

Ruso Wind Partners, LLC  
Ruso Wind Project and Gen-Tie Line Project  
Docket Nos. PU-19-28/PU-19-29

**Late-Filed Exhibit No. 58 – Update on Northern Long-eared Bat Mist Netting Survey**

At the public hearing, Ruso Wind Partners, LLC stated that mist netting surveys would be conducted within the Project Area to determine whether Northern Long-eared Bats (“NLEB”) are present. The NLEB mist netting surveys have been completed and no NLEBs were identified. A copy of the NLEB Mist Netting Survey Report is attached as **Late-Filed Exhibit No. 58(a)**.

118 PU-19-29 Filed 08/09/2019 Pages: 60  
Late-Filed Exhibit No. 58 - Update on Northern Long-eared Bat Mist Netting Survey  
Ruso Wind Partners, LLC

118 PU-19-28 Filed 08/09/2019 Pages: 60  
Late-Filed Exhibit No. 58 - Update on Northern Long-eared Bat Mist Netting Survey  
Ruso Wind Partners, LLC

**Northern Long-eared Bat Mist Netting Surveys  
Ruso Wind Project  
McHenry and Ward Counties, North Dakota**

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**Prepared for:  
Ruso Wind Partners, LLC**

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**Prepared by:  
Brenna Hyzy, Kevin Murray, and Clayton Derby  
Western EcoSystems Technology, Inc.  
7575 Golden Valley Rd, Suite 300  
Golden Valley, Minnesota 55427**

**August 8, 2019**



**STUDY PARTICIPANTS**

**Western EcoSystems Technology, Inc.**

Clayton Derby	Senior Manager
Kevin Murray	Project Manager
Jolie Blevins	Project Coordinator
Brenna Hyzy	Permitted Bat Biologist
Pallavi Sirajuddin	Bat Biologist

**REPORT REFERENCE**

Hyzy, B., K. Murray, and C. Derby. 2019. Northern Long-eared Bat Mist Netting Surveys for the Ruso Wind Project in McHenry and Ward Counties, North Dakota. Draft Report: July 17 – July 27, 2019. Prepared for Ruso Wind Partners, LLC. Prepared by Western EcoSystems Technology, Inc. (WEST), Golden Valley, Minnesota. August 2019.

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## **1 INTRODUCTION AND BACKGROUND**

Ruso Wind Partners, LLC, a subsidiary of Southern Power Company (Southern), contracted Western EcoSystems Technology, Inc. (WEST) to conduct northern long-eared bat presence/probable absence bat mist netting surveys at the Ruso Wind Project (Project) in McHenry and Ward Counties, North Dakota (Figure 1). WEST conducted mist-net surveys at three mist-net sites. The objective of the surveys is to determine if the northern long-eared bat (*Myotis septentrionalis*; NLEB; federally listed as threatened) is present within the Project during the summer.

Based on USFWS and North Dakota Game and Fish records for North Dakota, NLEBs are considered rare in North Dakota. Recent research by North Dakota State University found that presence is unlikely throughout the state except potentially in badlands in the extreme western part of the state (Dr. E. Gillam, pers. com.).

Survey sites were placed in potentially suitable NLEB habitat, and were conducted using methods described in the 2019 Range-Wide Indiana Bat Summer Survey Guidelines (Guidelines; USFWS 2019). Per the USFWS Guidelines, surveys took place from July 17 – July 27, 2019 which is within the date range of May 15 to August 15 (U.S. Fish and Wildlife Service [USFWS] 2019).

## **2 BAT SURVEY METHODS**

### **2.1 Bat Habitat Assessment and Survey Effort**

A desktop habitat assessment of land use/land cover data (U.S. Geological Survey National Land Cover Database 2011) determined a total of 300.2 acres of potentially suitable bat habitat (i.e., forested landcover) is present within the Project area (Figure 1). USFWS (2019) defines suitable habitat for the NLEB as any forest (i.e., deciduous, coniferous, mixed) or forested landscape feature (e.g., woody wetlands, forested riparian areas, shelterbelts). USFWS recommends one survey location surveyed for at least nine net nights per 123 acres of suitable habitat on non-linear projects. Therefore, WEST surveyed and completed three sites (27 net nights) to determine the presence/probable absence of NLEB.

### **2.2 Mist-Net Surveys**

WEST conducted mist-net surveys at three sites at the Ruso Wind Project following the USFWS Guidelines (USFWS 2019). Mist-nets were located within the project boundary (Figure 1) and were surveyed for a total of nine net-nights each (i.e. one site with 4-5 net locations per site for two calendar nights or one site with 3 net locations per site for 3 calendar nights). Mist-netting began at sunset and continued for at least five hours. Mist-nets were placed in suitable bat habitat and positioned perpendicularly across flight corridors filling the corridor from side-to-side and extending from ground-level up to overhanging canopy (if possible). Disturbance in the form of noise, light, or movement was minimized at all net locations. According to the USFWS Guidelines, weather conditions such as persistent rain (more than 30 minutes), strong sustained winds

(greater than nine mph average for more than 30 minutes), or cold temperatures (below 10°C [50°F] for more than 30 minutes) invalidate that night and the site must be re-surveyed for an additional night. WEST also enforces weather guidance for lightning, which states that biologists must leave the job site if lightning is documented within 30 miles of their location for more than 30 minutes. There were a total of two invalid nights during the survey period of July 17 – July 27, 2019; July 17 due to lightning within 30 miles of the capture site and July 24 due to strong sustained winds (11–14 mph). Representative individuals of each species of bat captured were photo-documented with voucher photographs.

Mist-net surveys were performed by Brenna Hyzy (WEST permitted bat biologist [USFWS Permit # TE26854C-0 and North Dakota DNR Permit # GNF05044694]) and Pallavi Sirajuddin (WEST bat biologist). All captured bats were personally identified by Brenna Hyzy. USFWS White-Nose Syndrome (WNS) decontamination protocol was followed for all mist-netting efforts to prevent cross contamination of captured bats with *Pseudogymnoascus destructans*, the fungus that causes WNS (USFWS 2018).

### 3 BAT SURVEY RESULTS

Mist-net surveys were completed at three survey locations (Table 1) from July 17 – July 27, 2019. Mist-net survey site locations, descriptions and results are provided in Tables 1 and 2 and Figure 1. Appendices A–E contain photographs of mist-net sites, bat capture details, photographs of bats captured, datasheets (including mist-net site maps), and USFWS permit and site-specific authorization, respectively. WEST biologists captured 40 bats total; 29 little brown bats (*Myotis lucifugus*), 7 silver-haired bats (*Lasionycteris noctivigans*), and 4 hoary bats (*Lasiurus cinereus*; Table 2; Appendices B–D). **No northern long-eared bats were captured during mist-net surveys.**

**Table 1. Locations and descriptions of mist-net locations at the Ruso Wind Project in McHenry and Ward Counties, North Dakota.**

Mist-Net Site ID	Net	UTM*		Site Description
Ruso-1	A	346222	5311899	Deciduous forest
	B**	346187	5311864	Pond, open field
	C	346146	5311883	Deciduous forest
	D	346190	5311945	Deciduous forest
	E	346157	5311960	Deciduous forest
Ruso-2	A	342536	5307729	Pond, open field
	B	342481	5307858	Pond, open field
	C	342426	5307806	Deciduous forest
Ruso-3	A	351705	5309773	High elevation open field, deciduous forest
	B	351698	5309765	High elevation open field, deciduous forest
	C	351726	5309797	High elevation open field, deciduous forest
	D	351677	5309850	Pond, open field
	E**	351723	5309857	Pond, open field

\*Universal Transverse Mercator [UTM] Zone 14yu, , North American Datum 1983

\*\*Mist-net location surveyed only on first night to complete nine mist-net night survey effort

**Table 2. Summary of bat mist-net captures at the Ruso Wind Project in McHenry and Ward Counties, North Dakota.**

<b>Site ID</b>	<b>MYLU</b>	<b>LANO</b>	<b>LACI</b>	<b>Total</b>
Ruso-1	17	7	4	<b>28</b>
Ruso-2	12	0	0	<b>12</b>
Ruso-3	0	0	0	<b>0</b>
<b>Total</b>	<b>29</b>	<b>7</b>	<b>4</b>	<b>40</b>

MYLU = little brown bat (*Myotis lucifugus*), LANO = silver-haired bat (*Lasionycteris noctivians*), LACI = hoary bat (*Lasiurus cinereus*)

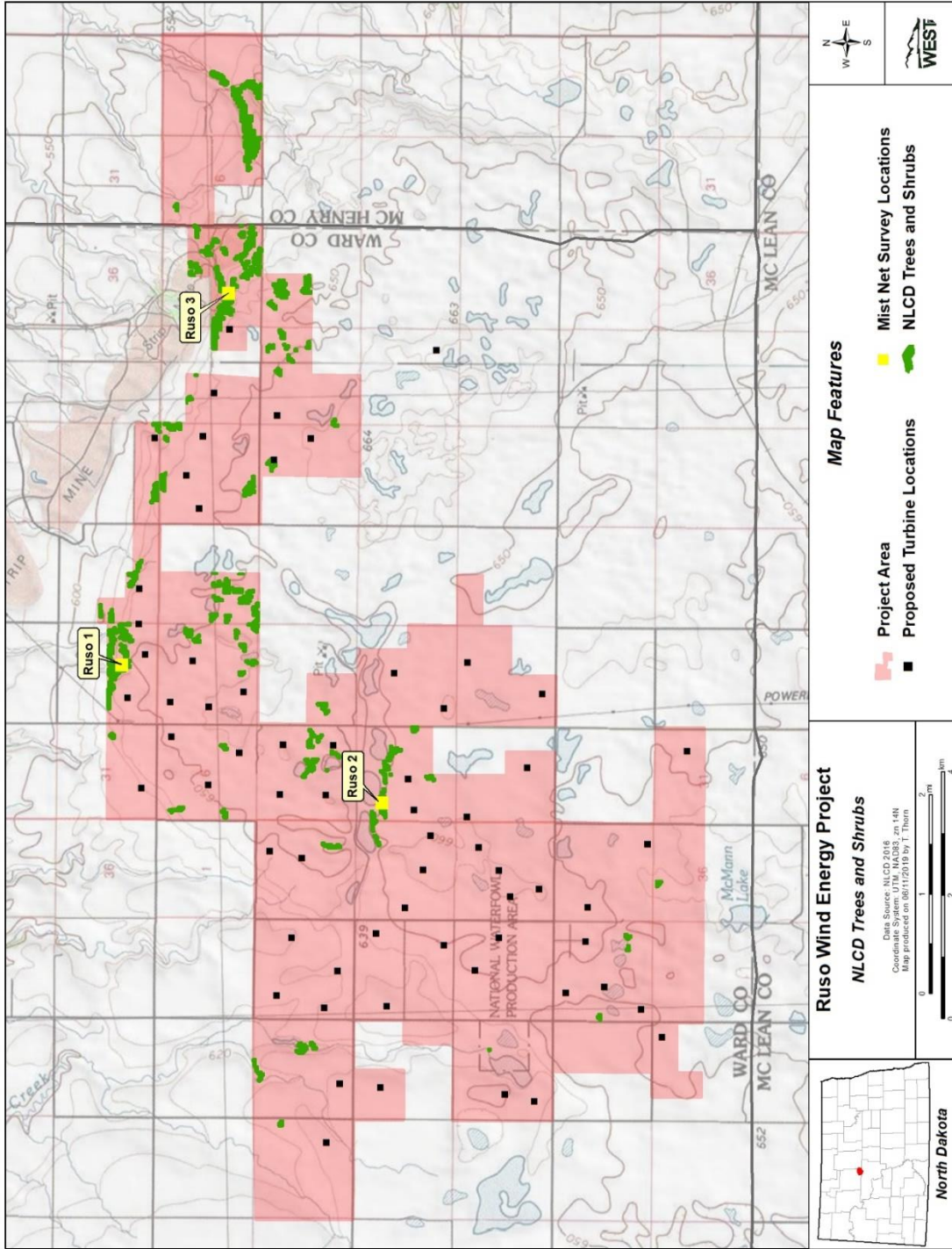


Figure 1. General locations of the three mist net sites at the Ruso Wind Project in McHenry and Ward Counties, North Dakota.

## **4 REFERENCES**

US Fish and Wildlife Service (USFWS). 2018. White-nose Syndrome. Available online at: <https://www.whitenosesyndrome.org/topics/decontamination>

US Fish and Wildlife Service (USFWS). 2019. 2019 Range-Wide Indiana Bat Survey Guidelines (April 2019). USFWS Endangered Species Program: Midwest Region. April 2019. Available online: <https://www.fws.gov/midwest/endangered/mammals/inba/surveys/pdf/2019RangewideIBatSurveyGuidelines.pdf>

**Appendix A. Photographs of Mist-Net Survey Sites**

Net A



Net B



Net C



Net D



Net E



Appendix A1. Pictures of mist-nets at Ruso-1

Net A



Net B



Net C



Appendix A2. Pictures of mist-nets at Ruso-2

Net A



Net B



Net C



Net D



Net E



Appendix A3. Pictures of mist-nets at Ruso-3

**Appendix B. Details of All Bat Captures**

## Appendix B1. Details of bats captured at the Ruso Wind Project (July 17 - 27, 2019).

Site	Survey Night	Species*	Time	Sex**	Age***	Status****	Reproductive Score	Forearm	
								Reichard Length (mm)	Weight (g)
Ruso-1	7/24/2019	MYLU	22:00	M	A	TD	0	38	10.1
Ruso-1	7/24/2019	MYLU	22:30	M	A	N	0	38.2	9
Ruso-1	7/24/2019	MYLU	22:30	M	A	TD	0	37	8.5
Ruso-1	7/24/2019	MYLU	22:30	U	U	U	U	-	-
Ruso-1	7/24/2019	LANO	22:45	F	J	N	0	42.7	10.5
Ruso-1	7/24/2019	LANO	23:15	F	J	N	0	42.5	12
Ruso-1	7/24/2019	LANO	23:40	F	J	N	0	43	11
Ruso-1	7/24/2019	MYLU	23:50	F	A	PL	0	38.9	10.25
Ruso-1	7/24/2019	LANO	00:50	F	J	N	0	41.7	11.5
Ruso-1	7/24/2019	LACI	00:50	F	A	PL	0	54.2	30.5
Ruso-1	7/24/2019	MYLU	00:40	U	U	U	U	-	-
Ruso-1	7/25/2019	MYLU	23:08	F	J	N	0	38.9	8.5
Ruso-1	7/25/2019	LACI	23:45	F	J	N	0	56.2	20.5
Ruso-1	7/25/2019	MYLU	23:50	F	A	PL	0	36.3	10.3
Ruso-1	7/25/2019	MYLU	00:15	F	J	N	0	39.3	9.2
Ruso-1	7/25/2019	LANO	00:15	M	J	N	0	42.9	10.75
Ruso-1	7/25/2019	MYLU	00:57	F	A	PL	0	37.7	10
Ruso-1	7/25/2019	LANO	01:20	M	J	N	0	43.9	11.5
Ruso-1	7/25/2019	LANO	01:20	M	J	N	0	41.1	9.8
Ruso-1	7/25/2019	MYLU	02:30	F	A	PL	0	39.3	12
Ruso-1	7/25/2019	MYLU	02:30	M	J	N	0	38.4	8.3
Ruso-1	7/25/2019	MYLU	02:30	F	A	PL	0	39.7	12
Ruso-1	7/25/2019	MYLU	02:30	U	U	U	U	-	-
Ruso-1	7/26/2019	MYLU	23:56	F	A	PL	0	37	9.8
Ruso-1	7/26/2019	LACI	00:55	M	J	N	0	50.1	20
Ruso-1	7/26/2019	LACI	00:05	F	J	N	0	53.2	20.3

## Appendix B1. Details of bats captured at the Ruso Wind Project (July 17 - 27, 2019).

Site	Survey Night	Species*	Time	Sex**	Age***	Status****	Reproductive Score	Forearm	
								Reichard Length (mm)	Weight (g)
Ruso-1	7/26/2019	MYLU	01:25	M	A	TD	0	37.2	8.5
Ruso-1	7/26/2019	MYLU	01:55	F	J	N	0	37.6	8
Ruso-2	7/21/2019	MYLU	23:20	F	A	PL	0	38.5	7.25
Ruso-2	7/21/2019	MYLU	23:20	M	J	N	0	38.4	6
Ruso-2	7/21/2019	MYLU	23:55	F	A	PL	0	37.7	8.5
Ruso-2	7/21/2019	MYLU	23:55	F	A	PL	0	37.4	7.25
Ruso-2	7/21/2019	MYLU	00:37	M	A	TD	0	38.7	7.75
Ruso-2	7/21/2019	MYLU	00:37	M	J	N	0	36.2	5
Ruso-2	7/21/2019	MYLU	00:30	U	U	U	U	-	-
Ruso-2	7/21/2019	MYLU	00:30	U	U	U	U	-	-
Ruso-2	7/21/2019	MYLU	02:00	M	A	TD	0	37.1	6.2
Ruso-2	7/21/2019	MYLU	02:08	M	A	TD	0	38.9	7.5
Ruso-2	7/22/2019	No bats	-	-	-	-	-	-	-
Ruso-2	7/23/2019	MYLU	22:50	F	A	PL	0	39.2	8
Ruso-2	7/23/2019	MYLU	23:20	U	U	U	U	-	-
Ruso-3	7/18/2019	No bats	-	-	-	-	-	-	-
Ruso-3	7/20/2019	No bats	-	-	-	-	-	-	-

\*MYLU=little brown bat (*Myotis lucifugus*), LANO=silver-haired bat (*Lasionycteris noctivivans*), LACI=hoary bat (*Lasiurus cinereus*);

\*\*M= male, F=female;

\*\*\* A=adult, J=juvenile;

\*\*\*\* N=non-reproductive, TD=testes descended

mm = millimeters, g = grams

**Appendix C. Photographs of Captured Bats**



**Appendix C1. Representative photo of captured silver-haired bat**



**Appendix C2. Representative photo of captured hoary bat**



Appendix C3. Ruso1-MYLU1



Appendix C4. Ruso1-MYLU2



Appendix C5. Ruso1-MYLU3

Escaped

Appendix C6. Ruso1-MYLU4



Appendix C7. Ruso1-MYLU5

Escaped

Appendix C8. Ruso1-MYLU6



Appendix C9. Ruso1-MYLU7



Appendix C10. Ruso1-MYLU8



Appendix C11. Ruso1-MYLU9



Appendix C12. Ruso1-MYLU10



Appendix C13. Ruso1-MYLU11



Appendix C14. Ruso1-MYLU12



Appendix C15. Ruso1-MYLU13

Escaped

Appendix C16. Ruso1-MYLU14



Appendix C17. Ruso1-MYLU15



Appendix C18. Ruso1-MYLU16



Appendix C19. Ruso1-MYLU17



Appendix C20. Ruso2-MYLU1



Appendix C21. Ruso2-MYLU2



Appendix C22. Ruso2-MYLU3



Appendix C23. Ruso2-MYLU4



Appendix C24. Ruso2-MYLU5



Appendix C25. Ruso2-MYLU6



Appendix C26. Ruso2-MYLU7



Appendix C27. Ruso1-MYLU8

**Appendix D. Mist-Net Survey Datasheets**



Bat Capture Data Form

Project: Ruso  
 Site ID: Ruso-1

State: North Dakota  
 County: Ward

Survey Comments:  
 high wind 11-14mph all night



Date: 2019-07-24

Net Night: 1

Night Complete: Yes  No

Biologist(s): BH, PS

#	Species (4 Letter Code)	Time (24 Hour)	Sex (M, F, U)	Age (A, J, U)	Repro. Status	Reichard Score (0-3)	Right Forearm (mm)	Weight (g)	Net ID (A, B, ...)	Capture Height In Net (m)	Recaptures (Yes/No)	Band #	Original Transmitter Frequency	Drifted Transmitter Frequency	Bat ID (Site-Species #)	Photos (Name, Face, Calcus, Tarsus)	Comments
1	MYLU	2200	M	A	TD	0	38	10.1	A	1	No				Ruso- - MYLU1		
2	MYLU	2230	M	A	N	0	38.2	9	B	3	No				Ruso- - MYLU2		
3	MYLU	2230	M	A	TD	0	37	8.5	B	3.5	No				Ruso- - MYLU3		
4	MYLU	2230	U	U	U	U			B	3	U				Ruso- - MYLU4		escaped
5	LANO	2245	F	J	N	0	42.7	10.5	A	2.5	No				Ruso1 LANO1		
6	LANO	2315	F	J	N	0	42.5	12	A	3.5	No				Ruso1 LANO2		lot of bat bugs
7	LANO	2340	F	J	N	0	43	11	A	3	No				Ruso1 LANO3		
8	MYLU	2350	F	A	PL	0	38.9	10.25	E	2	No				Ruso- - MYLU5		
9	LANO	0050	F	J	N	0	41.7	11.5	A	3	No				Ruso1 LANO4		
10	LACI	0050	F	A	PL	0	54.2	30.5	A	2	No				Ruso1 LAC11		
11	MYLU	0040	U	U	U	U			E	4	U				Ruso- - MYLU6		escaped
12																	
13																	
14																	
15																	

<sup>a</sup> Male: (N) - non-reproductive, (TD) - testes-descended, (U) - unknown. Female: (N) - non-reproductive, (L) - lactating, (P) - pregnant, (PL) - post-lactating, (U) - unknown.  
<sup>b</sup> Band RIGHT forearm on males, LEFT on females AND include letters.  
<sup>c</sup> Original frequency; pre-assigned by manufacturer; Drifted frequency: final frequency prior to bat release.  
<sup>d</sup> Bat ID: write Site ID - Species Code (with the sequential number of individuals of species captured; e.g. MNS-MYSO2). Only Myotis and target species are given a Bat ID.  
<sup>e</sup> Take photos of 1) ALL MYSO/MYSE/MYLE/MYGR captured, 2) First several MYLU from each site, 3) One representative photo of each species captured.  
<sup>\*</sup> (U) - unknown is used exclusively when a bat escapes before the determination can be made.

Bat Capture Data Form

Project: Ruso

State: North Dakota

Survey Comments:

Site ID: Ruso-1

County: Ward

Date: 2019-07-25

Net Night: 2

Biologist(s): BH,PS

Net Complete:  Yes  No



#	Species (4 Letter Code)	Time (24 Hour)	Sex (M, F, U)	Age (A, I, U)	Repro. Status	Reichard Score (0 - 3)	Right Forearm (mm)	Weight (g)	Net ID (A, B, ...)	Capture Height In Net (m)	Recapture (Yes / No)	Band #	C	Original Transmitter Frequency	D	Drifted Transmitter Frequency	E	Photos (Nose, Face, Calcar, Toes)	Comments
1	MYLU	2308	F	J	N	0	38.9	8.5	E	3.5	No							Face / Calcar / Toes	
2	LACI	2345	F	J	N	0	56.2	20.5	C	2	No							Ruso- LACI2	
3	MYLU	2350	F	A	PL	0	36.3	10.3	D	4.5	No							Face / Calcar / Toes	
4	MYLU	0015	F	J	N	0	39.3	9.2	A	3	No							Face / Calcar / Toes	
5	LANO	0015	M	J	N	0	42.9	10.75	A	3.5	No							Ruso1 LANO5	
6	MYLU	0057	F	A	PL	0	37.7	10	D	4.5	No							Face / Calcar / Toes	
7	LANO	0120	M	J	N	0	43.9	11.5	D	2	No							Ruso1 LANO6	
8	LANO	0120	M	J	N	0	41.1	9.8	D	3.5	No							Ruso1 LANO7	
9	MYLU	0230	F	A	PL	0	39.3	12	A	2	No							Face / Calcar / Toes	
10	MYLU	0230	M	J	N	0	38.4	8.3	A	1	No							Face / Calcar / Toes	
11	MYLU	0230	F	A	PL	0	39.7	12	A	2.5	No							Face / Calcar / Toes	deformed ears
12	MYLU	0230	U	U	U	U			U	4	U							Face / Calcar / Toes	Escaped
13																			
14																			
15																			

<sup>a</sup> Male: (N) - non-reproductive, (TD) - testes-descended, (U) - unknown. Female: (N) - non-reproductive, (L) - lactating, (P) - pregnant, (PL) - post-lactating, (U) - unknown.  
<sup>b</sup> Band RIGHT forearm on males, LEFT on females AND include letters.  
<sup>c</sup> Original frequency: pre-assigned by manufacturer; Drifted frequency: final frequency prior to bat release.  
<sup>d</sup> Bat ID: write Site ID - Species Code (with the sequential number of individuals of species captured; e.g. MN5-MYSO2). Only Myotis and target species are given a Bat ID.  
<sup>e</sup> Take photos of 1) ALL MYSO/MYSE/MYLE/MYGR captured, 2) First several MYLU from each site, 3) One representative photo of each species captured.  
<sup>f</sup> (U) - unknown is used exclusively when a bat escapes before the determination can be made.



**Bat Capture Data Form**

Project: Ruso State: North Dakota Survey Comments:

Site ID: Ruso-1 County: Ward

Date: 2019-07-26 Net Night: 3

Biologist(s): BH, PS Night Complete:  Yes  No

#	Species (4 Letter Code)	Time (24 Hour)	Sex (M, F, U)	Age (A, J, U)	Repro. Status	Reichard Score (0 - 3)	Right Forearm (mm)	Weight (g)	Net ID (A, B, ...)	Capture Height In Net (m)	Recapture (Yes / No)	Band #	Original Transmitter Frequency	Drifted Transmitter Frequency	Bat ID (Site-Species #)	Photos (Name, face, Calcar, Toes)	Comments
1	MYLU	2356	F	A	PL	0	37	9.8	C	1	No				Ruso- MYLU15	Face / Calcar / Toes	
2	LACI	0055	M	J	N	0	50.1	20	C	2	No				Ruso- LACI3		
3	LACI	0005	F	J	N	0	53.2	20.3	E	2	No				Ruso- LACI4		
4	MYLU	0125	M	A	TD	0	37.2	8.5	A	2.5	No				Ruso- MYLU16	Face / Calcar / Toes	
5	MYLU	0155	F	J	N	0	37.6	8	D	1	No				Ruso- MYLU17	Face / Calcar / Toes	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

<sup>A</sup> Male: (N) - non-reproductive, (TD) - testes-descended, (U) - unknown. Female: (N) - non-reproductive, (L) - lactating, (P) - pregnant, (PL) - post-lactating, (U) - unknown.  
<sup>B</sup> Band RIGHT forearm on males, LEFT on females AND include letters.  
<sup>C</sup> Original frequency: pre-assigned by manufacturer; Drifted frequency: final frequency prior to bat release.  
<sup>D</sup> Bat ID: write Site ID - Species Code (with the sequential number of individuals of species captured; e.g. MN5-MYSO2). Only Myotis and target species are given a Bat ID.  
<sup>E</sup> Take photos of 1) ALL MYSO/MYSE/MYLE/MYGR captured, 2) First several MYLU from each site, 3) One representative photo of each species captured.  
<sup>F</sup> (U) - unknown is used exclusively when a bat escapes before the determination can be made.

Site Description and Weather Data Form



<b>Location Information</b>	
<b>Site ID:</b>	<b>Ruso-2</b>
<b>Project:</b>	<b>Ruso</b>
<b>State:</b>	<b>North Dakota</b>
<b>Datum:</b>	<b>NAD 83</b>
<b>County:</b>	<b>Ward</b>



Site Sketch  
Should be drawn in a top-down view using map to assist with accuracy. Include all streams, roads, trails, and structures. Note all net locations using Net ID.

Net Locations - Take pictures of each net set and distinguishing characteristics						
Net ID (A,B,...)	Net Size (e.g. 3x9)	UTM Zone	Eastings	Northings	Net Nights Used (1,2,...)	Canopy Cover (%)
A	3 x 18	14	342536	5307729	1, 2, 3	0
B	3 x 9	14	342481	5307858	1, 2, 3	0
C	3 x 4	14	342426	5307806	1, 2, 3	15

Net Night	Date (yyy-mm-dd)	Biologists Present	Total Nets Open (#)	Sunset Time (24 Hour)	Moonrise Time	Moonsset Time	Moon Phase	Start Time	Start Temp (°F)	Start Wind Speed (mph)	Start Sky Code	Stop Time	Stop Temp	Stop Wind Speed	Stop Sky Code	Precip. During Survey (Yes/No)	Precip. Duration (min)	Night Complete (Yes/No)
1	2019-07-21	BH, PS	3	0935	2330	1040	G	0930	67	4	0	0230	58	0	0	No	0	Yes
2	2019-07-22	BH,PS	3	0937	-	1131	F	0940	73	3	0	0240	61	0	0	No	0	Yes
3	2019-07-23	BH,PS	3	0933	0002	1222	F	0930	73	7	0	0230	60	3	0	No	0	Yes
4																		
5																		

Habitat Information	
<b>Primary Habitat Surveyed:</b>	<b>Estimated Canopy Tree Age (DBH):</b>
Pond	Mid-successional (13-24 cm)
<b>Dominant Canopy Species:</b>	<b>Additional Comments:</b>
Pinus resinosa	
<b>Forest Type:</b>	
Mixed	

<sup>1</sup> New (N), Crescent (C), Half (H), Gibbous (G), Full (F) <sup>2</sup> Bridge, Bottomland Forest, Cave Entrance, Creek/Riparian, Field Edge, Mine Portal, Open Field, Pond, Structure, Upland Forest, or Other (Briefly Describe)

Bat Capture Data Form



Project: Ruso

State: North Dakota

Survey Comments:

Site ID: Ruso-2

County: Ward

Date: 2019-07-21

Net Night: 1

Night Complete:  Yes  No

Biologist(s): BH,PS

#	Species (4 Letter Code)	Time (24 Hour)	Sex (M, F, U)	Age (A, J, U)	Repro. Status	Reichard Score (0 - 3)	Right Forearm (mm)	Weight (g)	Net ID (A, B, ...)	Capture Height in Net (m)	Recapture (Yes / No)	Band #	C	D	E	F	Comments
1	MYLU	2320	F	A	L	0	38.5	7.25	C	2	No						Face / Calcar / Toes
2	MYLU	2320	M	J	N	0	38.4	6.0	C	2.4	No						Face / Calcar / Toes
3	MYLU	2355	F	A	L	0	37.7	8.5	C	2	No						Face / Calcar / Toes
4	MYLU	2355	F	A	L	0	37.4	7.25	C	1.5	No						Face / Calcar / Toes
5	MYLU	037	M	A	TD	0	38.7	7.75	C	3	No						Face / Calcar / Toes
6	MYLU	037	M	J	N	0	36.2	5	C	.5	No						Face / Calcar / Toes
7	MYLU	0030	U	U	U	U			C								escaped
8	MYLU	0030	U	U	U	U			C								escaped
9	MYLU	200	M	A	TD	0	37.1	6.2	C	3	No						Face / Calcar / Toes
10	MYLU	208	M	A	TD	0	38.9	7.5	C	3.5	No						Face / Calcar / Toes
11																	
12																	
13																	
14																	
15																	

<sup>A</sup> Male: (N) - non-reproductive, (TD) - testes-descended, (U) - unknown. Female: (N) - non-reproductive, (L) - lactating, (P) - pregnant, (PL) - post-lactating, (U) - unknown.  
<sup>B</sup> Band RIGHT forearm on males, LEFT on females AND include letters.  
<sup>C</sup> Original frequency: pre-assigned by manufacturer; Drifted frequency: final frequency prior to bat release.  
<sup>D</sup> Bat ID: write Site ID - Species Code (with the sequential number of individuals of species captured; e.g. MNS-MYSO2). Only Myotis and target species are given a Bat ID.  
<sup>E</sup> Take photos of 1) ALL MYSO/MYSE/MYLE/MYGR captured, 2) First several MYLU from each site, 3) One representative photo of each species captured.  
<sup>F</sup> (U) - unknown is used exclusively when a bat escapes before the determination can be made.



**Bat Capture Data Form**

Project: Ruso State: North Dakota Survey Comments:

Site ID: Ruso-2 County: Ward

Date: 2019-07-22 Net Night: 2

Biologist(s): BH, PS Night Complete:  Yes  No

#	Species (4 Letter Code)	Time (24 Hour)	Sex (M, F, U)	Age (A, I, U)	Repro. Status	Reichard Score (0 - 3)	Right Forearm (mm)	Weight (g)	Not ID (A, B, ...)	Capture Height in Net (m)	Recapture (Yes / No)	Band #	C Original Transmitter Frequency	D Drifted Transmitter Frequency	E Bat ID (Site-Species #)	F Photos (None, Face, Color, Tosa)	Comments
1	No bats																
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

<sup>A</sup> Male: (N) - non-reproductive, (TD) - testes-descended, (U) - unknown. Female: (N) - non-reproductive, (L) - lactating, (P) - pregnant, (PL) - post-lactating, (U) - unknown.  
<sup>B</sup> Band RIGHT forearm on males, LEFT on females AND include letters.  
<sup>C</sup> Original frequency: pre-assigned by manufacturer; Drifted frequency: final frequency prior to bat release.  
<sup>D</sup> Bat ID: write Site ID - Species Code (with the sequential number of individuals of species captured; e.g. MNS-MYSO2). Only Myotis and target species are given a Bat ID.  
<sup>E</sup> Take photos of 1) ALL MYSO/MYSE/MYLE/MYGR captured, 2) First several MYLU from each site, 3) One representative photo of each species captured.  
<sup>F</sup> (U) - unknown is used exclusively when a bat escapes before the determination can be made.



Bat Capture Data Form

Project: Ruso

State: North Dakota

Survey Comments:

Site ID: Ruso-2

County: Ward

Date: 2019-07-23

Net Night: 3

Biologist(s): BH,PS

Net Complete:  Yes  No

#	Species (4 Letter Code)	Time (24 Hour)	Sex (M, F, U)	Age (A, J, U)	Repro. Status	Reichard Score (0-3)	Right Forearm (mm)	Weight (g)	Net ID (A, B, ...)	Capture Height in Net (m)	Recapture (Yes / No)	Band #	C	D	E	Comments
													Original Transmitter Frequency	Drifted Transmitter Frequency	Photos (Nose, Face, Calcar, Toes)	
1	MYLU	2250	F	A	PL	0	39.2	8.0	C	4	No				Face / Calcar / Toes	
2	MYLU	2320	U	U	U	U			C	4.5	No				Ruso - MYLU2	escaped
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																

<sup>A</sup> Male: (N) - non-reproductive, (TD) - testes-descended, (U) - unknown. Female: (N) - non-reproductive, (L) - lactating, (P) - pregnant, (PL) - post-lactating, (U) - unknown.  
<sup>B</sup> Band RIGHT forearm on males, LEFT on females AND include letters.  
<sup>C</sup> Original frequency: pre-assigned by manufacturer; Drifted frequency: final frequency prior to bat release.  
<sup>D</sup> Bat ID: write Site ID - Species Code (with the sequential number of individuals of species captured); e.g. MINS-MYSO2). Only Myotis and target species are given a Bat ID.  
<sup>E</sup> Take photos of 1) ALL MYSO/MYSE/MYLE/MYGR captured, 2) First several MYLU from each site, 3) One representative photo of each species captured.  
<sup>\*</sup> (U) - unknown is used exclusively when a bat escapes before the determination can be made.





**Bat Capture Data Form**

Project: Ruso State: North Dakota Survey Comments:

Site ID: Ruso-3 County: Ward

Date: 2019-07-18 Net Night: 1

Biologist(s): BH, PS Night Complete:  Yes  No

#	Species (4 Letter Code)	Time (24 Hour)	Sex (M, F, U)	Age (A, I, U)	A Repro. Status	Reichard Score (0 - 3)	Right Forearm (mm)	Weight (g)	Net ID (A, B, ...)	Capture Height in Net (m)	Recapture (Yes / No)	B Band #	C Original Transmitter Frequency	D Drifted Transmitter Frequency	E Bat ID (Site-Species #)	F Photos (Name, Face, Color, Tons)	Comments
1	No bats																
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

<sup>A</sup> Male: (N) - non-reproductive, (TD) - testes-descended, (U) - unknown. Female: (N) - non-reproductive, (L) - lactating, (P) - pregnant, (PL) - post-lactating, (U) - unknown.  
<sup>B</sup> Band RIGHT forearm on males, LEFT on females AND include letters.  
<sup>C</sup> Original frequency: pre-assigned by manufacturer; Drifted frequency: final frequency prior to bat release.  
<sup>D</sup> Bat ID: write Site ID - Species Code (with the sequential number of individuals of species captured; e.g. MNS-MYSOZ). Only Myotis and target species are given a Bat ID.  
<sup>E</sup> Take photos of 1) ALL MYSO/MYSE/MYLE/MYGR captured, 2) First several MYLU from each site, 3) One representative photo of each species captured.  
<sup>F</sup> (U) - unknown is used exclusively when a bat escapes before the determination can be made.



**Bat Capture Data Form**

Project: Ruso State: North Dakota Survey Comments:

Site ID: Ruso-3 County: Ward

Date: 2019-07-20 Net Night: 2

Biologist(s): BH,PS Night Complete:  Yes  No

#	Species (4 Letter Code)	Time (24 Hour)	Sex (M, F, U)	Age (A, J, U)	Repro. Status	Richard Score (0 - 3)	Right Forearm (mm)	Weight (g)	Net ID (A, B, ...)	Capture Height in Net (m)	Recapture (Yes / No)	Band #	Original Transmitter Frequency	Drifted Transmitter Frequency	Bat ID (Site-Species #)	Photos (Name, Face, Color, Toss)	Comments
1	No bats																
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	


<sup>A</sup> Male: (N) - non-reproductive, (TD) - testes-descended, (U) - unknown. Female: (N) - non-reproductive, (L) - lactating, (P) - pregnant, (PL) - post-lactating, (U) - unknown.  
<sup>B</sup> Band RIGHT forearm on males, LEFT on females AND include letters.  
<sup>C</sup> Original frequency: pre-assigned by manufacturer; Drifted frequency: final frequency prior to bat release.  
<sup>D</sup> Bat ID: write Site ID - Species Code (with the sequential number of individuals of species captured; e.g. MNS-MYSO2). Only Myotis and target species are given a Bat ID.  
<sup>E</sup> Take photos of 1) ALL MYSO/MYSE/MYLE/MYGR captured, 2) First several MYLU from each site, 3) One representative photo of each species captured.  
<sup>F</sup> (U) - unknown is used exclusively when a bat escapes before the determination can be made.

**Appendix E. Permits and Site-Specific Authorization**



Issuing Office:

Department of the Interior  
U.S. FISH & WILDLIFE SERVICE  
Endangered Species Permit Office  
5600 American Boulevard, West, Suite 990  
Bloomington, MN 55437-1458  
permitsR3ES@fws.gov

  
Chief - Endangered Species

Permittee:

**BRENNAN ANNE HYZY**  
3368 XENWOOD AVE. S.  
MINNEAPOLIS, MN 55416  
U.S.A.

Authority: Statutes and Regulations: 16 USC 1539(a), 16 USC 1533(d); 50 CFR 17.22, 50 CFR 17.32, 50 CFR 13.

**Location where authorized activity may be conducted:**  
ON LANDS SPECIFIED IN THE AUTHORIZATIONS AND CONDITIONS

**Reporting requirements:**

ANNUAL REPORT DUE: 01/31  
See permit conditions for reporting requirements

**Authorizations and Conditions:**

- A. General Conditions set out in Subpart B of 50 CFR 13, and specific Conditions contained in Federal regulations cited above, are hereby made a part of this permit. All activities authorized herein must be carried out in accord with and for the purposes described in the application submitted. Continued validity, or renewal of this permit is subject to complete and timely compliance with all applicable Conditions, including the filing of all required information and reports.
- B. The validity of this permit is also conditioned upon strict observance of all applicable foreign, state, local, tribal, or other Federal law.
- C. Valid for use by Brenna A. Hyzy.
  - C.1. Unnamed assistants may work on permitted activities under the direct and on-site supervision of named Permittee. "On-site supervision" is defined as having the Permittee at a distance close enough to enable immediate assistance to a supervised individual, as needed, while the supervised individual conducts an authorized activity. **Brenna Hyzy must remain present at each mist-net and harp trap site while it is being operated.**
- D. Acceptance of this permit serves as evidence that the Permittee and its authorized agents understand and agree to abide by the terms of this permit and all sections of Title 50 Code of Federal Regulations, Parts 13 and

# North Dakota Game and Fish Department

100 N. Bismarck Expressway Bismarck, North Dakota 58501-5095 (701) 328-6300

License #: **GNF05044694** issued 07/10/2019  
Birthdate: 03/11/1993 Sex: Female  
Phone: 571-332-0861  
Height: 5 ft 5 in Weight: 140  
Hair: BROWN Eyes: GREEN

### Non-Resident License(s)

**Scientific Collection** (Exp: 12/31/2019)  
Location: WESTERN ECOSYSTEMS TECHNOLOGY INC  
License Address: 415 W 17TH ST SUITE 200, CHEYENNE WY 82001  
Species: NORTHERN LONG-EARED BAT, INDIANA BAT, GRAY BAT,  
OZARK BIG-EARED BAT, VIRGINIA BIG-EARED BAT.



BRENNA HYZY  
7575 GOLDEN VALLEY ROAD SUITE 350  
GOLDEN VALLEY MN 55427

<https://gf.nd.gov> Nontransferable/Nonrefundable  
This license to be presented by the licensee while hunting or fishing.  
Failure to close gates is a misdemeanor (NDCC 20.1-01-23)  
Report all poachers 1-800-472-2121

### Customer Receipt

<u>License(s) Purchased</u>	<u>Fee</u>
Scientific Collection	\$10.00
<b>Total</b>	<b>\$10.00</b>

License #: GNF05044694 Issued:07/10/2019

United States Department of the Interior



IN REPLY REFER TO  
WEST Site Specific  
Authorization NLEB  
Permit

FISH AND WILDLIFE SERVICE  
South Dakota Ecological Services

420 South Garfield Avenue, Suite 400  
Pierre, South Dakota 57501-5408



July 3, 2019

Mr. Kevin Lager Murray  
Research Biologist  
Western Ecosystems Technology, Inc.  
408 West Sixth Street  
Bloomington, Indiana 47404

Dear Mr. Murray:

This letter provides your site specific authorization per condition I.1 of the following Federal Endangered Species Permits:

TE26854C-0 Brenna Hyzy  
TE81968B-0 Curtis Hart  
TE75774C-0 Wesley Conway  
TE21829B-2 Larisa Bishop-Boros  
TE03495B-2 Kristina Hammond  
TE99051B-1 Goniela Iskali  
TE19208C-0 Ashley Matteson  
TE13580D Julia Wilson  
TE234121-9 Wester Ecosystems Technology (includes Kevin Murray, T. Travis Brown, Tim Sichmeller, Donald Solick, Jason Ritzert)

Under this condition you are to notify the U.S. Fish and Wildlife Service (Service) Field Supervisor for the state in which activities are proposed to occur at least 30 days prior to conducting any activities.

The information required under condition I and H6 was provided to the Service in an email dated June 14, 2019. In summary, bats, including northern long-eared bats (NLEB), will be captured in mist nests and harp traps at the Ruso Wind Project in McHenry and Ward Counties, North Dakota. The objective of the survey is to determine presence/probable absence of the NLEB. Captured bats will be placed in clean cloth bags and assessed for morphometric data (mass, length of forearm, and other metrics need for identification if necessary). Once processed, bats will be released at the site of capture. As a reminder, bats cannot be held for more than 30 minutes.

Mr. Kevin Lager Murray

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A North Dakota Scientific Collectors permit from the North Dakota Game and Fish Department is also required for this type of work.

All activities will take place as part of a presence/absence survey for the Ruso Wind Project. All survey activities should conform to the conditions of your Service permit.

Please report your data from this survey to the USFWS South Dakota Field Office utilizing the 2016 Bat Reporting spreadsheets for Region 6, to fulfill condition L of your permit. The spreadsheet and instructions can be found on the Service's website <http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>.

As stated in your permit, your concurrence letter must be carried with this permit to authorize site-specific activities. If you have any questions, please feel free to call Charlene Bessken at 605-224-8693 x 231.

Sincerely,



Scott V. Larson  
Field Supervisor  
South Dakota Field Office

Cc: Kathy Konishi, USFWS, Denver  
Jerry Reinisch, USFWS, North Dakota Field Office