txist	Reard
Complete the following information on	nly if a radio-tagged bat is pres	ent in the roost	A
Bat species: <u>Efigo</u>	Sex(M/F): A	e(Ad/Jv): <u>ブレ</u>	Repro.:
Capture date: 24 Sty 101	Capture site: 14	Freque	ency: <u>172.580</u>
NOTE: Tallies of bat exits should be distinguish bats as silhouettes against the roost to observe all exiting bats, the roost and do not make unnecessa	t the sky as they exit the roos but not close enough to influe ry noise and/or conversation,	. Please ensure that nce emergence (do and minimize use of	at you are close enough to not stand directly beneath lights).
Arrival time: <u>∂⊘</u> Depar	ture time: ACCO To	al Bats: 🔗 🔣	_
Emergence Time	Number of Bats	Em	ergence Aspect
A035	· / ;		of the book
	444	(i)	
À 2 2 4		Go Wost	200000000000000000000000000000000000000
90.532		65 W.W.	of placing
<u> </u>		Ji bylov	e Chaira
2038	State Control of the		}
- 35 S T	\$		
And II			
30 1 / 6/	(man)		
<u>3074</u>			
2 had 4 8			
		<u> </u>	
Describe emergence: Did bats circle, disperse, etc. What time transmittered bat fly?	emerge simultaneously, did the transmittered ba	ly off in the same (s) emerge? Wh	e direction, loiter, at direction did the

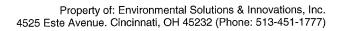




ROOST TREE DATA

Page ___ of ___

Project #: 340.02 Date: 19 July	<u>/ 201/</u> Biologists	s: E. Basiger ; M. F	lynn ; A. Gantt
Project Name: Republic - Wind		County: Sense	12
GPS Unit #: Waypoint:	party com-	Picture #: Rele-	-968
Latitude: 41° 69'53."N	Longitude: <u>조</u> 수 °	<i>56'174"</i> W	
Bat Species: Extresions Sansons	Sex(M/F):	Age(Ad/Jv): <u> </u>	Repro.: NR
Capture Date: 18 July 2011	Capture Site:		
Frequency: 172,780	Roost Name/#:	780-1	
		/	
Tree health:Live Observed roost potential:Exfoliating Bark			Unknown
Observed roost potential:Exfoliating Bark Bat vocalizations:Yes	Oracks/creva	· commence of the commence of	
		inside	brick buildin
Guano on ground/foliage: Yes - wasser a mount of the foliage: Is guano fresh (if present)?: Yes	No		
Guano volume (if present):			
DESCRIPTION OF SURROUNDING HABITAT	and the second s	•	
Dominant Canopy Species (> 40 cm/16" dbh)	Subdominant	Canopy Species (<	40 cm/16" dbh)
		Part on appropriate to the second	·
and the state of t	N _{eye} .	Philips de la company de la co	
Estimated dbh range (cm): Lg: 40 Sm: 40	Estimated dbl	h range (cm): Lg: _	Sm:
Estimated canopy closure at roost:%			
Slope:SteepModerateSligh		pe aspect: <u>V/A</u>	
Subcanopy Clutter:ClosedMod	derate <u>Lyd</u>	_Open	
Distance to nearest water source:m or k		Distance to nearest florridor: meters	
Habitat Description: Small town Main Street. I	5	Louis goublind;	<u>wunded by</u> othe
Check all that apply: Mature Upland ForestYoung Upland ForestYoung Lowland ForestYoung Lowland Forest Comments:	orest <u>Crop/Pas</u> Stream/R	tiverVerna t WetlandDeep SwampOther	o/scrub Swamp al Pool water Lake/Pond SMALL Journ





-	· ·	ists: Alexa Ganty
Project Name: <u>Republic</u>		
GPS Unit #: <u>そり 465670</u>	Waypoint: N/A	
Latitude: 41 <u>° 69</u> , <u>63</u> .		ude: <u>40 ° 56 ' 17,4 "</u> W
Roost Name/#:	<u>)- </u>	
Radio-tagged bat present in tr	vild≀vi vee: Yes_X_ No	•
Complete the following information only		
Bat species: <u>Folique</u> fusius	Sex(M/F): Age(Ad/	Jv): <u>JV</u> Repro.: <u>NR</u>
Capture date: 16-5 ul-11	Capture site:	Frequency: <u>172.780</u>
the roost to observe all exiting bats, to the roost and do not make unnecessar Arrival time: Depart	y noise and/or conversation, and min	
Emergence Time	Number of Bats	Emergence Aspect
2130		
213)	22	
2134	32	
213 e	37	
7138	40	
2140	Ut	
2 2	<u>+L</u>	
2194	<u> </u>	
Describe emergence: Did bats circle, disperse, etc. What time transmittered bat fly?	did the transmittered bat(s) en	nerge? What direction did the
Transmitted but i	eft at 2140 hours	neadwa South

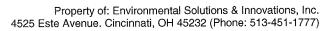
137.780



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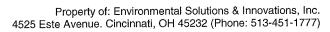
Page ___ of ___

	4 (jists: <u>Aleyou (ooure)</u>
Project Name: <u> </u>	State: 6 Co	unty: <u>Sente o</u>
GPS Unit #: 431 405670	Waypoint:_ <i>WA</i>	
Latitude: <u>41 ° 09 ° 63.7</u>		tude: <u>\$2°56', 1711</u> "W
Roost Name/#: <u>'740</u>		· · · · · · · · · · · · · · · · · · ·
Roost Name/#: 740 \ Radio-tagged bat present in te	ee: Yes <u>X</u> No	
Complete the following information only		
Bat species: <u>Ephsius fikro</u> g	Sex(M/F): Age(Ad/	∕Jv): <u>√</u> Repro.:_ <u>/</u> \/
Capture date:	Capture site:	Frequency: <u>172.780</u>
the roost and do not make unnecessary Arrival time: 200 Depart	y noise and/or conversation, and minure time: <u>2200</u> Total Ba	ts: <u>43</u>
Emergence Time	Number of Bats	Emergence Aspect
2110	<u>J</u>	
2112		
2114		
211le	: 	
218	<u> </u>	
2.20	11	
2129	2	
21210		
2128		
2130	\03	
2132	84	
2134	91	
Describe emergence: Did bats circle, disperse, etc. What time transmittered bat fly?	emerge simultaneously, fly off did the transmittered bat(s) er	nerge? What direction did the





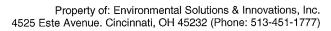
Project #: 340.01	Date: 21 Jul 11 Biologis	sts: M. Flynn
Project Name: Republi	<u> </u>	nty: <u>Seneca</u>
GPS Unit #: <u>1651 965670</u>	Waypoint: 016	
Latitude: <u>41 ° 09 ' 63</u> ,	7_"N Longitu	de: <u>42 ° 56 '17,4</u> "W
Roost Name/#: 172. 780 Radio-tagged bat present in		
Radio-tagged bat present in	tree: Yes No	
	nly if a radio-tagged bat is present in the	
Bat species: EANUS	Sex(M/F): Age(Ad/J	v): <u>≾√</u> Repro.: <u>∧</u>
Capture date: <u>16-5ルール</u>	Capture site: 공니	_ Frequency: <u>\ \ 72.780</u>
the roost to observe all exiting bats, the roost and do not make unnecess.	st the sky as they exit the roost. Please but not close enough to influence emerary noise and/or conversation, and minim	rgence (do not stand directly beneath nize use of lights).
Emergence Time	Number of Bats	Emergence Aspect
9:16	(a)	
0/1/6	111 9	
920	HATHAH 170	
122	LIH HEHETTHE	C
924	HIT HELLER	<u>V</u>
926	HHT4HT4T	
<u> </u>	HATHTHAT (30)	
956	HHATT HATTOO	
3∂	14++++++++++++++++++++++++++++++++++++	
34	HHTH 140	
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Page ____ of ____

•	Date: <u>aa Tul aoll</u> Biologis	
Project Name: Rejumblic	State: OH Cour	nty: <u>Seneca</u>
GPS Unit #: <u>1651 466670</u>	Waypoint: ± 616	,
Latitude: 41 ° 69 '63.	7"N Longitu	de: <u>40 °56 '174</u> "W
Roost Name/#: <u>リフス・フを</u> Radio-tagged bat present in to	10/d/0	
Radio-tagged bat present in to	ree: Yes No	
	ly if a radio-tagged bat is present in the	
	Sex(M/F): Age(Ad/J	
Capture date: 15 Jul 11	Capture site:	Frequency: 172.780
distinguish bats as silhouettes agains the roost to observe all exiting bats, I the roost and do not make unnecessa	e made at 2-minute intervals. Use the to the sky as they exit the roost. Please but not close enough to influence emery noise and/or conversation, and minim	ensure that you are close enough to rgence (do not stand directly beneath nize use of lights).
Arrival time: <u> </u>	ture time: Total Bats	: <u>418</u>
Emergence Time	Number of Bats	Emergence Aspect
9:14	111 (3)	6134
9:16	111 (3) HH 1 (0)	6151
9:16 9:16 9:18	HT (6)	9151
9:14 9:16 9:18 9:20	111 (3) +HT 1 (6) +HE+H++H++H+	HHH (3)
9:16 9:18 9:20 9:22	111 (3) 14t 1 (6) 14t 14t 14t 14t 14t 14t 14t 14t 14t 14t	H141 (33) 1444 (35)
9:16 9:18 9:18 9:20 9:22 9:24	111 (3) +++	HHH (3) HHHH (3) HHHH (3) THU (3)
9:16 9:18 9:20 9:22 9:24 9:24	111 (3) +++ (6) ++++++++++++++++++++++++++++++++++++	HHH (3) HHHH (35) TH (1) (35) TH (1) (35)
9:14 9:16 9:18 9:20 9:22 9:24 9:26	111 (3) 111 (6) 111 (16) 111 (11) 111 (16) 111 (17) 111 (17)	#HHH (3) HHHH (35) HHH (35) THT (35)
9:16 9:18 9:20 9:22 9:24 9:24	111 (3) 111 (6) 111 111 111 111 111 111 111 111 111 11	HHH (3) HHHH (35) TH (1) (35) TH (1) (35)
9:16 9:18 9:20 9:22 9:24 9:26 9:26 9:30	111 (3) 111 (6) 111 111 111 111 111 111 111 111 111 111 111	HHH (3) HHHH (35) TH (1) (35) TH (1) (35)
9:16 9:18 9:20 9:22 9:24 9:26 9:28 9:30 9:32	111 (3) 111 (6) 111 (16) 111 (11) 111 (11)	HHH (3) HHHH (35) TH (1) (35) TH (1) (35)
9:16 9:18 9:20 9:22 9:24 9:26 9:26 9:30 9:34 9:34	111 (3) 111 (6) 111 111 111 111 111 111 111 111 111 11	HHH (3) HHHH (35) TH (1) (35) TH (1) (35)
9:16 9:18 9:20 9:22 9:24 9:26 9:28 9:30 9:34 9:36 9:36 9:38	emerge simultaneously, fly off in	HHH (3) HHHH (35) THO (35) (16) (18)





Page ____ of ____

ROOST TREE EMERGENCE DATA

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Project Name: <u>Republic</u>	State: <u>∅</u> Cοι	inty: <u>Serve CA</u>
GPS Unit #: <u>551 465671)</u>	Waypoint: <i></i> _/)
Latitude: <u>41 ° 09 ' 63</u>	"N Longit	ude: <u>42 ° 56 ' 17,4</u> "W
Roost Name/#: <u>172.780</u>		
Radio-tagged bat present in	tree: Yes/_ No	
Complete the following information o	only if a radio-tagged bat is present in the	e roost
Bat species: <u> £ . A১১ নে১</u>	_ Sex(M/F): Age(Ad/	Jv): <u> </u>
Capture date: 14-5 w - 11	Capture site:	Frequency:
distinguish bats as silhouettes agair the roost to observe all exiting bats the roost and do not make unnecess	be made at 2-minute intervals. Use the next the sky as they exit the roost. Pleas, but not close enough to influence empary noise and/or conversation, and minimarture time:	se ensure that you are close enough to ergence (do not stand directly beneath mize use of lights).
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2104	1 Marie Carlos C	
2106	11/ (3)	
0109		
2110	14114tt) (11)	
BHB .	14+14+ (1)	
2114	11 HH HH 11 (6	
	HE+HE+HE1 (10)	
2118	HH-HH-1111 (19)	
2120	HT III	
2127	HH-HH 111 (3)	
2124	HT HT HT (2)	1
	ts emerge simultaneously, fly off in the did the transmittered bat(s) em	nerge? What direction did the

and the second of the second o

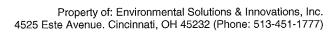


ROOST TREE DATA

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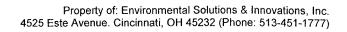
Project #: <u>340</u>	Date: 25 Jul	Biole	ogists: J,Basi	ieV	
Project Name: Republic		State:	County:_َ	Sens ca	
GPS Unit #: 851 7 Wa			. <u>67</u> / Picture #:		
Latitude: 41 . 69 ,40.	<u> </u>	Longitude: <u>/</u>	<u> </u>	<u>⊰</u> "W	
Bat Species: 2 Auscus		Sex(M/F):/	Age(Ad/Jv	/): <u> </u>	epro.: <u>NR</u>
Capture Date: 24 Jul 11			:_30		
Frequency: 172,500			/#: <u>500-l</u>		
ROOST TREE DATA					
Roost tree species: Bar			dbh: cm		
Estimated height from ground	to roost:	_(meters)	Tree height		(meters)
Exfoliating bark (%):	_ Distance from cap	ture site: <u> </u>	m or km)(c	circle one)	
Tree health:	Live	Dead	-	Partial	
Observed roost potential:	Exfoliating Bark	Cracks	crevasses _	Hollow	Unknown
Bat vocalizations:	Yes	<u>√</u> No			
Guano on ground/foliage:	<u>)</u> ∠Yes	No			
Is guano fresh (if present)?:	<u> </u> Vyes	No			
Guano volume (if present):	1.ght	_			
DESCRIPTION OF SURROU	=				
Dominant Canopy Species (>		Subdom	ninant Canopy Sp	pecies (< 40	ocm/16" dbh)

					,
Estimated dbh range (cm): L	g: Sm:	Estimate	ed dbh range (cn	 n): La:	Sm:
Estimated canopy closure at r		- 1 to the state of the state o	The Committee Control of the Control		
• •	ModerateSligh	t None	Slope aspect:_		
,	_	derate	Open		
Cubcarlopy Clatter.		dorato	Distance to	nearest flin	ht
Distance to nearest water sou	irce: <u>500</u> ffor l	km (circle one)	corridor:		
Habitat Description:					
Check all that apply: Mature Upland ForestYoung Upland ForestMature Lowland ForestYoung Lowland ForestComments:	_Recently Logged Fo _Pine Plantation _Woodlot/ForestEdg _Old Field	Stre eEme	p/Pasture Land eam/River ergent Wetland ested Swamp	Vernal Deepw	scrub Swamp Pool ater Lake/Pond



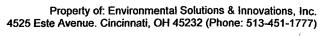


Project #:	Date: 29 July 1	Biologists: Dasige
Project Name: Republic	State: <i>OH</i>	_ County: <u>Sene ca</u>
GPS Unit #: <u>5977</u>	Waypoint:_	N/A
_atitude: <u>41 ° 69</u> , <u>40 ,</u>		Longitude: <u>52 ° 57 ' 5/. 3</u> "W
Roost Name/#:_ <i>500- </i>		
Radio-tagged bat present in t		
Complete the following information on	ly if a radio-tagged bat is pres	sent in the roost sge(Ad/Jv):
Bat species: <u>Eptesicus fuscu</u>	Sex(M/F): A	ge(Ad/Jv): <u>///</u> Repro.:_////
Capture date: 29 70/426	\mathcal{M} Capture site: 30	Frequency: <u>/ 77, 500</u>
distinguish bats as silhouettes agains	It the sky as they exit the roo but not close enough to influ Iry noise and/or conversation,	// A
Emergence Time	Number of Bats	Emergence Aspect
2110)]	
2/12	0	
2114		
2116	0	
2122	JH .	
2124 2126		
2126	/1	
<u> </u>	e did the transmittered ba	, fly off in the same direction, loiter, at(s) emerge? What direction did the





Project #: 590.01		gists: <u>- A taka iyo ar \</u>
Project Name: <u>Republ</u>	State: O Co	
GPS Unit #:	Waypoint:	MA
Latitude: <u>41 • 09 , 38.</u>	<u></u> "N Longi	tude: <u>82 ° 57 , 52.6 "</u> W
Roost Name/#: <u>うつ</u>	"Throoklaber	
Radio-tagged bat present in	tree: Yes_ <u></u> No	
Complete the following information or	nly if a radio-tagged bat is present in th	ne roost
Bat species: Epigicost	uch Sex(M/F): Age(Ad	/Jv): <u> </u>
Capture date: 24 72 1720	// Capture site: らぐ	/Jv): <u> </u>
the roost to observe all exiting bats, the roost and do not make unnecess	but not close enough to influence en ary noise and/or conversation, and mir rture time: 2 1/9 Total Ba	
Emergence Time	Number of Bats	Emergence Aspect
2055	A	50.0
NO51	3	Carrie of Garage
3059	s.f.	
2101		
	5	
	2	
11		
	1 200	
Describe emergence: Did bats circle, disperse, etc. What time transmittered bat fly?	s emerge simultaneously, fly off	in the same direction, loiter,





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Project #:	Date: Biolo	gists: (O)
Project Name: <u>Republic</u>	State: <u></u> Co	ounty:
GPS Unit #:	Waypoint:	9 · 1
Latitude: 41° 09' 40.	<u>3</u> "N Longi	itude: <u>82 ° 57 , 5/68 "</u> W
Roost Name/#:		
Radio-tagged bat present in tr	ee: Yes/_ No	card, shir head when us.
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Capture date: 14 July 2011	Capture site:	Frequency: <u>172,566</u>
the roost and do not make unnecessary Arrival time: 2031 Depart	noise and/or conversation, and min	
Emergence Time	Number of Bats	Emergence Aspect
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2050		The second
2055	<u> </u>	
2050	<u> </u>	
1039		
21,27	<i></i>	
<u> </u>	<u> </u>	
S. S		
See		
		315 2 32 37
12		<u> </u>
Describe emergence: Did bats e circle, disperse, etc. What time transmittered bat fly?	emerge simultaneously, fly off did the transmittered bat(s) er	nerge? What direction did the

99				
	•			
		*ar		
				10 m
				^



	\$	•
Project Name: 🔨 🕠 🔍	State: OH Co	unty: Service
GPS Unit #:	Waypoint:	
Latitude: <u>41 ° 09 , 4</u>	<u>0.3</u>	tude: <u>82 • 57 • 5] 8 "</u> W
Roost Name/#: <u> </u>		
Radio-tagged bat present i	n tree: Yes No 🍞	not liveral today
Complete the following information	n only if a radio-tagged bat is present in t	he roost
	Sex(M/F): Age(Ad/	
Capture date: Z4July 1	Capture site: 3 🗸	Frequency:\ <u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>
	ssary noise and/or conversation, and mir	
	parture time: <u>AHR</u> Total Bat	
Arrival time: <u>ADDA</u> Dep Emergence Time	Number of Bats	Emergence Aspect
		Emergence Aspect
Emergence Time		
Emergence Time		Emergence Aspect
Emergence Time		Emergence Aspect
Emergence Time		Emergence Aspect
Emergence Time 3050 2050 2054 3054 3054 3056 3058		Emergence Aspect
Emergence Time 3050 2050 2050 2050 2050 2050 2050		Emergence Aspect
Emergence Time 3050 2050 2050 2050 2050 2050		Emergence Aspect
Emergence Time 30 50 20 50 20 50 20 50 20 50 20 50 20 50 20 68 20 68 20 60		Emergence Aspect
Emergence Time 3050 2050 2050 2050 2050 2050		Emergence Aspect
Emergence Time 30 50 20 50 20 50 20 50 20 50 20 50 20 50 20 68 20 68 20 60		Emergence Aspect
Emergence Time 30 50 20 50 20 54 30 58 20 58 20 58 20 58		Emergence Aspect

Heralia Straight Cost

APPENDIX D PHOTOGRAPHS





Site 2



Site 3



Site 4



Site 10



Site 12



Site 14



Site 23



Site 26



Site 30



Site 31



Big brown bat (Eptesicus fuscus)



Northern bat (Myotis septentrionalis)



Eastern red bat (Lasirius borealis)



Little brown bat (Myotis lucifugus)



Hoary bat (Lasiurus cinereus)



Tri-colored bat (Perimyotis subflavus)



Evening bat (Nycticeius humeralis)



Indiana bat (Myotis sodalis)



Indiana bat roost 218-1



Indiana bat roost 218-2



Indiana bat roost 218-3



Indiana bat roost 218-4



Indiana bat roost 218-5



Indiana bat roost 218-6



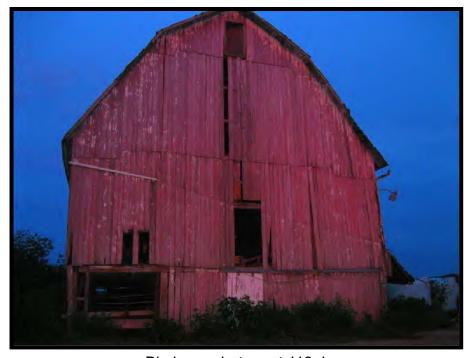
Big brown bat roost 740-1



Big brown bat roost 780-1



Big brown bat roost 239-1



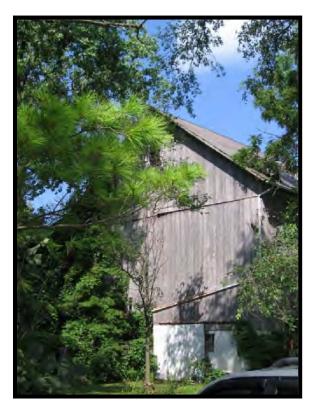
Big brown bat roost 118-1



Big brown bat roost 500-1



Big brown bat roost 285-1



Big brown bat roost 580-1



Bat 950



Bat 740



Bat 122



Bat 118



Bat 225



Bat 239



Bat 218



Bat Acoustic Monitoring Survey Report - 2011

Republic Wind Farm, Seneca County, Ohio



Prepared for:

Republic Wind, LLC 300 South Wacker Drive, Suite 1500 Chicago, Illinois 60606

Prepared by:

Tetra Tech, Inc. 451 Presumpscot St. Portland, Maine 04103

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1.0 INTRODUCTION

1.1 Project Overview

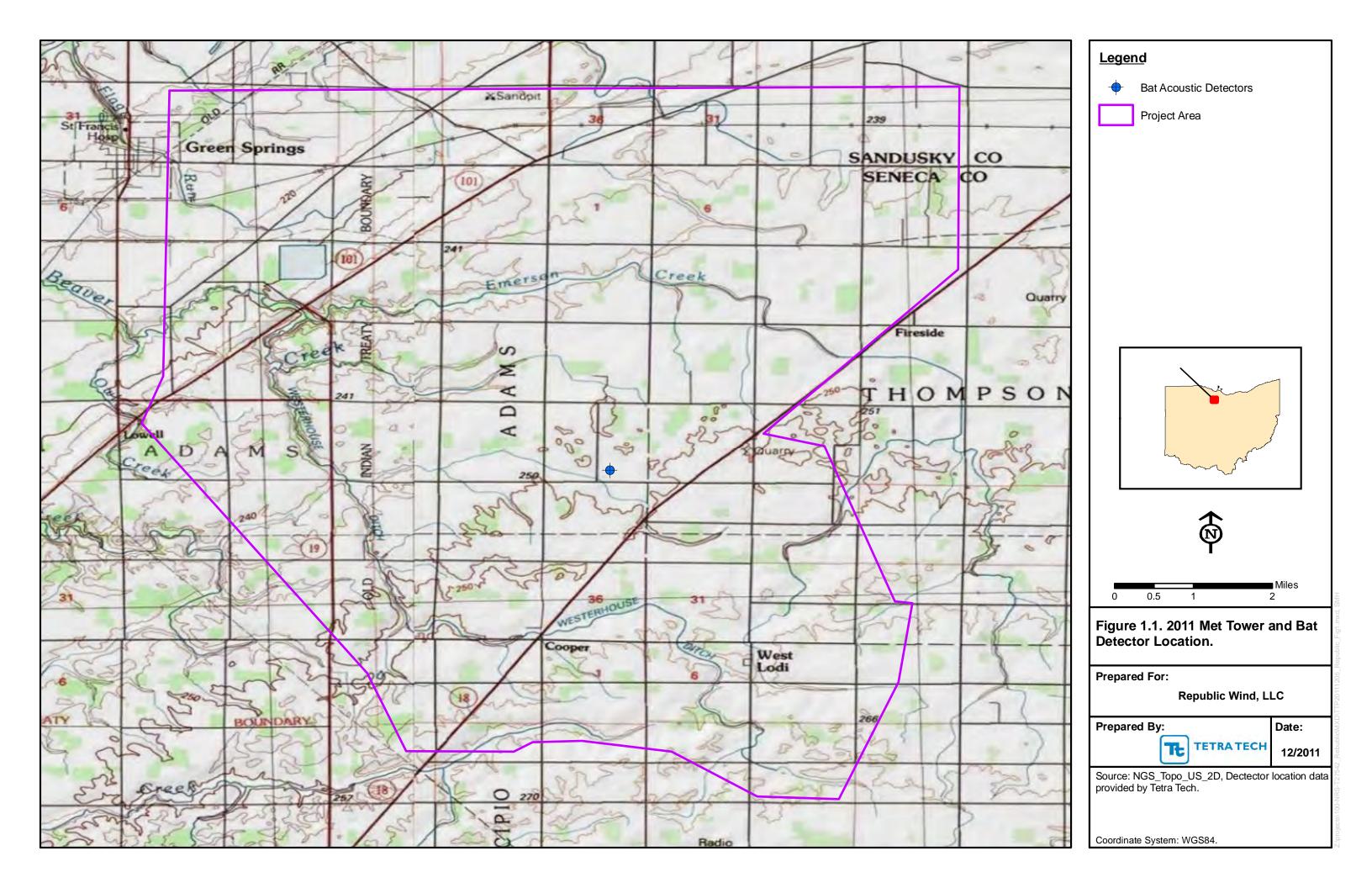
Republic Wind,LLC proposes to develop the Republic Wind Farm (Project) near Belleview, Ohio (Figure 1-1). The Project site is located in Seneca and Sandusky County in north central Ohio. Land use in the proposed Project area comprises agricultural fields interspersed with forested riparian habitat that follows streams and storm water drainage. This report presents baseline (pre-construction) bat acoustic monitoring data collected during the spring, summer, and fall 2011 migration season at the Project's meteorological tower (met tower) (Figure 1.1).

1.2 Goals and Objectives

The goal of the bat acoustic monitoring survey was to assess bat phenology within the Project area, for an extended period, between March 16 and November 16, 2011. The objectives of the bat survey were to:

- 1) identify the peak activity periods for bats;
- 2) determine the bat species composition in the Project area (near the bat detectors); and,
- 3) determine an index of bat activity at different heights above ground level.

Figure 1.1. Republic Bat Acoustic Monitoring Sites – 2011.



2.0 METHODS

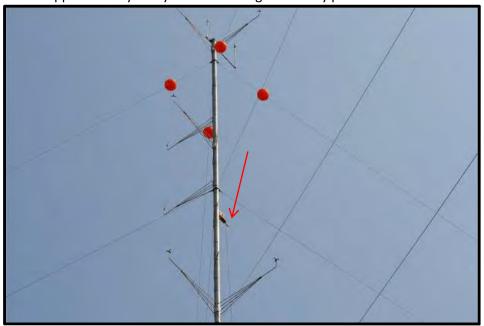
2.1 Data Collection

Tetra Tech conducted bat acoustic surveys at the Project area in the spring, summer, and fall of 2011. The surveys conformed to the ODNR-On-shore Bird and Bat Pre-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio (May 2004).

Bat activity was monitored using ultrasonic acoustic recorders (Anabat SD-2, Titley Scientific, Inc.) at the Project's met tower. The area around the met tower was an agricultural field, that was used to grow corn. The nearest forested area was approximately 670 meters northeast of the met tower. This section presents the cumulative results of 245 nights of bat activity monitoring during the spring migration, summer residency period, and fall migration in 2011.

Two bat acoustic detectors were deployed at the met tower. The two detectors were suspended from the tower on March 16, 2011, at heights of 45 meters (m) and 5 m above ground level; these detectors will be referred to as the 'High' and 'Low' detectors, respectively (Figure 2.1 and 2.2). Each of the two detectors remained in the same location throughout the survey period. To ensure that the greatest period of bat activity was surveyed each night, detectors were programmed to begin recording 30 minutes before sunset and stop recording 30 minutes after sunrise. Each detector was calibrated to detect a 40 kHz tone at a distance of 20 m using a Bat Chirp (Tony Messina, Nevada Bat Technology). Acoustic monitoring at the met tower was continuous throughout the survey period.

Each detector station consisted of an Anabat SD-2 bat acoustic detector powered by a 10-watt solar panel and a 12-volt battery encased in a waterproof housing (Figure 2.1 and 2.2). A pre-amped microphone cable, pre-amped microphone, and bracket were used to suspend the Anabat microphone from the tower. A plastic deflector shield angled at 45 degrees below the microphone facilitated recording of the airspace above and adjacent to the detector. Each detector was manually checked by trained technicians approximately every 2 weeks during the survey period.



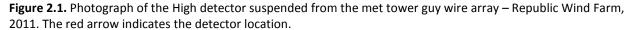




Figure 2.2. Photograph of the Low detector suspended from a specialized met tower pulley system – Republic Wind Farm, 2011. The red arrow indicates the detector location.

2.2 Data Analysis

Potential bat call files were extracted from data files using CFCread[®] software (Titley Electornics, Inc.). CFCread[®] software screens all data recorded by the bat detector and extracts call files using a filter. The default settings for the CFCread[®] software were used during the file extraction process to ensure comparability among datasets. These settings include a maximum time between calls (TBC) of 5 seconds, a minimum pulse fragment line length of 5 milliseconds, and a smoothing factor of 50. The smoothing factor refers to the degree that adjacent data points are averaged. The higher the smoothing factor, the less restrictive the filter, resulting in more noise files and poor quality call sequences retained within the dataset. A call is defined as a single pulse of sound produced by a bat. A call sequence is defined as a combination of two or more pulses recorded in a single call file. Call sequences with less than 2 pulses were not analyzed.

A qualitative visual comparison was made between recorded bat call sequences and established reference libraries of calls. This technique allowed for relatively accurate identification of bat species (O'Farrell et al. 1999; O'Farrell and Gannon 1999). All call sequences were also run through a series of conservative filters based on call sequence characteristics outlined in Szweczak et al. (2008) and from known species call sequences (hand released and zip-line individuals) from a regional call library. A call sequence was considered of suitable quality and duration to be included in data analysis if the individual

call pulse(s) exhibited the full spectrum of frequency modulation produced by a bat (i.e., consisting of sharp, distinct lines) with a minimum of two pulses.

In addition to the qualitative visual analysis, all bat calls recorded during the monitoring period were processed using an Indiana bat specific call filter. Call sequences can be difficult to definitively classify due to overlap in call pulse characteristics across species. Species such as hoary bat (*Lasiurus cinereus*) emit calls that are distinct in slope, duration, characteristic frequency, and frequency range (i.e., parameterizations). However, for other species, particularly those of the Myotis genus, it is difficult to accurately differentiate among species based on call sequence characteristics due to the similarities in call parameters. Nevertheless, it is often possible to make accurate classification inferences based on good quality calls of species including Indiana bat, little brown bat (*Myotis lucifugus*), and northern longeared bat (*Myotis septentrionalis*). Call sequences of eastern red bat (*Lasiurus borealis*) and tri-colored bat (*Perimyotis subflavus*) are typically unique but occasionally appear similar to each other or Myotis species, especially if the recording is of poor quality. Classification is often complicated by the presence of static or incomplete call pulses within a recording. Fragments and poor quality calls are prevalent in recordings from passive detectors monitoring for a long duration.

Relative abundance, or the magnitude of each species' contribution to spatial and temporal use, was determined by calculating an Index of Activity (IA) modified from Miller (2001). The method is based on the presence/absence of a species call sequence within one-minute time increments. Thus, IA was the sum of minute-increments with a species presence divided by the unit effort (IA = # minutes / detectornights * 100). The IA calculations allows for samples with different levels of effort (i.e., different total number of detector-nights) to be accurately compared, thereby reducing the potential bias associated with differences in study effort. IA calculations follow those employed by Miller (2001) and O'Farrell and Shanahan (2006).

3.0 RESULTS

The 2011 bat acoustic monitoring survey started on March 16 and ended on November 16, 2011 (Table 2.1). During the 245-night survey period detectors operated for 490 detector-nights (number of detectors multiplied by the number of nights that detectors were operational). A total of 534 bat call sequences were recorded within 531 one-minute intervals of bat activity (number of minutes with bat call sequences present) yielding an overall IA of 108.4 (Table 3.1).

The highest IA rate (# of one minute intervals of bat activity/detector-nights * 100) was recorded by the Low detector (IA = 197.1). The smallest IA rate (19.6) was recorded by the High Detector, which detected 50 call sequences within 48 minutes of activity (Table 3.1).

Table 3.1. Summary results of acoustic monitoring survey effort by detector – Republic Wind Farm, 2011.

Period of Operation		Detector- Nights	Number of Minutes with Bat Activity	Total Number of Call Sequences Recorded	Overall Index of Activity	
High (45 m)	Mar. 16 - Nov. 16	245	48	50	19.6	
Low (10 m)	Mar. 16 - Nov. 16	245	483	484	197.1	
	Total	490	531	534	108.4	

Bat call sequences were identified to the lowest possible taxonomic level (Table 3.2). Sixty-six (66) percent of recorded calls were classified to species (n = 354). Calls were then combined into five categories based on similarities in call sequence structure: Low Frequency Species, Middle Frequency Species, High Frequency Non-Myotis Species, High Frequency Myotis Species, and Unknown (Table 3.2). Some call sequences did not meet the parameters required for species level identification (n = 132) and were classified based on the frequency modulation exhibited in the call sequence. Some of these calls (n = 4) were classified as Unknown because they consisted of feeding buzzes that could not be accurately attributed to any single species or guild, and therefore could not be labeled as either a middle or high frequency calls [it is likely that most of these were evening bat (*Nycticeius humeralis*) calls].

Seven species were identified from the call sequences recorded during the 2011 acoustic monitoring effort. A total of 248 calls (46.4 percent of all calls recorded), were attributed to migratory bats including the hoary bat, silver-haired bat, eastern red bat, and evening bat. The greatest number (n = 125) of recorded call sequences attributable to a single species was from silver-haired bat. Silver-haired bat produce call sequences with relatively unique characteristics that can generally be accurately identified to species level, and tend to be lower in frequency than other species, and therefore do not attenuate as quickly in the atmosphere. A number of hoary bat (n = 54), eastern red-bat (n = 48), and evening bat (n = 21) were also recorded.

IA values were calculated for each species by detector. The greatest IA was for silver-haired bat at the low detector (IA = 43.7). For each of the species recorded IA values were greatest at the Low detector (Figure 2.4). Hoary bat was the second most active species overall (as measured by IA), and was the most active species at the High detector (IA = 9.4) (Figure 3.1).

No calls of federally listed bat species were positively identified during the survey. Indiana bats are known to occur in the vicinity of the Project area, and species classifications for many Myotis calls recorded during the 2011 surveys (n = 44) was not feasible; therefore it is possible that Indiana bats were recorded but not identified in the dataset. Although none of the 44 Myotis calls identified during the passive acoustic monitoring surveys at the met tower exhibited characteristics typical of Indiana bat calls. In addition, the overall low levels of Myotis species activity recorded may indicate that the type of habitat around the met tower is not frequented by Myotis. The distance from wooded areas (approximately 670 m) may make the likelihood of Indiana bat occurrence lower near the met tower. Avoidance of large open areas by Indiana bat, especially agricultural land with little forested habitat,, has been documented (Murray and Kurta 2004).

Bat activity varied throughout the monitoring period (Figures 3.2). Overall, there was no bat activity recorded before April 10, 2011. Bat activity increased slightly around April 20 but declined again in mid-May. Activity began to increase in early August until peak activity was recorded on August 13. Activity declined after August, although bats were active throughout September, and until October 12, 2011.

Table 3.2. Summary of total number of call sequences recorded per species – Republic Wind Farm, 2011.

Group	Characteristic Frequencies*	Species	Total Call Sequences	
		Hoary bat	54	
Low Frequency	12 kHz–24 kHz	Unknown low frequency call seq.	6	
		Big brown bat	57	
		Silver-haired bat	125	
Middle Frequency	24 kHz–38 kHz	Evening bat	21	
		Unknown middle frequency call seq.	62	
High Frequency (Non-myotis		Tri-colored bat	41	
species)	44–45 kHz	Eastern red bat	48	
		Little brown myotis	8	
High Frequency (Myotis species)	46–52 kHz	Unknown <i>Myotis</i> species	44	
- Specifically		Unknown high frequency call seq.	64	
Unk	nown	Buzz	4	

^{*} Characteristic frequency (Fc) is generally defined as the frequency of the call pulse at the lowest slope, or the lowest frequency of the consistent frequency modulation sweeps. Fc represents the single most useful parameter for species identification.

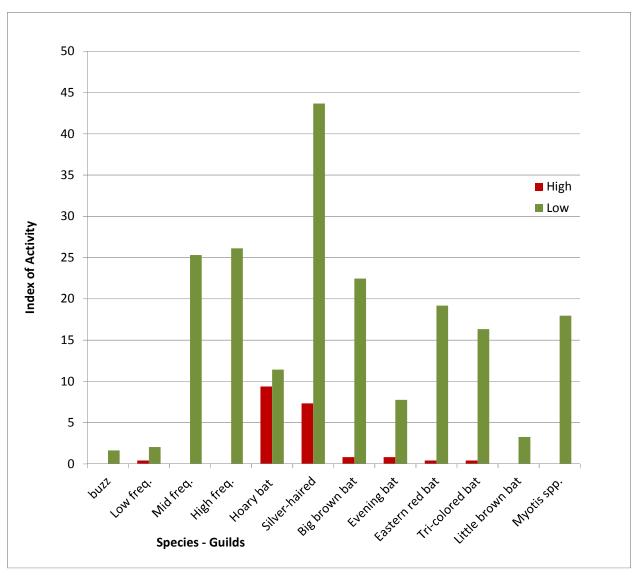


Figure 3.1. Index of Activity of migratory bat species by detector – Republic Wind Farm, 2011.

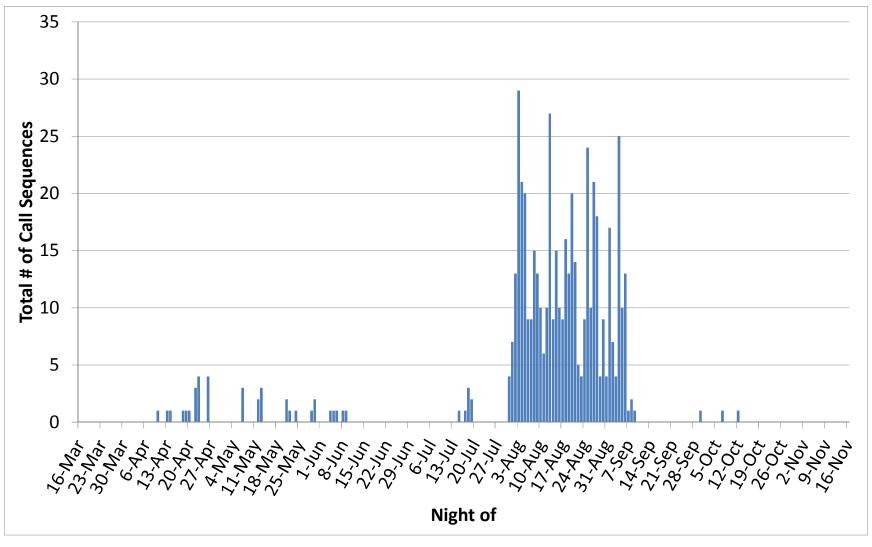


Figure 3.2. Total number of call sequences recorded per night for all detector pooled – Republic Wind Farm, 2011.

10 October 2011

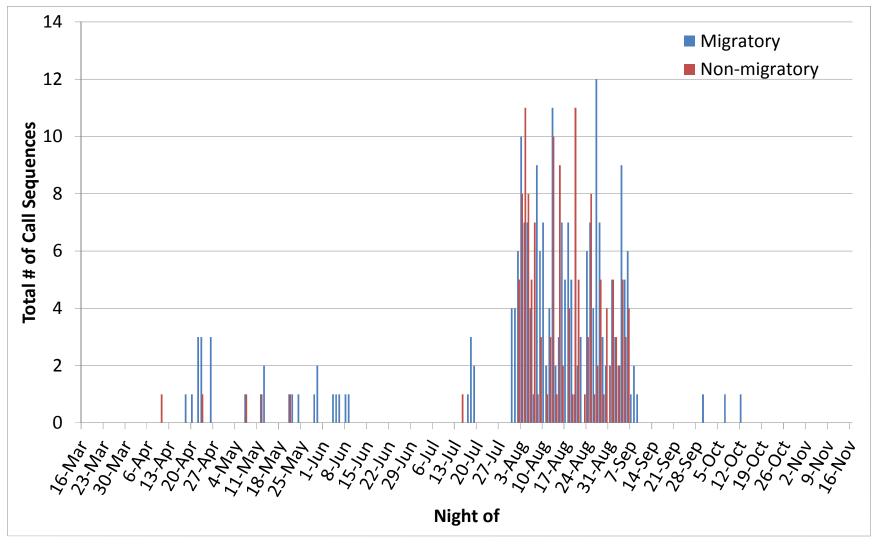


Figure 3.3. Total number of migratory species and non-migratory species call sequences – Republic Wind Farm, 2011.

4.0 DISCUSSION

The migratory species, hoary bat, silver-haired bat, eastern red bat, as well as evening bat, were positively identified from recordings made during the 2011 survey period. Overall, there was more migratory species activity than non-migratory species activity recorded in the Project area. These results are consistent with recent research demonstrating that tree and tree-crevasse roosting migratory bats are the predominant species found during post-construction mortality studies at operational wind farms in North America (Arnett et al. 2008). Results from these mortality studies show the three bat species most commonly encountered during ground searches were long-distance (Lasiurine) migratory bats: hoary bat, silver-haired bat, and eastern red bat (Kunz et. al 2007, Arnett et al. 2008).

Non-migratory species recorded during the 2011 surveys (big brown bat, tri-colored bat, and Myotis species) were only slightly more active during August and September than were migratory species recorded (hoary bat, silver-haired bat, eastern red bat, and evening bat). Migratory species were active in August and September, as well as in the spring and fall (Figure 3.3). Overall activity of non-migratory and migratory species was highest during August and September, which is considered the "swarming period", when bats group together prior to hibernation and/or migration, and often mate (Parsons et al. 2003). The occurrence of migratory bat species during the summer demonstrates that there were likely some long-distance migratory tree and tree crevasse roosting bats spending the summer residency period at the Project area. There also appeared to be few long-distance migrants moving through the Project area during the spring and fall, as evidenced by the low number of calls recorded during those periods.

IA values for all bat species were lowest at the High detector. This indicates that bat activity nearest the rotor swept zone (RSZ) of typical modern wind energy turbines was low compared to bat activity levels below the RSZ and nearest ground level. Migratory species (hoary bat, silver-haired bat, eastern red bat, and evening bat) we recorded primarily just above ground level by the Low detectors. Myotis species exhibited low levels of activity, as measured by IA, and were not recorded at the High detector.

The ratio between the total number of call sequences recorded at each detector, and the total number of one-minute intervals with bat activity may be used as an indicator of the "concentration" of bat activity throughout time. For example, the High detector recorded 50 call sequences over the course of 48 minutes of activity. This near one to one ratio (0.96) is a function of low concentrations of bat activity at the High detector; activity events were spread out over time and rarely were two calls recorded in the same one-minute interval. Similarly the ratio between call sequences and minutes of activity at the Low detector was also slightly less than one to one (0.99). Based on these observations it seems that bat activity at the met tower was largely episodic in nature, and that extended periods of constant activity did not occur. Instead, it appears that periods of diffused and inconsistent activity occurred at both detectors. These patterns of activity are not consistent with what would be expected if the met tower location provided significant foraging habitat, or was located within a migration or transit corridor. If the area was important for foraging or migration we would expect to see high numbers of bat calls recorded during limited temporal periods. For example Racey and Swift (1985) demonstrated that foraging bats may trap-line areas where food resources are concentrated, returning to the same foraging areas nightly. High numbers of calls recorded over a short period of monitoring would be more indicative of high use by bats. Bat activity at an important migration corridor might also be more concentrated, with high numbers of passes occurring in rapid succession, as would expected if multiple individuals moved through the area during migration of transit between foraging sites.

Patterns of activity in the Project area do not suggest the presence of a large bat migration corridor in the vicinity of the met tower. If a substantial migration corridor did exist over the Project area, the data should show a higher ratio of minutes of bat activity to detector nights. The sporadic and diffused occurrence of long-distance migratory species in the recording indicates that few individuals use the open area near the met tower. There did not appear to be an episode of dramatic fluctuation in recorded activity that could be definitively attributed to large-scale migration, although an observable increase in activity during August and September was apparent; however this increase was minimal and was not indicative of a large number of bats moving through the Project area (Cryan and Veilleux 2007).

Weather conditions, including mean nightly temperature and wind speed, probably contributed to the patterns of activity recorded by the acoustic detector sets. The increase in bat call sequences recorded in August may have resulted from the following: (1) increased foraging activity near the detectors due to a rise in mean nightly temperatures (Racey and Swift 1985, O'Donnell 2000, Kusch et al. 2004); (2) increases in food resource concentrations near the detectors, (3) an episode of bats leaving a roost and transiting to an established area of concentrated food resource passing the detectors *en route*; or, (4) bat swarming near the met tower. The increase in activity of hoary bat, silver-haired bat, and eastern red bat at the met tower detectors during September was almost certainly attributable to migration and/or pre-migration staging (Cryan and Veilleux 2007).

There is inherent difficulty in attempting to interpret the number of recorded call sequences as an indication of activity levels; however, detection rates, recorded minutes of activity and IA values do provide a relative measure of bat activity near sampling locations. The limited maximum range of a single Anabat detector (approximately 30 m [100 ft]) makes the characterization of landscape-scale movements, such as migration, difficult to assess. However, a comparative assessment of the results from detectors arrayed within a tower at different elevations can facilitate the characterization of spatial distribution and phenology of bat activity.

The total number of bat call sequences and minutes of activity recorded each night by a given detector may or may not reflect the absolute level of bat activity present in the Project area, although some studies have suggested that there may be a relationship between the relative numbers of calls recorded and absolute bat activity levels (Gorresen et al. 2008). The bias in passive acoustic surveys of this type stems from the unknowns that are intrinsic to automated monitoring. For example, a single foraging individual may produce a large number of call sequences that are within the range of a given detector set. Conversely, a large number of individual bats may pass the detector set and produce an equally large number of call sequences. It is also important to note that the survey results are a sample of bat activity in the airspace surrounding the detectors and are not necessarily indicative of bat activity throughout the entire Project area.

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Summer 2015 Bat Surveys for the Proposed Republic Wind Project, Seneca and Sandusky Counties, Ohio

USFWS No. 15-045

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22 December 2015

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Appendix A: Mist-Net Data Sheets Appendix B: Mist-Net Photographs Appendix C: Bat Capture Photographs Appendix D: Roost Tree Data Sheets Appendix E: Roost Tree Photographs



PROJECT BACKGROUND

Copperhead Environmental Consulting, Inc. (Copperhead) completed a bat mist-net and telemetry survey for the proposed Republic Wind Project (Project) in Seneca and Sandusky counties, Ohio. The Project is located approximately 11 kilometers northeast of Republic Ohio, and covers approximately 37,777 acres, the majority of which is non forested (~94%) based on estimates derived from National Land Cover Dataset (Figure 1). The goals of this survey were to document bat species diversity and abundance within the study area, and inform understanding of roosting habitat, foraging range, and spatial distribution of Indiana bats and northern long-eared bats, if captured.

METHODOLOGY

Level of Effort/Site Selection

Mist-net surveys were implemented in accordance with guidelines outlined in the 2015 Range-wide Indiana Bat Summer Survey Guidelines (USFWS 2015), 2009 Ohio Department of Natural Resources (ODNR) On-Shore Bird and Bat Pre- and Post-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio (ODNR 2009), and the most recent Ohio Division of Wildlife Guidance for Bat Permitted Biologist (ODNR-DOW 2015). Because the survey was not a presence/absence survey for listed bats, the total number of net nights per mist-net site and specific net set requirements followed ODNR (2009). A study plan was submitted to the USFWS and the ODNR on 7 July 2015 and concurrence was received on 13 July (USFWS) and 22 July (ODNR).

The level of effort outlined in the study plan was based on the estimated amount of forested habitat within the Study Area (~4,454 ac) resulting in 36 mist-net sites surveyed from 23 July through 31 July 2015. After field work was completed, the area of the Project was reduced and is denoted as Project Area – Reduced Fall 2015 in Figure 1. The level of effort completed exceeds the level of effort required for the Project Area.

Locations of mist-net sites were chosen based on the best available habitat present within parcels where landowner access was granted, and deemed most likely to yield Indiana and northern long-eared bat captures.

Mist-Net Surveys

Mist-nets were set-up to maximize coverage of flight paths used by bats along suitable travel corridors, foraging areas, or drinking areas. Placement of mist-nets was based on the extent of canopy cover, presence of an open flyway, and forest conditions near the site. Actual location and orientation of each net was determined in the field by permitted biologists and mapped with ArcGIS (v. 10.3.1 ESRI, Redlands, CA).

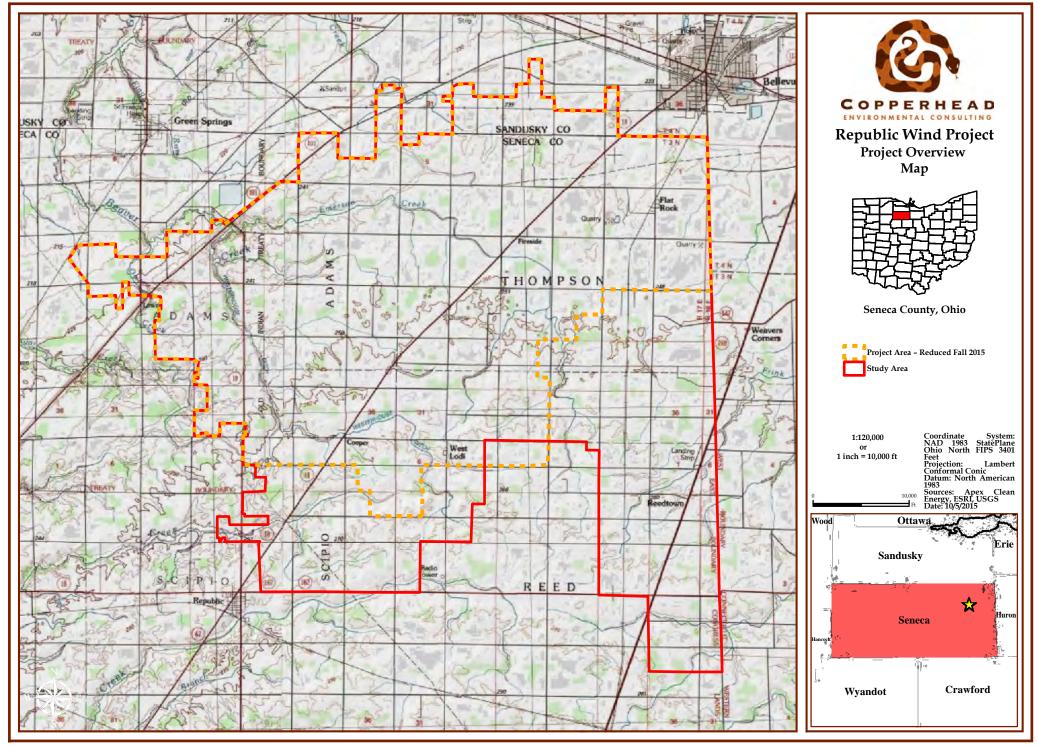


Figure 1. Proposed Republic Wind Project and bat study area overview, Seneca and Sandusky Counties, Ohio, 2015.

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Each mist-net site consisted of four net sets with at least one set being a high net (three mist-nets stacked to create one set that was \sim 7.5 m tall). Mist-net sites were surveyed for two nonconsecutive nights (due to an access issue, site 3 was surveyed for only one night), totaling eight net nights per site. Low visibility, high-quality, nylon nets, 4 to 12 meters (\sim 13 - 42 ft.) in length (depending upon the width of the corridor) were used for each net set. Nets were deployed at sunset each night, left open for at least five hours, and checked every 10 minutes.

Disturbance near the nets was kept to a minimum. Weather data, including temperature, wind speed, and cloud cover, were recorded for each site on an hourly basis to ensure compliance with the mist-netting guidelines (e.g., temperature during survey > 50°F).

Bats were live-caught in mist-nets and released unharmed near the point of capture. Biological and morphometric data, i.e., species, sex, age class, reproductive condition, mass, and forearm length were recorded on data sheets for each individual captured. In addition, the height and the specific net set of capture were recorded for each bat. Processing of bats was completed within 30 minutes from the time the bat was removed from the net. All captured northern long-eared bats and Indiana bats were banded utilizing ODNR, Division of Wildlife (DOW) bands as required by ODNR and OH USFWS.

White-Nose Syndrome Protocol

In an effort to minimize the transmission of White-Nose Syndrome (WNS) between captured bats, all netting and field activities followed the most up-to-date guidelines established by USFWS. All hard, non-porous netting equipment was sanitized with a Lysol® IC solution prior to arrival at the project site and after each survey night; all other equipment was submersed in hot water (140°F) for a minimum of 20 minutes. Disposable latex gloves were worn over sanitized handling gloves and changed following the handling of each bat. All non-disposable equipment, e.g., PESOLA® scales, rulers, calipers, etc., coming into contact with bats was sanitized immediately following the handling of each bat. Bats were evaluated for potential WNS infection through wing scoring following the "Wing-Damage Index Used for Characterizing Wing Condition of Bats Affected by White-nose Syndrome" (Reichard and Kunz 2009).

Radio Telemetry

Radio Transmitter Attachment

Captured Indiana and northern long-eared bats were radio-tagged in order to locate diurnal roosts. Radio transmitters (Holohil Systems Ltd. LB-2X, frequency 172 kHz, 0.30 g and Lotek PicoPip Ag337, 172 kHz, <0.32g) were tested before being attached

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between the scapulae of the bat with Permatype, a nontoxic surgical adhesive that degrades over time allowing the transmitter to fall off the bat. Each transmitter had a unique frequency, which was used to identify individual bats during radio-tracking.

Diurnal Radio Telemetry & Emergence Counts

Model TRX-1000S (Wildlife Materials Inc., Carbondale, Illinois, USA) tracking receivers and 172-3 FB 3- and 5-element Yagi directional antennas were used to track radiotagged bats and locate day roosts. Once located, each roost tree was photographed and coordinates were obtained using a handheld GPS unit. In addition, a variable radius plot was established around each roost tree using a 10-factor English prism (Cruise Master Prisms, Inc.) to determine stand characteristics and basal density. Data recorded for each tree within the plot included species, diameter at breast height (dbh), tree height, roost height, canopy cover, and bark condition. Roost tree locations were mapped with ArcGIS (v. 10.3.1 ESRI, Redlands, CA).

Emergence counts were conducted on each roost tree located during telemetry efforts. The number of roost trees monitored on a given evening was determined by availability of personnel and access to roost trees, with priority given to roost trees that were occupied by a radio-tagged bat. Emergence counts were conducted by a biologist or recorded with a night vision video camera, which allowed emergence counts to be conducted on several trees concurrently each night. Observers arrived at roosts before sunset and positioned themselves so that the roost was backlit by the evening sky and remained at the roost until darkness inhibited further counts. Video cameras were positioned at a roost tree before sunset and retrieved after emergence was finished for the night. Videos were watched the next day by biologists and the number of bats emerging was counted. Emergence data were recorded on the back of the roost tree data sheets.

Foraging Telemetry

Foraging telemetry was conducted using a Cessna Sky Hawk 172 fitted with aircraft strut mount assemblies (Advanced Telemetry Systems Inc., [ATS] 1997, Isanti, MN) with two 172-3FB 4-element ATS Yagi directional antennas (ATS model #13886). The use of fixed-winged aircraft to collect foraging data allowed for the collection of data on multiple bats each night, and the ability to move long distances between multiple foraging areas in one night. The aerial crew consisted of a pilot and a navigator/copilot. The pilot maintained an elevation of approximately 455 meters (1500 ft.) above ground level. The navigator monitored the transmitter signal through the receiver estimating the bat location on mapping software (DeLorme Topo North America 9.0, Yarmouth, ME). Two strategies were employed for determining a bat's location. For one method, the pilot flew the airplane in tight circles above the bat with the airplane positioned so the inside antenna was always pointed toward the bat. The

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other method utilized multiple crosses over the bat, listening to signal strength, switching antennas, and viewing the airplane's GPS location on the laptop. When enough information was gathered and the navigator felt confident with the bat's approximate location, a foraging point was plotted on the electronic map and labeled with a bat frequency and time. To estimate error associated with location data collected from the airplane, the aerial crew estimated locations of stationary bats in their roosts during the day (n=6) and compared them to the actual locations of those roosts as documented via ground telemetry. The resulting telemetry error from the airplane was 340.0±128.0 (SE) m (range: 91.0 – 950.0 m).

Locations of foraging bats and capture locations were pooled and examined using the fixed kernel method and a least squares cross-validation smoothing parameter conducted with BiotasTM version 2.0a 3.8 (Ecological Software Solutions LLC, Hegymagas, Hungary) to determine utilization distributions (UD) for each individual. UD's were imported into ArcGIS to calculate the 50%, 75%, and 95% probability contour for each individual bat and for all bats combined. Foraging areas were defined based on the area of use within these probability contours. Most of the foraging area with outlier locations eliminated was defined by the 95% probability contours (majority foraging area), areas within the 75% probability contours were considered intermediate foraging usage areas, and 50% probability contours were considered core foraging areas. Probability contours were imported into ArcGIS for additional analysis using aerial photography, USGS spatial analysis, and GIS layers provided by Apex to characterize foraging areas.

One-sample Student's t-tests were used to determine differences in foraging area sizes (50%, 75%, 95% probability contours) among individual bats and among female northern long-eared bats. Average values were reported with plus or minus standard error (±SE). Pearson's correlation tests (r) were used to determine the relationship between the number of points collected for each foraging bat and the number of nights a bat was tracked. An analysis of variance (one-way ANOVA) was used to determine differences among individual bats in distances foraged from forested habitat.



RESULTS AND DISCUSSION

Mist-Net Survey

Mist-net surveys were conducted at 36 sites from 23 - 31July 2015 (Table 1, Figure 2). A total of 429 bats of six species were captured, including one female Indiana bat and fourteen (12 female, 2 male) northern long-eared bats, over 284 net nights (Table 2). Big brown bats (*Eptesicus fuscus*) comprised 75 percent of total captures (n=320) and eastern red bats (*Lasiurus borealis*) comprised 21 percent of total captures (n=88). Completed bat capture data sheets are provided in Appendix A, photographs of mist-net sites are provided in Appendix B, and representative photographs of each bat species captured are provided in Appendix C.

Table 1. Mist-net site locations, Republic Wind Project, Ohio, 2015.

Site No.	Latitude	Longitude	Site Location
1	41.167111	-82.884334	N. County Rd. 29, Schriner Prop., Woodlot Near Pond
2	41.115820	-82.843740	Stream Corridor Southeast Of Township Rd And Trail 0197
3	41.181645	-82.932637	Wood Lot; Saturated Mud Flats
4	41.155000	-82.855900	Woodlot Off Reedtown Rd
5	41.167295	-82.848025	Woodlot West Of CR 4 With Intermittent Stream
6	41.186530	-82.849620	Woodlot South Of CR 46
7	41.252800	-82.865720	SW Of Site 28
8	41.170720	-82.893070	Stream Off Of CR 136
9	41.143560	-82.929480	Woodlot South Of E Township Road 124
10	41.153120	-82.926210	Forest Gap; Logging Road; Pond In Forest
11	41.139200	-82.992230	CR 122
12	41.184500	-82.935600	Wooded Area Of N. CR 27
13	41.178090	-82.890620	Woodlot Logging Road Off Stream
14	41.224734	-83.028039	Woodlot SE Of Portland Rd
15	41.200800	-83.015200	Creek Along Hwy 19
16	41.157652	-82.989259	Pond In Woodlot West Of CR 28 And S Of East CR 24
17	41.175850	-82.960330	Woodlot Next To Soybean Field Off N Township Rd 183
18	41.179190	-82.928270	Woodlot And Perennial Stream
19	41.176590	-83.003480	Forest/Ag Edge, Stream, Corridor
20	41.186390	-82.931455	Wood Lot Off CR 15 S And East Of North CR 27
21	41.211200	-82.963580	Woodlot South Of Site 26



Site No.	Latitude	Longitude	Site Location
22	41.219650	-82.944167	5425 N SR 18, Woodlot, Ziegler Property
23	41.249950	-82.962020	Township Road 78 Meacham Prop, Interior Mudflats & Trails @ deer stand
24	41.178040	-82.888610	Logging Road Through Woodlot; Open Water Of Emergent Wetland
25	41.217306	-82.908250	Decker Property Of E CR 32
26	41.218160	-82.967180	Trails Through Woods Behind "Sugar Shack"
27	41.188540	-82.986353	Snavely Property Off TR 138
28	41.253563	-82.868040	Woodlot South Of CR 62, West Of CR 68
29	41.247860	-82.937220	Woodlot Beside Lodi-Colby Road, Ag Field
30	41.182580	-83.024150	Woodlot East Of Township Road 138
31	41.155560	-82.949780	Woodlot Bordered By Bean And Corn, South Of E. County Road 24
32	41.175420	-82.922500	Woodlot South Of East Township Road
33	41.182330	-82.935820	Woodlot And Pond Near Coyote Grove Campground
34	41.153410	-82.961690	Woodlot South Of East County Rd 34 And West Of Township Rd 183
35	41.183680	-82.903440	Recently Logged Wood Lot
36	41.155480	-83.004700	Woodlot South Of County Rd. 24

Table 2. Total bat captures by species, age, sex, and reproductive status, Republic Wind Project, Ohio, 2015.

	Adult Male		Adult Female			Juvenile				
Species	NR*	S	P	L	PL	NR	Female	Male	Escaped	Total
Eptesicus fuscus	42	52	1	10	73	8	51	71	12	320
Lasiurus borealis	2	3	0	4	16	3	37	10	13	88
Lasiurus cinereus	0	0	0	0	0	1	1	3	0	5
Myotis septentrionalis	1	0	0	2	3	2	5	1	0	14
Myotis sodalis	0	0	0	0	1	0	0	0	0	1
Perimyotis subflavus	0	0	0	0	0	0	1	0	0	1

^{*} NR=non-reproductive, S=scrotal, P=pregnant, L=lactating, PL=post-lactating

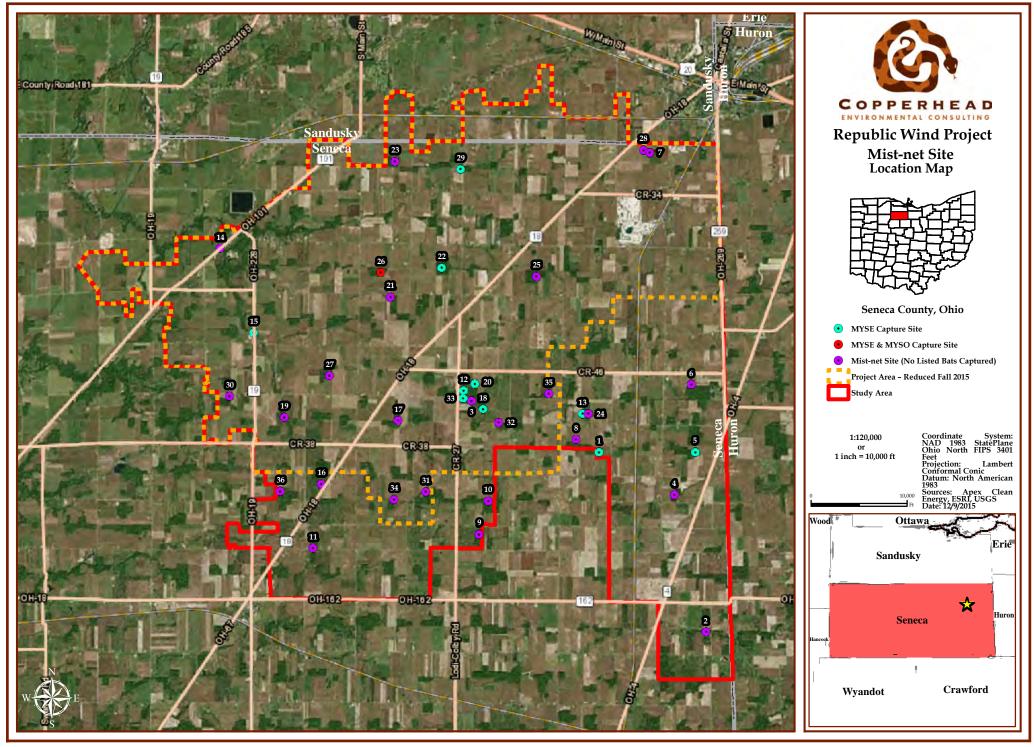


Figure 2. Mist-net site locations, Republic Wind Project study area, Seneca and Sandusky Counties, Ohio, 2015.

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Diurnal Radio Telemetry

In accordance with the ODNR/USFWS approved study plan, seven northern longeared bats and the only Indiana bat captured were radio-tagged in order to locate diurnal roost trees (Table 3).

Table 3. Indiana and northern long-eared bats captured and radio-tagged during the mist-net survey, Republic Wind Project, Ohio, 2015.

	Site	Band Number			Reproductive		Transmitter Freq. (172.xxx)
Species ¹	No.	(ODNR)	Age ²	Sex ³	Status ⁴	Mass (g)	BAT ID
MYSE	26	23551	A	F	PL	6.5	188
MYSE	26	23552	A	F	PL	7.25	587
MYSE	18	23360	J	F	NR	6.75	030
MYSE	18	23361	A	F	NR	7.5	137
MYSE	13	17179	A	F	L	7.5	205
MYSE	22	17171	A	M	NR	8.0	287
MYSE	33	17166	A	F	NR	6.0	450
MYSE	18	23362	J	F	NR	6.0	-
MYSE	1	17172	A	M	NR	7.0	-
MYSE	5	_5	J	F	NR	6.0	-
MYSE	12	17344	J	F	NR	6.0	-
MYSE	13	17179	Α	F	L	7.0	-
MYSE	15	17345	Α	F	PL	7.5	-
MYSE	20	17168	J	F	NR	6.0	-
MYSO	26	23553	A	F	PL	8.5	779

¹ MYSE=northern long-eared bat, MYSO=Indiana bat

Of the eight bats that were radio-tagged, three northern long-eared bats and one Indiana bat were tracked for seven days each. One northern long-eared bat (MYSE 188) was tracked for two days, and one (MYSE 137) was tracked for three days, both due to the transmitter falling off. One northern long eared bat (MYSE 450) was captured on the last night of the mist-net survey and was only tracked for two days because the maximum number of bats to be radio-tagged had already been met. The male northern long-eared bat was not tracked during diurnal telemetry because the target number of females were met. As a result of the diurnal radio telemetry effort, 14 northern long-eared bat roost trees and two Indiana bat roost trees were located (Table 4, Figures 3-6). Completed roost tree data sheets are in Appendix D and roost tree photographs are in Appendix E.

² A=adult, J=juvenile

³ F=female, M=male

⁴ PL=post-lactating, NR=non-reproductive, L=lactating

⁵Escaped before band could be fitted

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Table 4. Northern long-eared bat and Indiana bat roost trees located during radio telemetry efforts, Republic Wind Project, Ohio, 2015.

Estimated Height (m) No. Roost Calendar Tree **DBH** Tree **Bat Species Days** Condition² Ranking³ Use⁴ _BAT ID No. **Tree Species** (cm) Tree Roost Used 983 27.0 9.0 S S MYSE_188 Fraxinus pennsylvanica 3.0 1 MYSE_188 395 Prunus serotina 37.2 17.0 10.7 S C MYSE_587 3 985 Fraxinus pennsylvanica 28.5 12.0 8.0 S C MYSE_137 1 988 C Acer saccharinum 36.3 15.0 20.0 LD MYSE_137 1 S 986 5.0 S **MYSE 137** 1 Acer saccharinum 16.6 4.0 984 S C 2 34.3 12.0 7.0 MYSE 030 Fraxinus pennsylvanica 987 12.0 8.0 S C MYSE_030 5 Acer saccharinum 56.3 S U 369 Fraxinus pennsylvanica 40.0 4.0 3.0 MYSE_587 1 S C 371 Fraxinus pennsylvanica 42.4 18.0 9.0 MYSE_587 2 372 Carya ovata 34.0 23.0 15.0 L C MYSE_587 1 S C 373 Fraxinus sp. 47.2 24.5 12.0 MYSE_587 2 S C 2 140 48.5 25.0 20.0 MYSE 205 Fraxinus sp. S C 2 314 91.0 18.5 MYSE_205 Quercus sp. 396 Fraxinus sp. 31.0 11.0 6.0 S C MYSE_450 2 S Unk.1 52.7 21.5 7.5 C MYSO_779 5 368 S C 370 Fraxinus. pennsylvanica 58.7 18.5 3.0 MYSO_779 1

¹ unk = too decayed to determine species

 $^{^{2}}$ L = live, LD = live damaged, S = snag

³ C= canopy, SC = sub canopy, U = understory

⁴ MYSE = northern long-eared bat, MYSO = Indiana bat

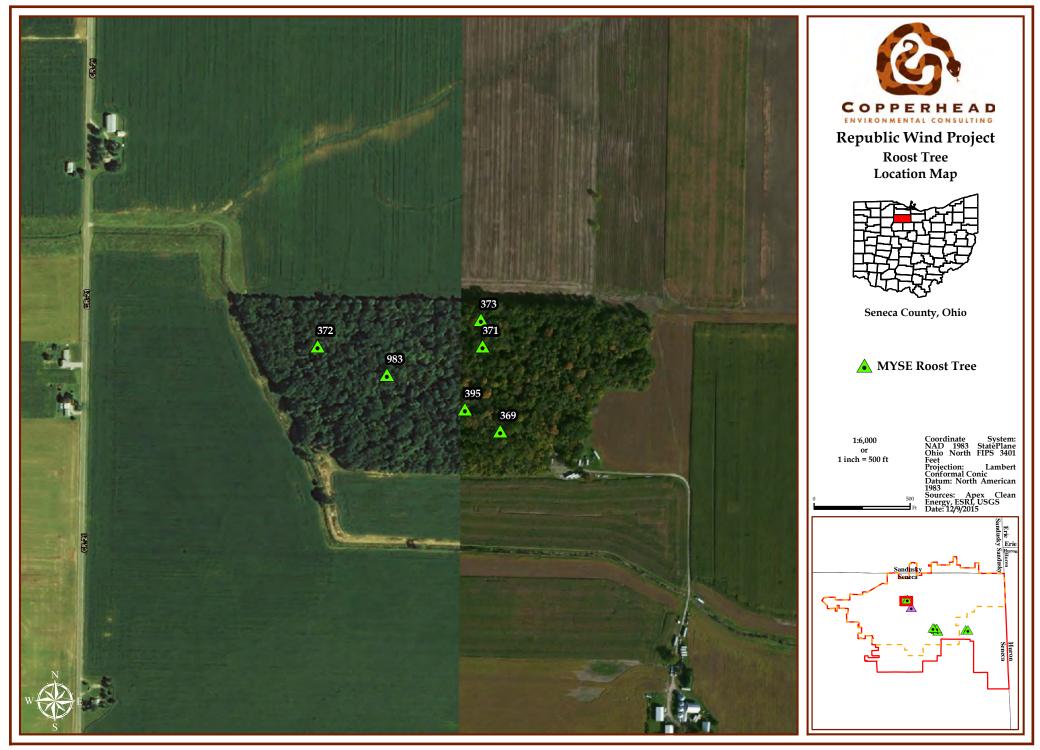


Figure 3. Roost trees used by northern long-eared bats, Republic Wind Project 2015.

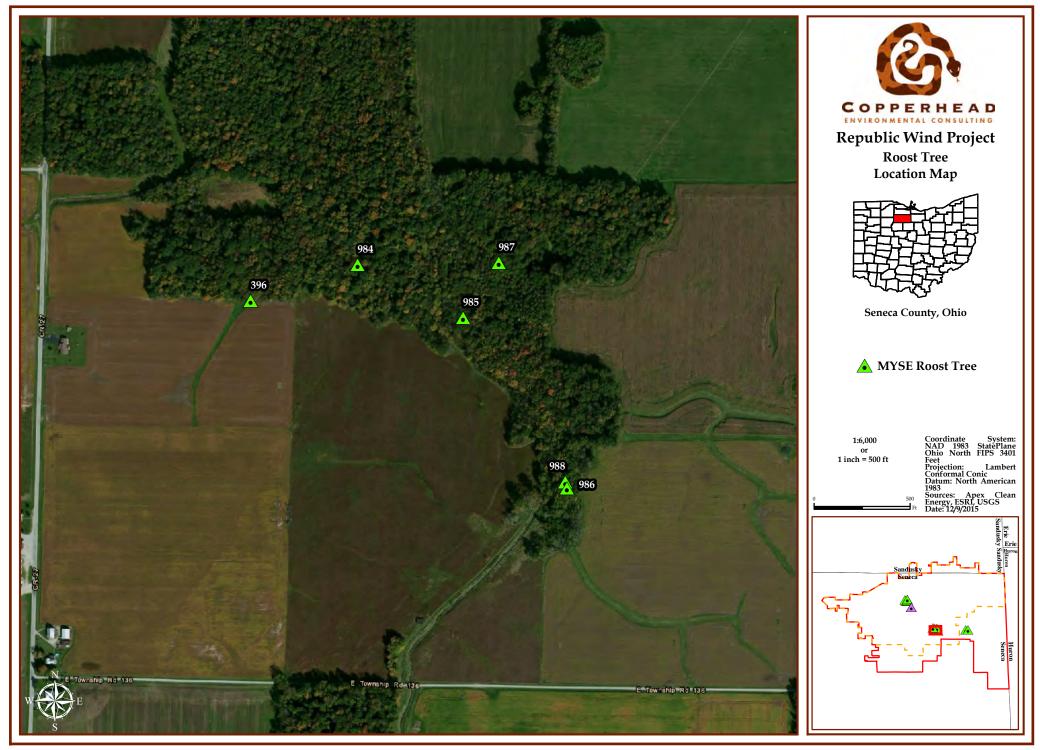


Figure 4. Roost trees used by northern long-eared bats, Republic Wind Project, 2015.

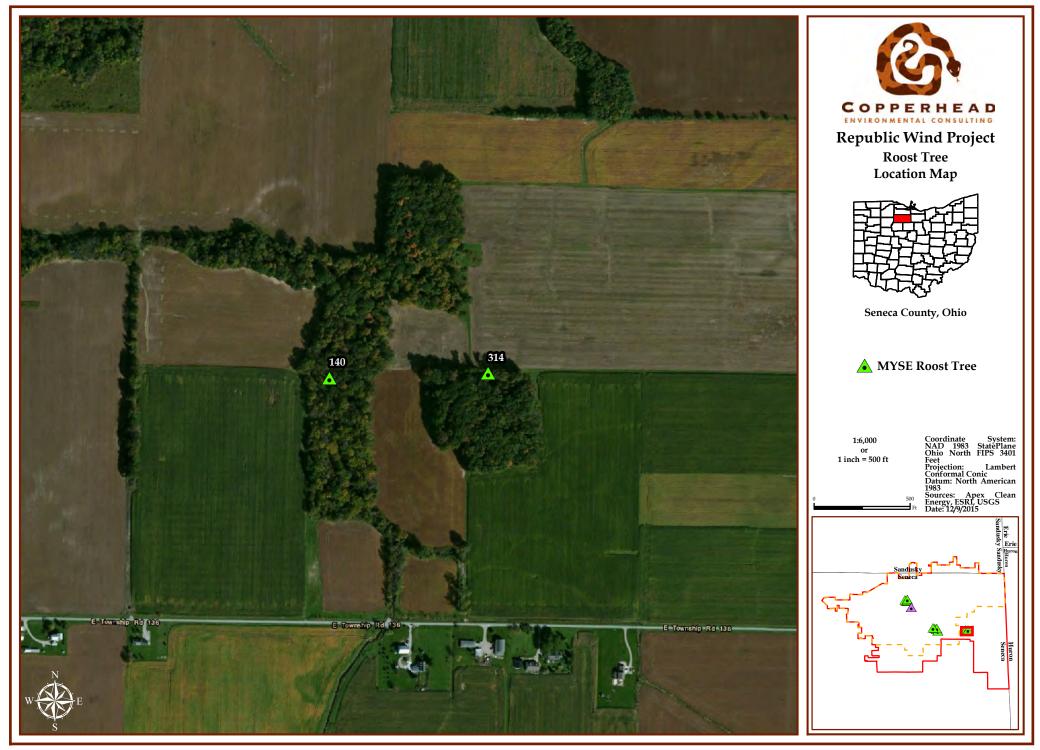


Figure 5. Roost trees used by northern long-eared bats, Republic Wind Project, 2015.

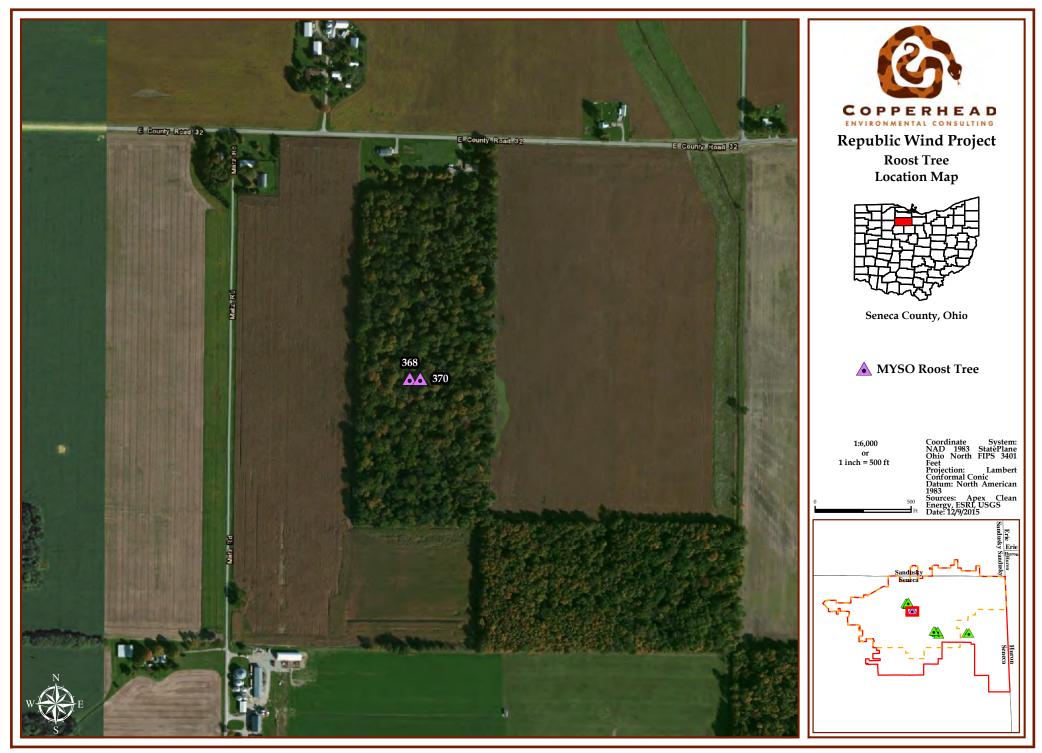


Figure 6. Roost trees used by the Indiana bat, Republic Wind Project, 2015.

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Radio-tagged bat(s) not located by ground crew(s) after several hours of searching were located by the airplane the same day. In these cases, the aerial crew provided coordinates of the bat's estimated location to the ground crew, allowing them to quickly pick up the transmitter signal and continue on foot to locate the roost tree. All radio-tagged bats were accounted for during each day of tracking, except for MYSE 205, which could not be located by either the ground or aerial crew on 29 July 2015; MYSE 205 was heard again on 30 July 2015 where it was found in roost tree 314 (Table 5).

The aerial crew was also used to confirm whether a transmitter had been shed by a bat. When a radio-tagged bat did not emerge from its roost tree during an emergence count and was not heard flying during foraging telemetry efforts that evening, it was considered to have been shed by the bat. This occurred with MYSE 188 on day three of tracking and MYSE 137 on day four of tracking (Table 5).

During seven days of tracking, the juvenile female northern long-eared bat switched roost trees the fewest times (n=2), using two roost trees. The greatest number of roost tree switches (n=4) was done by an adult female northern long-eared bat (MYSE 587) that used five roost trees over seven days. The adult female Indiana bat also switched roost trees four times, but only used two different roost trees over seven days (Table 5).

Table 5. Roost tree (RT) use by radio-tagged northern long-eared and Indiana bats, Republic Wind Project, Ohio, 2015.

Bat	•									
ID	Bat ¹	25-Jul	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	1-Aug	2-Aug
188	AF-MYSE	RT983	RT395	shed	-	-	-	-	-	-
137	AF-MYSE	-	-	RT985	RT986	RT988	shed	-	-	-
030	JF-MYSE	-	-	RT984	RT984	RT987	RT987	RT987	RT987	RT987
587	AF-MYSE	-	-	RT395	RT369	RT371	RT371	RT372	RT373	RT373
205	AF-MYSE	-	-	RT140	RT140	no signal	RT314	RT314	off parcel	off parcel
450	AF-MYSE	-	-	-	-	-	-	-	RT396	RT396
779	AF-MYSO	_	_	RT368	RT370	RT368	off parcel	RT368	RT368	RT368

¹ AF = adult female, JF = juvenile female, MYSE=northern long-eared bat, MYSO=Indiana bat

Emergence Counts

A total of 37 emergence counts were conducted from 25 July – 2 August 2015 (Table 6). The highest emergence count from a single roost tree was five bats, which occurred at two northern long-eared bat roost trees [RT987 (juvenile female), RT371 (adult female)], and one Indiana bat roost tree [RT368 (adult female)]. In several instances, despite knowing there was at least one radio-tagged bat in a roost tree, the bat(s) did not emerge before dark and those roost trees were given an emergence count of zero (Table 6).

Table 6. Emergence counts of northern long-eared and Indiana bat roost trees, Republic Wind Project, Ohio, 2015.

Troject, Off	10, 2015.								
Roost No.	25-Jul	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	1-Aug	2-Aug
$MYSE^1$									
983	1						1		
395		1		0^{2}		0^{2}			
985			2	1					
984			1	1					
140			2	2					
986				1			0		
369				0^{2}					
987					3	3	5	3	1
988					2	0^{2}			
371					3	5			
314						3			
372							1		
396								1	2
373								1	1
Total Bats	1	1	5	5	8	11	7	5	4
MYSO1									
368			4	1	2		5	2	1
370				1		0			
Total Bats			4	2	2	0	5	2	1

¹ MYSE = northern long-eared bat, MYSO = Indiana bat

² radio-tagged bat was present in tree, but did not emerge before dark

Foraging Telemetry

Foraging telemetry was conducted on one Indiana bat and five northern long-eared bats from 27 – 31 July 2015 as outlined in the USFWS/ODNR approved study plan (Table 7). Two northern long-eared bats, one adult male and one adult female, were tracked for less than five nights because telemetry effort focused on female bats and MYSE 137's transmitter shed after three days. All other radio-tagged bats were tracked for five nights each. The number of foraging points collected for each bat ranged from 10 – 87 with an average of 54.5±11.6 points per bat (Figure 7).

Table 7. Data collected on foraging northern long-eared and Indiana bats, 27 July – 31 July, Republic Wind Project, Ohio, 2015.

Bat ID	Age*	Sex*	Repro. Status*	Species*	No. Nights Tracked	No. Points Collected
030	J	F	NR	MYSE	5	87
137	A	F	NR	MYSE	3	38
205	A	F	L	MYSE	5	63
587	A	F	PL	MYSE	5	49
287	A	M	NR	MYSE	2	10
779	A	F	PL	MYSO	5	80

^{*} J = juvenile, A = adult, F = female, M = male, NR = non-reproductive, L = lactating, PL = post-lactating, MYSE = northern long-eared bat, MYSO = Indiana bat

Foraging area sizes were calculated for six radio-tagged bats (Table 8, Fig. 8). Sizes of the 50% and 75% probability contour foraging areas were not different among individuals; however, 95% probability contour foraging areas did vary in size among individuals (Table 9). Variation in total foraging area sizes is to be expected when comparing across multiple species, ages, and sexes; however, total foraging area sizes varied even among female northern long-eared bats (Table 9, 10). Foraging areas for individual bats are displayed in Figures 9 – 14.

Mean foraging distance from forested habitat did not differ among individual bats $(F_{5,121} = 1.692, P = 0.142)$, therefore all bats were grouped together resulting in 39 percent of foraging points (n=127) being located outside of forested habitat. The mean distance bats foraged from the forest edge was 57.5±5.1 meters (range: 0.2 – 379.3 m). However, 61 percent of foraging points (n = 202) were within forested habitat.

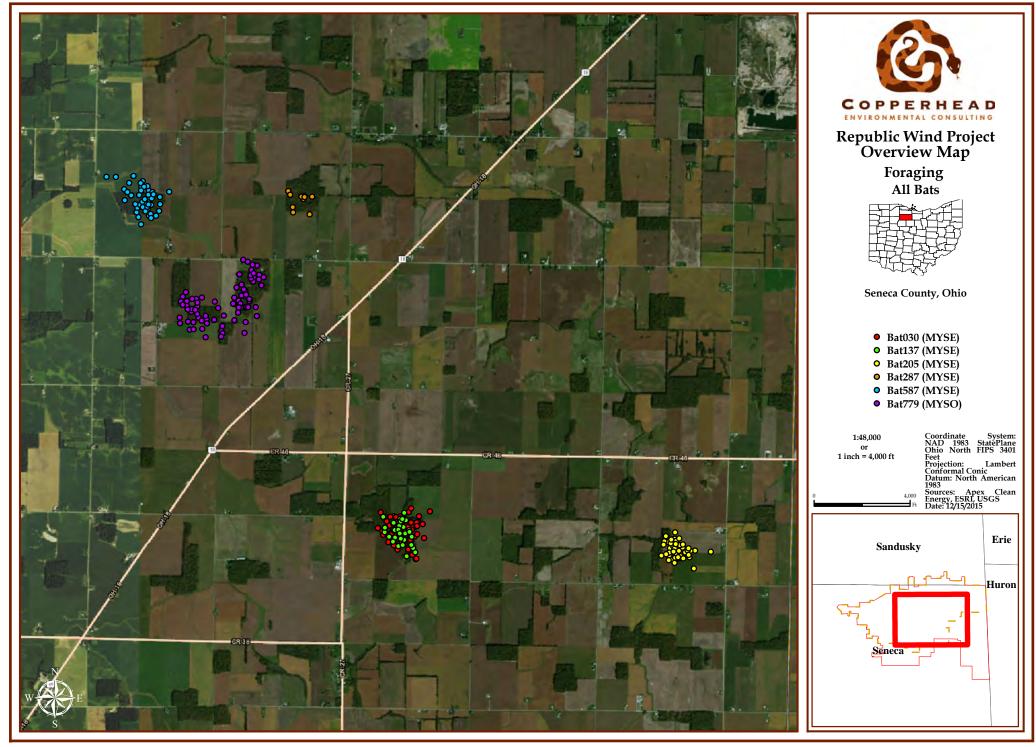


Figure 7. Foraging points collected on five northern long-eared bats and one Indiana bat, Republic Wind Project, 2015.

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Table 8. Foraging area sizes for northern long-eared and Indiana bats, Republic Wind Project, 27 July – 31 July, 2015.

				Foraging Area (acres)				
Bat ID	Age*	Sex*	Species*	95% contour	75% contour	50% contour		
multiple			Sum of All Bats	366.0	74.2	27.6		
030	J	F	MYSE	100.6	41.5	20.4		
137	A	F	MYSE	65.4	31.2	8.0		
205	A	F	MYSE	52.6	22.7	10.6		
587	A	F	MYSE	110.2	18.1	45.3		
287	A	M	MYSE	15.1	3.2	1.1		
779	A	F	MYSO	266.4	138.7	58.1		
multiple			Mean of All Bats	101.7±35.8	47.1±3.2	19.4±8.3		

^{*} J = juvenile, A = adult, F = female, M = male, MYSE = northern long-eared bat, MYSO = Indiana bat

Table 9. Comparison of foraging area size among individuals, Republic Wind Project, 27 July – 31 July, 2015. Italicized values are significant at level alpha = 0.05.

		Foraging Area						
	mean 95%	mean 95% contour		mean 75% contour		mean 50% contour		
Bat Group	t	р	t	р	t	р		
All Bats $(n = 6)$	2.347	0.066	2.437	> 0.05	2.841	0.036		
Female MYSE (n=4)	2.479	0.089	5.506	0.012	5.956	0.009		

Table 10. Mean foraging area size for three adult and one juvenile female northern long-eared bats, Republic Wind Project, 27 July – 31 July, 2015.

		Foraging Area (acres)							
	mean		mean						
	95 %		75%		50 %				
Bat group	contour	range	contour	range	contour	range			
						8.0 -			
Female MYSE $(n = 4)$	82.2±13.8	52.6 - 110.2	35.2±5.1	22.7 - 45.3	14.3±2.9	20.4			

The number of foraging points collected per bat was similar to the low end number of foraging points collected in other similar studies that were conducted for much longer periods of time (Menzel et al. 2005, Womack et al. 2013). In addition, the overall number of foraging points collected over five days was similar to the number collected from ground crews over several months in other studies (Menzel et al. 2005, Womack et al. 2013). Although the number of foraging points collected was strongly correlated with the number of nights a bat was tracked (r = 0.879, p = 0.021), the size of the core



foraging area (50% probability contour) was not correlated to the number of nights a bat was tracked (r = 0.664, p = 0.150) or the number of location points collected (r = 0.557, p = 0.251) for each bat.

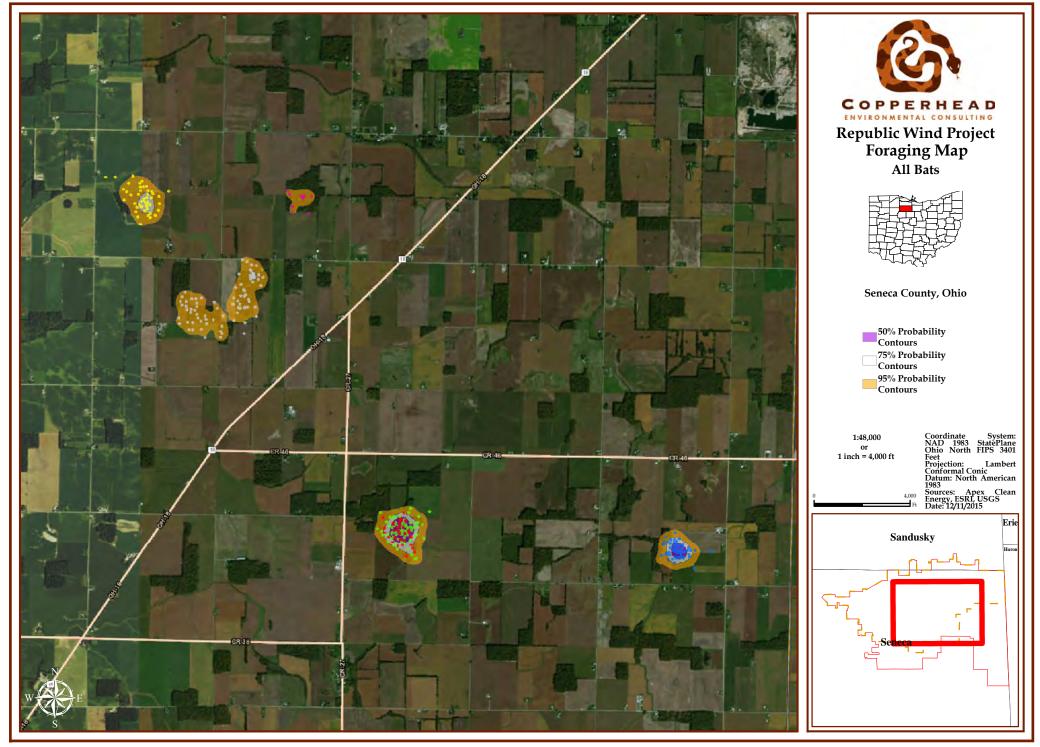


Figure 8. Foraging areas utilized by radio-tagged bats, Republic Wind Project, 2015.

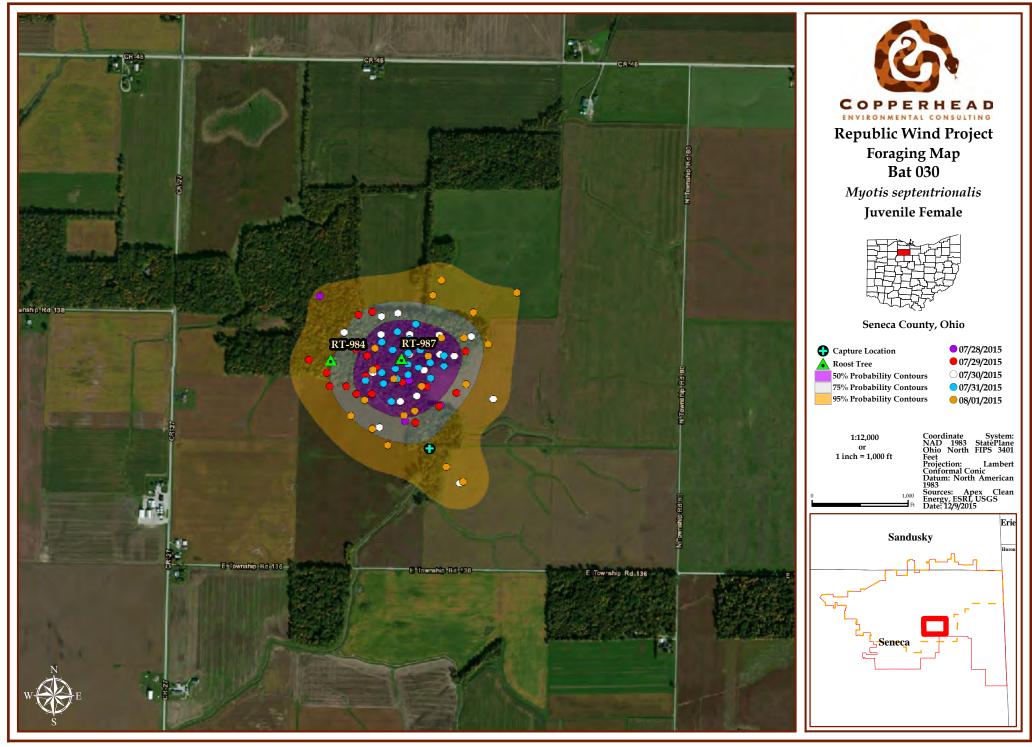


Figure 9. Foraging area utilized by bat 030, Republic Wind Project, 2015.

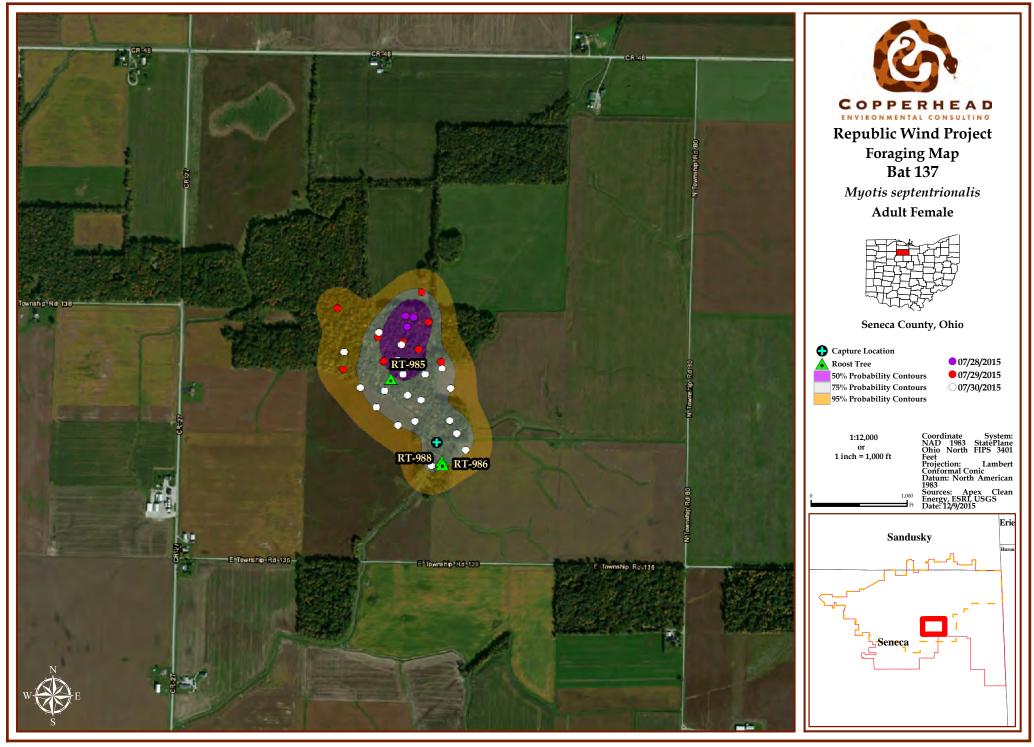


Figure 10. Foraging area utilized by bat 137, Republic Wind Project, 2015.

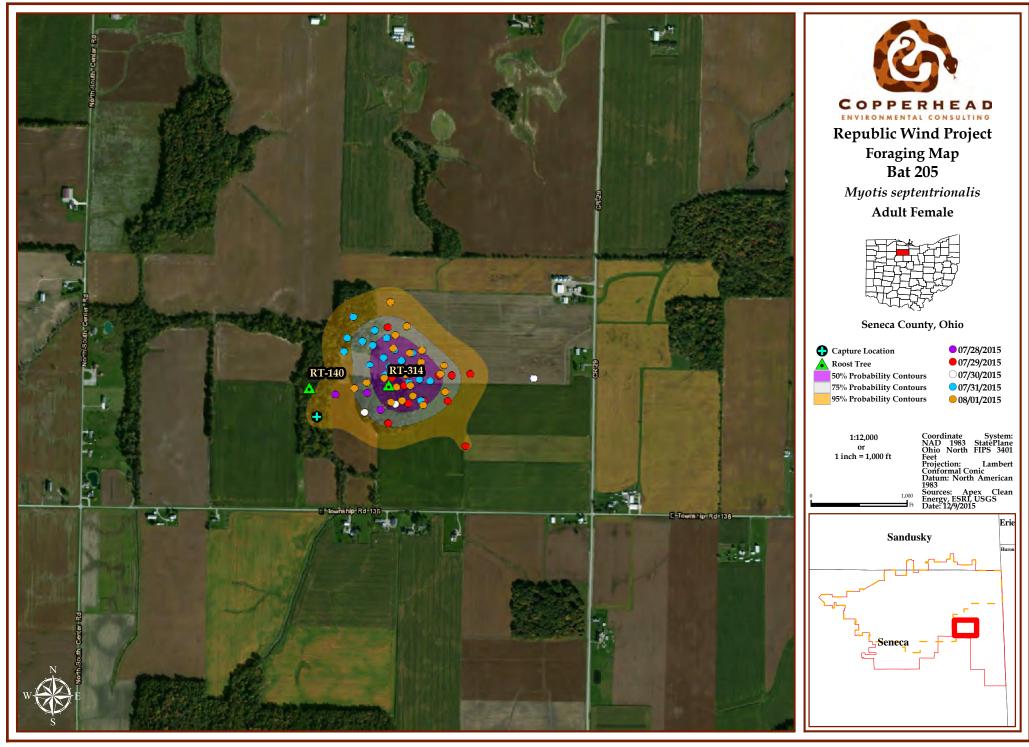


Figure 11. Foraging area utilized by bat 205, Republic Wind Project, 2015.

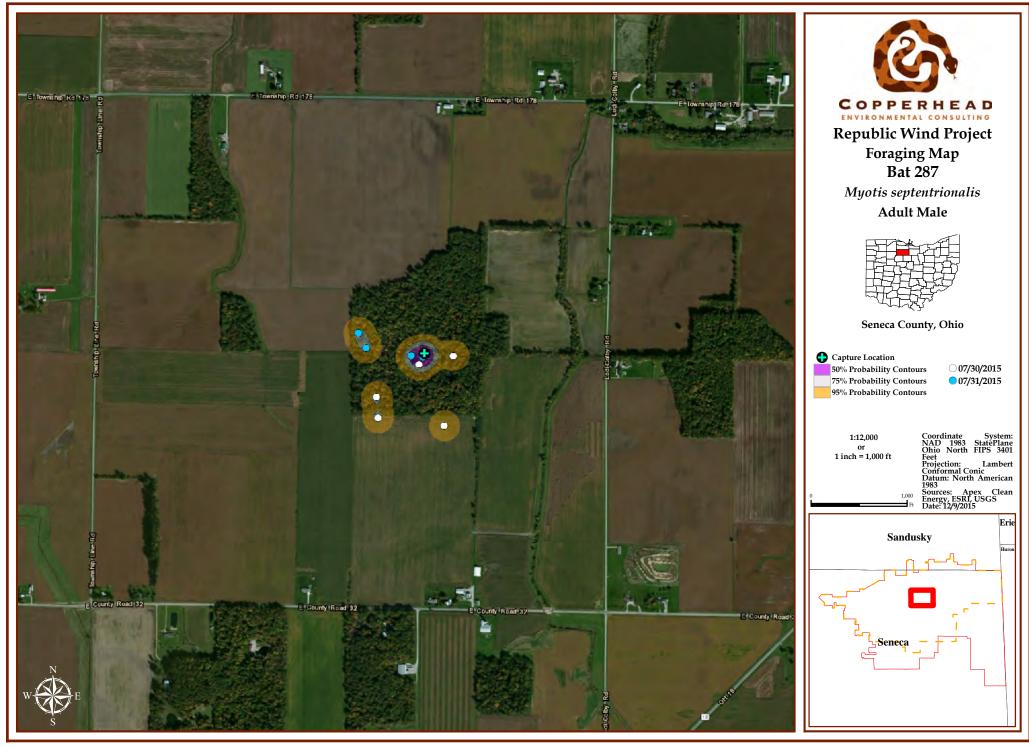


Figure 12. Foraging area utilized by bat 287, Republic Wind Project, 2015.

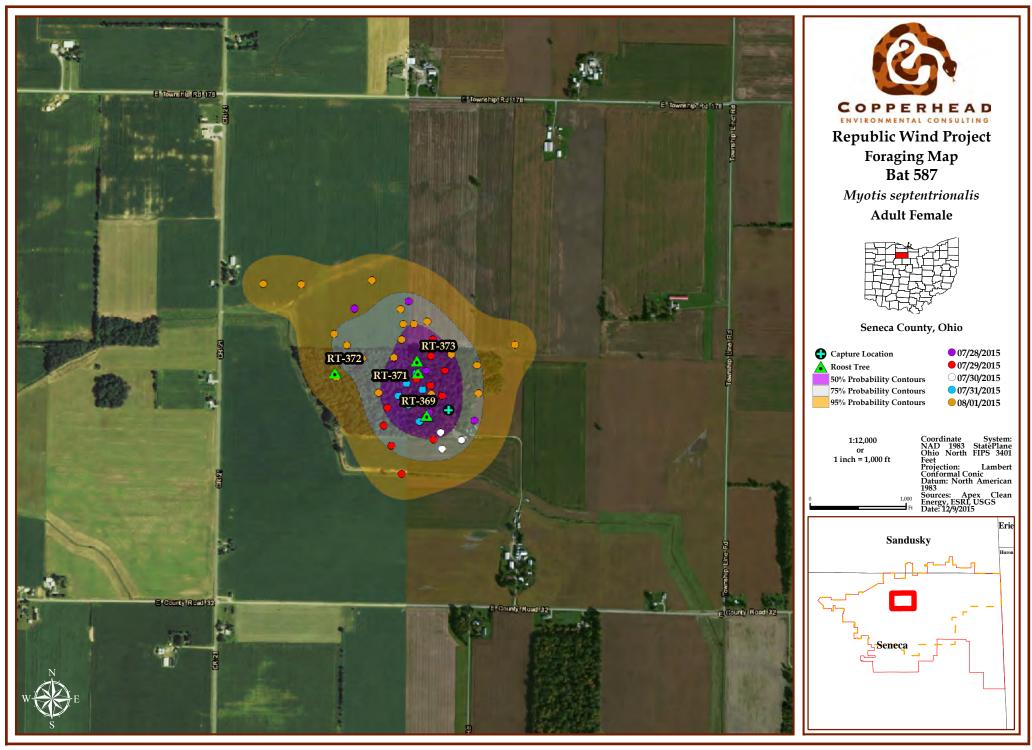


Figure 13. Foraging area utilized by bat 587, Republic Wind Project, 2015.

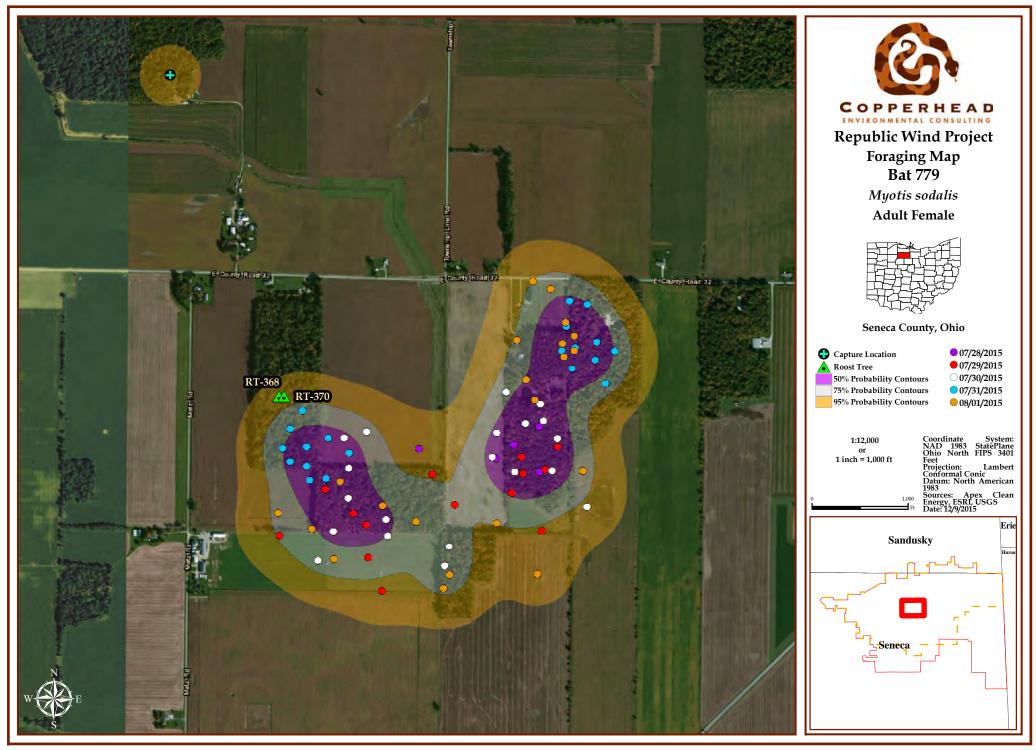


Figure 14. Foraging area utilized by bat 779, Republic Wind Project, 2015.

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Summary: Application Exhibit J Part 11 of 33 electronically filed by Teresa Orahood on behalf of Dylan F. Borchers