

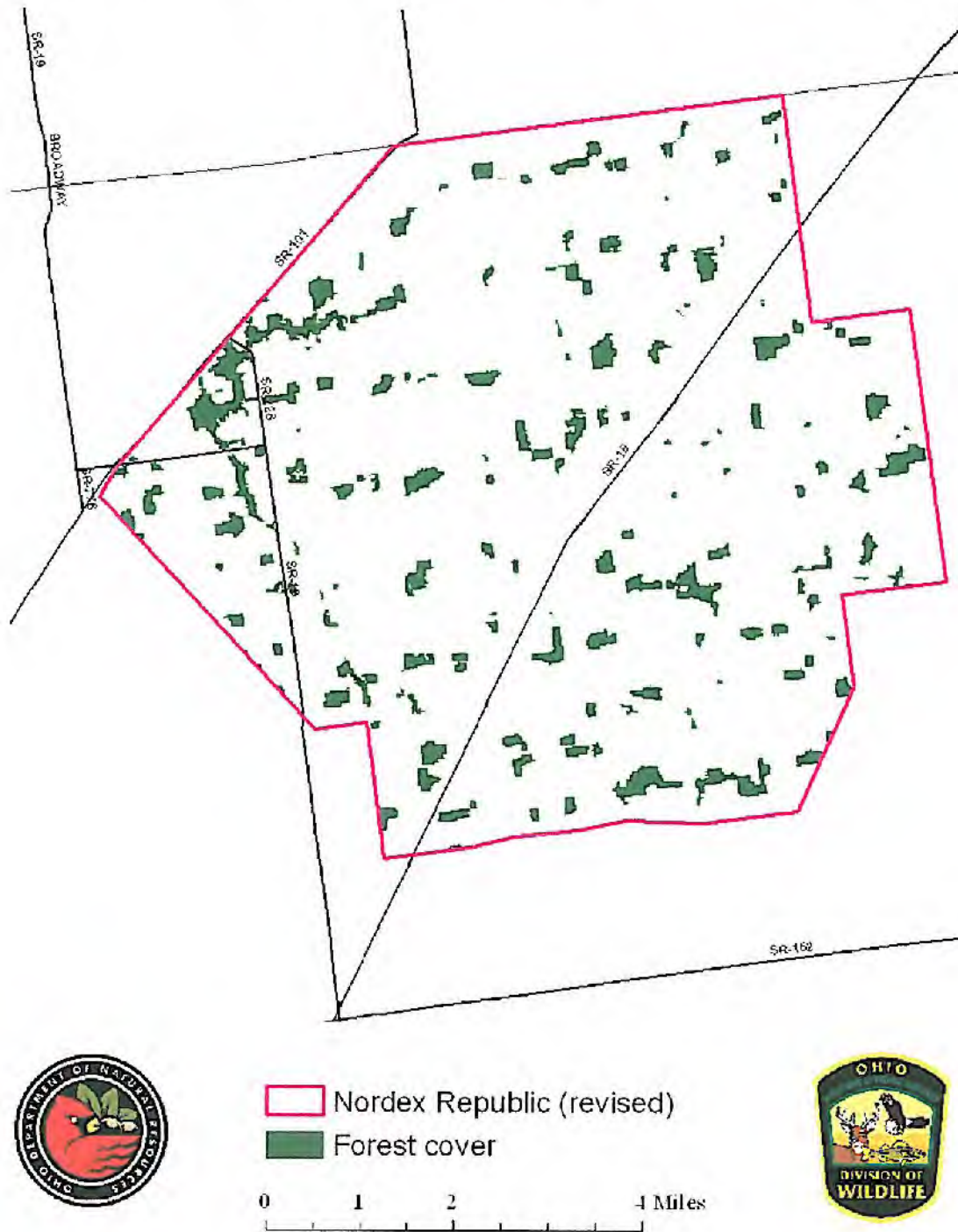


Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

DAVID MUSTINE, DIRECTOR

Figure 2. Forest cover map with revised boundary for Nordex's proposed Republic project.





Ohio Department of Natural Resources

TED STRICKLAND, GOVERNOR

SEAN D. LOGAN, DIRECTOR

Division of Wildlife
David M. Graham, Chief
2045 Morse Rd., Bldg. G
Columbus, OH 43229-6693
Phone: (614) 265-6300

April 2, 2010

To all interested parties,

Based upon the revised project boundary map received on 2 April 2010, the Ohio Department of Natural Resources Division of Wildlife (DOW) has prepared these survey recommendations for the proposed Nordex wind energy project located in Seneca County. After reviewing the project area map provided and site visits conducted within that region, the DOW has determined that this proposed facility would be classified as a "moderate" site under the current monitoring protocols (Fig. 1).

The table below was created based upon the project maps provided and summarizes the types and level of effort recommended by the DOW. Results from these studies will help the Department of Natural Resources assess the potential impact these turbines may pose, and influence our recommendations to the Ohio Power Siting Board. Monitoring should follow those criteria listed within the "On-shore Bird and Bat Pre-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio."

Project	
Survey type	
Breeding bird	Breeding bird surveys should be conducted at all sites. The number of survey points may be based on the amount of available habitat, or twice the maximum number of turbines proposed for the site. Because agricultural land is not considered to be suitable nesting habitat for most species of bird, turbines placed within these types of habitat are exempt of this recommendation.
Raptor nest searches	Nest searches should occur on, and within a 1-mile buffer of the proposed facility.

Raptor nest monitoring	There are 2 eagle nests located on or within 2 miles of the proposed project. These pairs should be monitored to assess their daily movement patterns. Should additional nests of a protected species of raptor be located during nest searches, monitoring should commence as outlined within the on-shore protocols.
Bat acoustic monitoring	Acoustic monitoring should be conducted at all meteorological towers.
Passerine migration (# of survey points)	16
Diurnal bird/raptor migration (# of survey point)	1
Sandhill crane migration (same points as raptor migration)	NS
Owl playback survey points	1
Barn owl surveys	NS
Bat mist-netting (# of survey points)	32
Nocturnal marsh bird survey points	NS
Waterfowl survey points	NS
Shorebird migration points	NS

Radar monitoring locations	NS
----------------------------	----

NS = Not required based on the lack of suitable habitat.

The DNR looks forward to working with you on this or any other proposed project in the future. If you have any questions, please feel free to contact me.

Keith

Old Woman Creek Nat'l Estuarine Research Reserve and State Nature Preserve
Ohio Division of Wildlife
2514 Cleveland Road East
Huron, OH 44839
Office phone: 419-433-4601
Cell: 419-602-3141
Fax: 419-433-2851

cc: Mr. Stuart Siegfried, Ohio Power Siting Board
Ms. Megan Seymour, United States Fish and Wildlife Service

Figure 1.

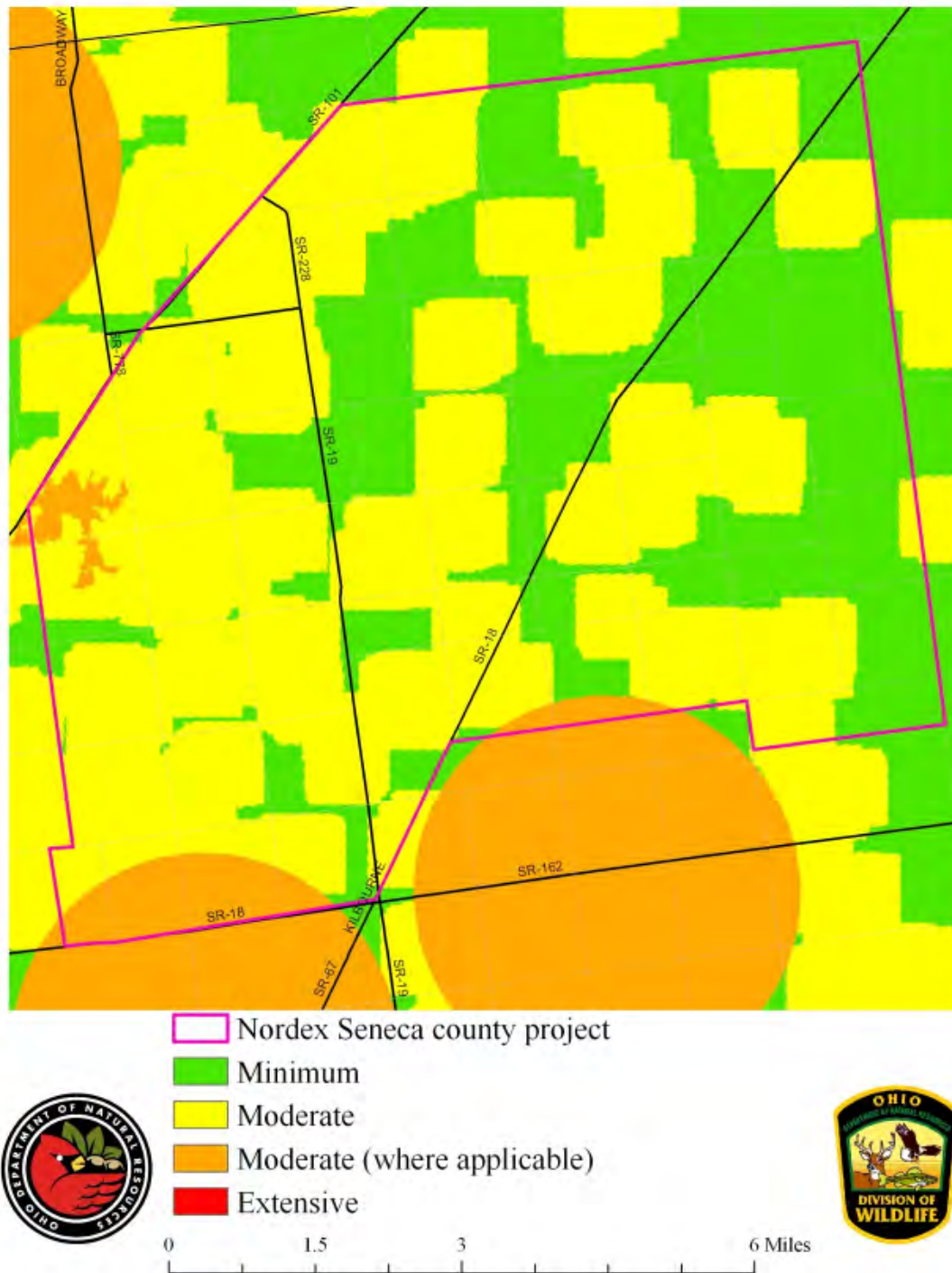
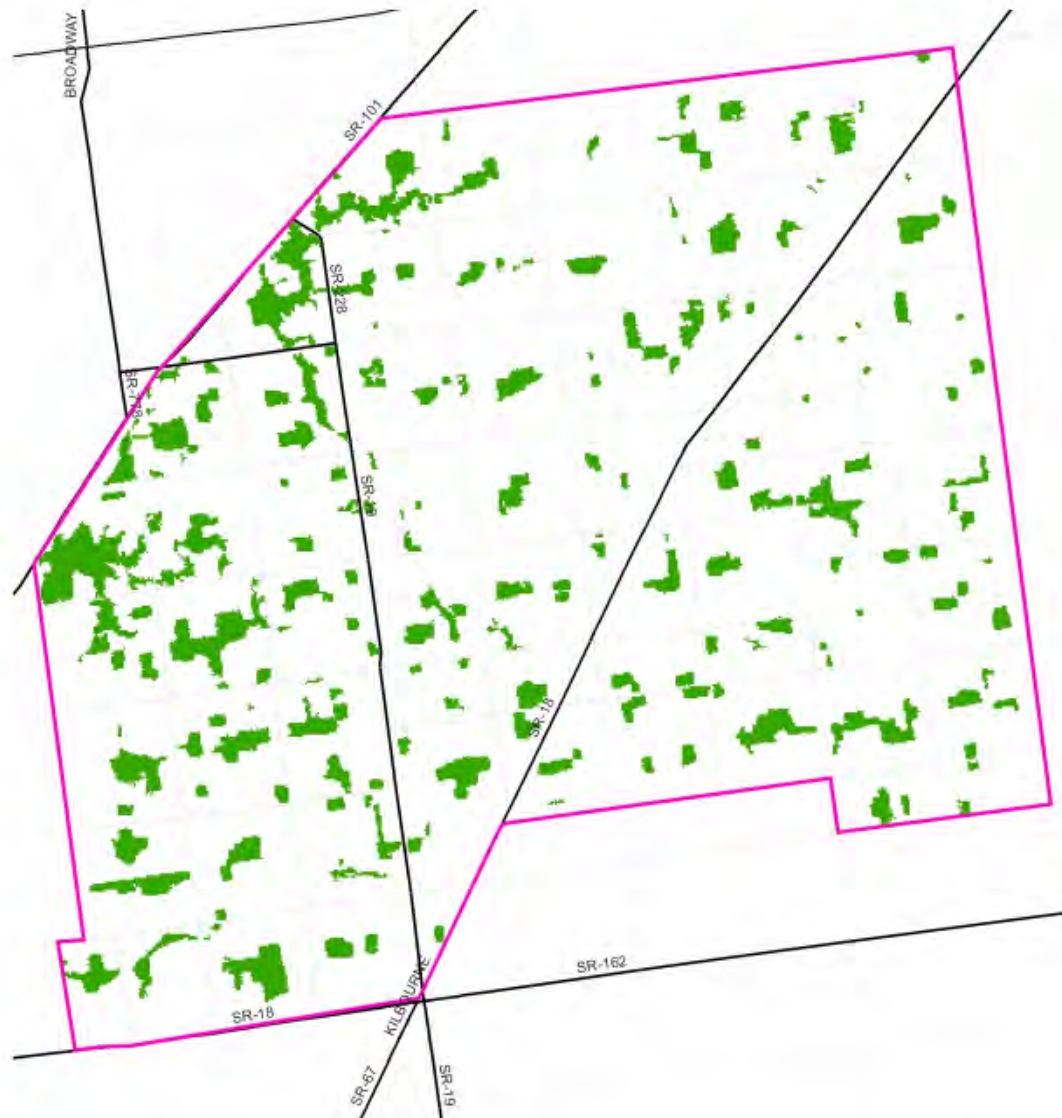


Figure 2.



□ Nordex Seneca county project
■ Forest cover



APPENDIX B
Site Photographs

Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio



Photo 1. Point 1, facing east.



Photo 2. Point 1, facing west.



Photo 3. Point 2, facing south.



Photo 4. Point 2, facing west.

Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio



Photo 5. Point 3, facing east.



Photo 6. Point 3, facing west.



Photo 7. Point 4, facing north.



Photo 8. Point 4, facing south.

Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio

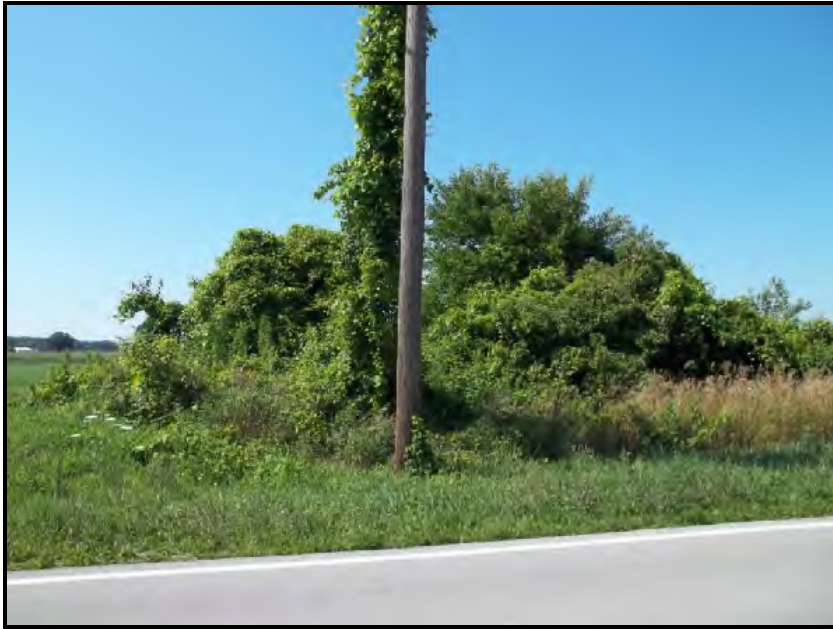


Photo 9. Point 5, facing north.

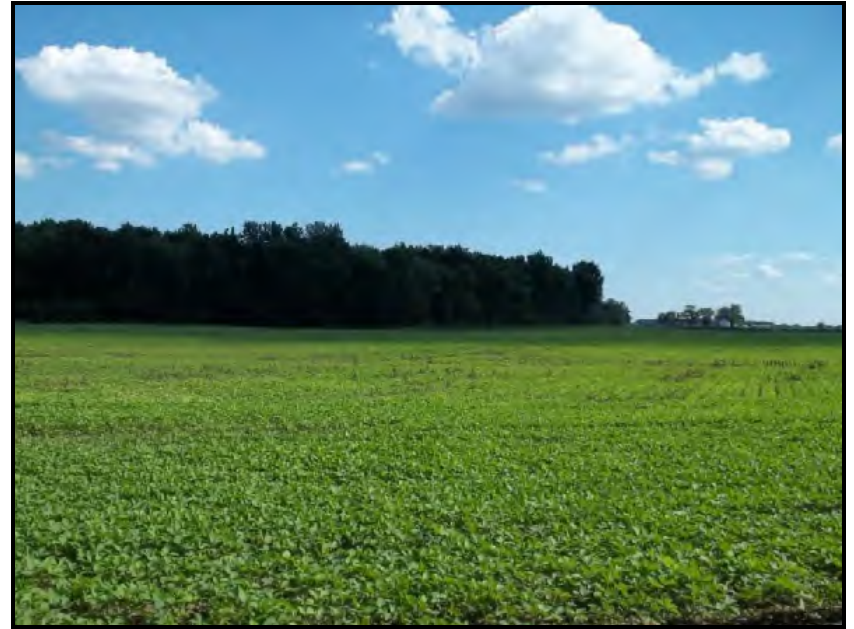


Photo 10. Point 5, facing south.



Photo 11. Point 6, facing east.



Photo 12. Point 6, facing west.

Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio



Photo 13. Point 7, facing south.



Photo 14. Point 7, facing west.



Photo 15. Point 8, facing north.



Photo 16. Point 8, facing south.

Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio

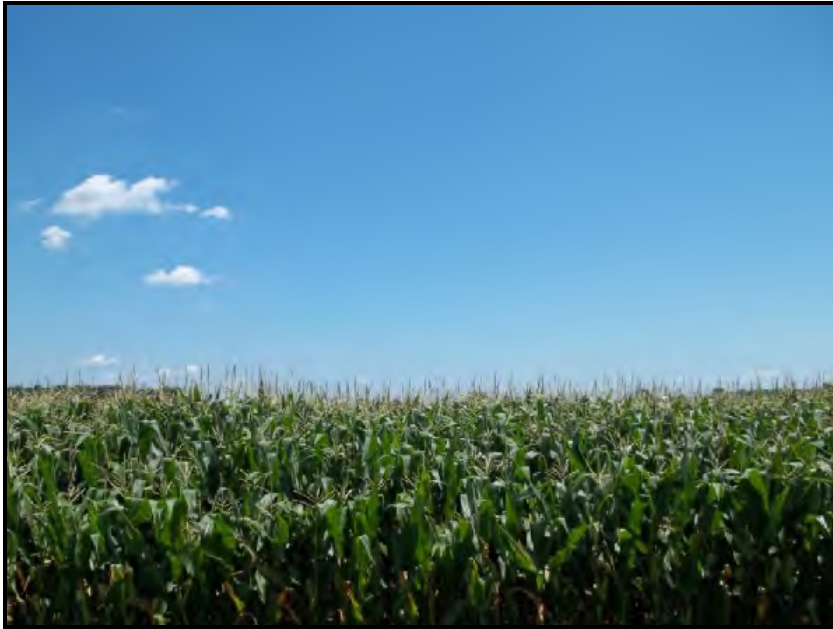


Photo 17. Point 9, facing east.



Photo 18. Point 9, facing west.



Photo 19. Point 10, facing north.



Photo 20. Point 10, facing south.

Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio



Photo 21. Point 11, facing east.



Photo 22. Point 11, facing west.



Photo 23. Point 12, facing east.



Photo 24. Point 12, facing west.

Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio



Photo 25. Point 15, facing east.



Photo 26. Point 15, facing west.



Photo 27. Point 16, facing north.



Photo 28. Point 16, facing south.

Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio



Photo 29. Point 17, facing east.



Photo 30. Point 17, facing west.



Photo 31. Point 18, facing north.



Photo 32. Point 18, facing south.

Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio



Photo 33. Point 19, facing east.



Photo 34. Point 19, facing west.



Photo 35. Point 20, facing east.



Photo 36. Point 20, facing west.

Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio

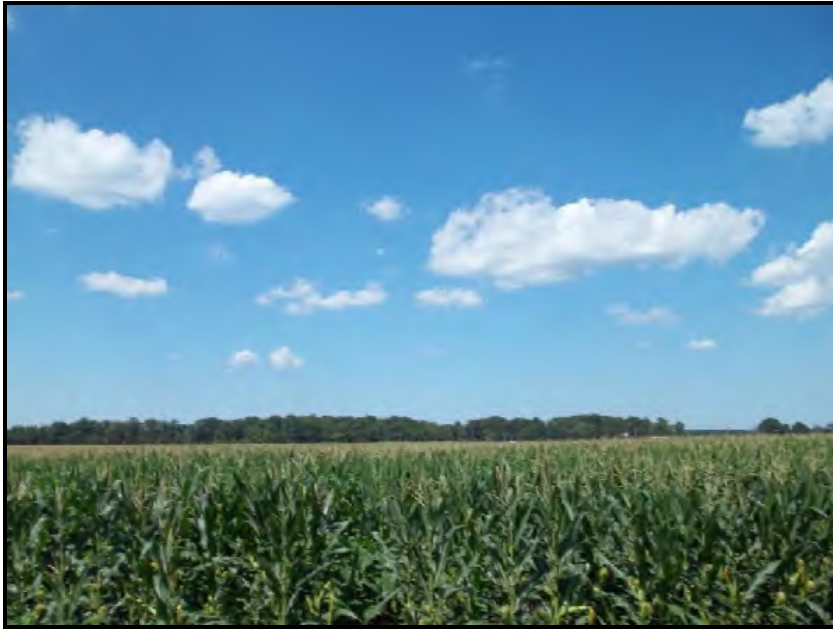


Photo 37. Point 21, facing north.



Photo 38. Point 21, facing south.



Photo 39. Point 22, facing east.



Photo 40. Point 22, facing west.

Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio



Photo 41. Point 23, facing east.



Photo 42. Point 23, facing west.



Photo 43. Point 24, facing south.



Photo 44. Point 24, facing west.

Late Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio



Photo 1. Point 1, facing north.



Photo 2. Point 1, facing south.



Photo 3. Point 2, facing north.



Photo 4. Point 2, facing south.

Late Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio



Photo 5. Point 3, facing north.



Photo 6. Point 3, facing south.



Photo 7. Point 4, facing north.



Photo 8. Point 4, facing south.

Late Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio



Photo 9. Point 5, facing north.

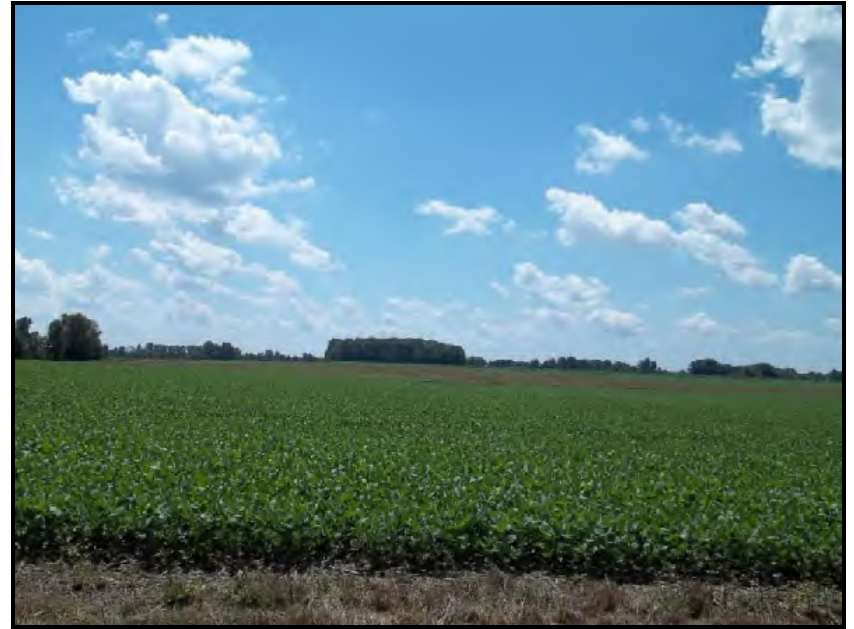


Photo 10. Point 5, facing south.



Photo 11. Point 6, facing east.



Photo 12. Point 6, facing west.

Late Summer Breeding Bird Survey, Republic Wind Farm, Seneca and Sandusky Counties, Ohio



Photo 13. Point 7, facing north.



Photo 14. Point 7, facing south.



Photo 15. Point 8, facing north.



Photo 16. Point 8, facing south.

APPENDIX C

Birds Observed at Republic Wind, LLC Project Area, Seneca and Sandusky Counties, Ohio,
During Breeding Bird Surveys in May, June, and July 2011

Date	Point Number	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
				Distance (m)	(Bearing)	in Flock		Start	Stop	Temp °	Wind	Cloud
31-May-2011	1	MODO	Mourning Dove	100	North	2		537	546	9	2	35%
		HOLA	Horned Lark	60	Northeast	1						
		HOLA	Horned Lark	30	Northwest	1						
		AMRO	American Robin	50	South	1						
		AMGO	American Goldfinch	20	Southwest	4						
		MODO	Mourning Dove	50	South	1						
		INBU	Indigo Bunting	30	Northwest	1						
		COGR	Common Grackle	50	Northeast	5						
		RWBL	Red-winged Blackbird	90	Northwest	2						
		BHCO	Brown-headed Cowbird	5	West	2						
31-May-2011	2	FISP	Field Sparrow	60	Northeast	1		555	604	9	0	30%
		HOLA	Horned Lark	40	Southwest	1						
		RWBL	Red-winged Blackbird	20	Northeast	4						
		RBWO	Red-bellied Woodpecker	100	East	1						
		SOSP	Song Sparrow	10	North	1						
		INBU	Indigo Bunting	25	Northwest	1						
		COGR	Common Grackle	60	Northwest	1						
31-May-2011	3	GRCA	Gray Catbird	50	Northwest	1		616	625	10	2	25%
		NOCA	Northern Cardinal	50	West	1						
		NOFL	Northern Flicker	50	Southeast	1						
		ETTI	Tufted Titmouse	50	East	1						
		NOCA	Northern Cardinal	100	Northwest	1						
		COGR	Common Grackle	20	North	4						
		RWBL	Red-winged Blackbird	40	South	2						
		AMRO	American Robin	20	Southwest	1						
		AMRO	American Robin	50	North	1						
31-May-2011	4	AMCR	American Crow	100	Southwest	1		636	645	10	0	25%
		REVI	Red-eyed Vireo	50	Northeast	1						
		HOLA	Horned Lark	40	Southwest	1						
		RWBL	Red-winged Blackbird	40	Northeast	1						
		SOSP	Song Sparrow	30	West	1						
		EUST	European Starling	60	South	7						
		BRNS	Barn Swallow	15	West	2						
		COGR	Common Grackle	40	East	3						
		RWBL	Red-winged Blackbird	30	Southwest	2						
31-May-2011	5	COHA	Cooper's Hawk	30	South	1		656	705	11	0	20%
		COGR	Common Grackle	10	Southwest	1						
		GRCA	Gray Catbird	10	North	1						
		COGR	Common Grackle	30	North	2						
		BHCO	Brown-headed Cowbird	50	North	1						
		AMRO	American Robin	15	South	1						
		HOWR	House Wren	80	South/Southwest	1						
		HOFI	House Finch	20	North/Northwest	2						
31-May-2011	6	KILL	Killdeer	50	East	1		717	726	11	2	20%
		AMRO	American Robin	80	North	1						
		COGR	Common Grackle	90	East	4						
		SOSP	Song Sparrow	30	West	1						
		WOTH	Wood Thrush	90	North	1						
		SAVS	Savannah Sparrow	40	West	1						
		SAVS	Savannah Sparrow	30	North	1						
		HOWR	House Wren	20	West	1						
31-May-2011	7	RBGR	Rose-breasted Grosbeak	20	North	1		739	748	12	0	20%
		BLJA	Blue Jay	60	West	2						
		AMRO	American Robin	30	North	1						
		INBU	Indigo Bunting	20	South	1						
		WOTH	Wood Thrush	30	Northeast	1						
		EWPE	Eastern Wood Peewee	70	North	1						
		SOSP	Song Sparrow	10	South	1						
31-May-2011	8	HOSP	House Sparrow	50	North	5		757	806	12	2	20%
		WOTH	Wood Thrush	80	Northwest	1						
		RWBL	Red-winged Blackbird	50	West	1						
		VESP	Vesper Sparrow	30	West	1						
		RBWO	Red-bellied Woodpecker	20	North	1						
		RHWO	Red-headed Woodpecker	35	West	1						
		EUST	European Starling	25	West	6						
		FISP	Field Sparrow	60	Northwest	1						
		SAVS	Savannah Sparrow	50	Northwest	1						
31-May-2011	9	MODO	Mourning Dove	40	North	2		818	827	12	0	10%
		MODO	Mourning Dove	50	South	1						
		BHCO	Brown-headed Cowbird	50	North	1						
		EUST	European Starling	70	South	12						
		SAVS	Savannah Sparrow	20	South	1						
		HOLA	Horned Lark	30	East	2						
		HOSP	House Sparrow	60	North	4						
		RWBL	Red-winged Blackbird	50	Southwest	3						
		NOCA	Northern Cardinal	10	West	1						
31-May-2011	10	HOLA	Horned Lark	30	Northwest	1		837	846	12	7	10%
		BRNS	Barn Swallow	30	Northwest	2						
		CHSP	Chipping Sparrow	50	North	1						
		SOSP	Song Sparrow	50	Northwest	1						
		CHSW	Chimney Swift	20	North	2						
		AMCR	American Crow	100	Southwest	3						
		HOSP	House Sparrow	20	East	3						
		BCCH	Black-capped Chickadee	20	West	1						
		MODO	Mourning Dove	30	North	2						
31-May-2011	11	WOTH	Wood Thrush	110	West	1		858	907	14	2	10%
		RWBL	Red-winged Blackbird	80	Northwest	3						
		BOBO	Bobolink	70	South	1						
		SAVS	Savannah Sparrow	20	East	1						
		COGR	Common Grackle	70	Northwest	1						
		HOLA	Horned Lark	20	West	1						
		EAME	Eastern Meadowlark	20	East	1						
		EAME	Eastern Meadowlark	40	Southeast	1						
		EAME	Eastern Meadowlark	50	Southwest	1						
		GRSP	Grasshopper Sparrow	30	Northwest	1						
		RWBL	Red-winged Blackbird	50	South	1						
		RWBL	Red-winged Blackbird	30	East	4						

Date	Point Number	Species		Estimated Distance (m)	Direction (Bearing)	Flyover # in Flock	Behavior/notes	Survey Time		Survey Weather Conditions		
								Start	Stop	Temp °	Wind	Cloud
31-May-2011	12	RBGR	Rose-breasted Grosbeak	30	Northwest	1		915	924	14	0	10%
		FISP	Field Sparrow	60	Northeast	1						
		HOLA	Horned Lark	20	Northeast	1						
		EABL	Eastern Bluebird	50	Northwest	1						
		BLJA	Blue Jay	60	East	1						
		AMCR	American Crow	40	Northeast	22						
		RBWO	Red-bellied Woodpecker	60	North	1						
2-Jun-2011	13	AMCR	American Crow	100	Southwest	2		545	554	12	7	60%
		KILL	Killdeer	30	Northeast	1						
		RWBL	Red-winged Blackbird	15	West	1						
		COGR	Common Grackle	30	East	2						
		SOSP	Song Sparrow	25	Northwest	1						
		COGR	Common Grackle	50	North	1						
		AMRO	American Robin	40	South	1						
2-Jun-2011	14	FISP	Field Sparrow	30	South	1		603	612	12	2	60%
		BHCO	Brown-headed Cowbird	20	South	2						
		SOSP	Song Sparrow	50	Southeast	1						
		AMCR	American Crow	100	Northwest	3						
		CHSP	Chipping Sparrow	20	Northwest	2						
		BAOR	Baltimore Oriole	60	Southwest	1						
		AMRO	American Robin	30	South	1						
		GRCA	Gray Catbird	15	Northwest	1						
2-Jun-2011	15	INBU	Indigo Bunting	40	West	1		621	630	13	0	50%
		REVI	Red-eyed Vireo	40	West	1						
		RBWO	Red-bellied Woodpecker	40	East	1						
		AMCR	American Crow	90	Northwest	1						
		SOSP	Song Sparrow	50	Northwest	1						
		NOFL	Northern Flicker	40	West	1						
		WOTH	Wood Thrush	80	South	1						
		EABL	Eastern Bluebird	50	North	2						
2-Jun-2011	16	INBU	Indigo Bunting	25	South	1		642	651	13	2	50%
		SOSP	Song Sparrow	30	Southwest	1						
		CHSP	Chipping Sparrow	40	West	1						
		AMCR	American Crow	80	Northwest	3						
		RWBL	Red-winged Blackbird	20	South	4						
		SCTA	Scarlet Tanager	30	West	1						
		BCCH	Black-capped Chickadee	20	Southwest	1						
		ETTI	Tufted Titmouse	30	South	1						
2-Jun-2011	17	GCFL	Great Crested Flycatcher	50	West	1		701	720	14	0	40%
		BAOR	Baltimore Oriole	80	Northeast	1						
		AMCR	American Crow	90	South	3						
		AMGO	American Goldfinch	30	West	3						
		INBU	Indigo Bunting	30	West	1						
		AMRO	American Robin	40	Northeast	1						
		RWBL	Red-winged Blackbird	50	Northwest	6						
		KILL	Killdeer	20	Southeast	1						
		HOLA	Horned Lark	30	West	1						
2-Jun-2011	18	AMRO	American Robin	40	West	1		729	738	14	0	30%
		EABL	Eastern Bluebird	20	Southwest	2						
		AMGO	American Goldfinch	10	Southwest	4						
		EUST	European Starling	30	West	3						
		RBGR	Rose-breasted Grosbeak	15	South	1						
		RHWO	Red-headed Woodpecker	20	South	1						
		CHSP	Chipping Sparrow	50	Northwest	1						
		AMRO	American Robin	40	Southwest	1						
		COGR	Common Grackle	30	West	1						
2-Jun-2011	19	KILL	Killdeer	50	East	1		747	756	14	2	30%
		SAVS	Savannah Sparrow	20	North	1						
		HOLA	Horned Lark	40	East	1						
		RWBL	Red-winged Blackbird	50	West	6						
		COGR	Common Grackle	20	Northwest	1						
		AMRO	American Robin	20	South	1						
2-Jun-2011	20	SOSP	Song Sparrow	30	Northwest	1		803	812	15	0	25%
		SAVS	Savannah Sparrow	30	East	1						
		MODO	Mourning Dove	70	South	3						
		HOSP	House Sparrow	50	South	7						
		HOLA	Horned Lark	20	West	1						
		AMCR	American Crow	30	East	2						
		CHSP	Chipping Sparrow	50	Southeast	1						
		AMRO	American Robin	25	South	1						
2-Jun-2011	21	AMRO	American Robin	30	West	1		821	830	15	2	25%
		EAME	Eastern Meadowlark	30	Northeast	1						
		HOLA	Horned Lark	40	North	1						
		NOCA	Northern Cardinal	40	Southwest	1						
		SOSP	Song Sparrow	20	Southeast	1						
		AMCR	American Crow	15	West	1						
2-Jun-2011	22	AMCR	American Crow	20	North	1		838	847	15	0	25%
		BCCH	Black-capped Chickadee	20	West	1						
		SOSP	Song Sparrow	40	Northwest	1						
		AMRO	American Robin	15	Southwest	1						
		COGR	Common Grackle	25	West	1						
		HOFI	House Finch	50	Northeast	5						
		CHSP	Chipping Sparrow	30	North	1						
		SOSP	Song Sparrow	20	West	1						
2-Jun-2011	23	INBU	Indigo Bunting	50	North	1		858	907	16	0	20%
		BLJA	Blue Jay	80	West	1						
		RWBL	Red-winged Blackbird	50	Southwest	1						
		SAVS	Savannah Sparrow	30	South	1						
		HOWR	House Wren	30	Southeast	1						
		AMRO	American Robin	50	North/Northeast	1						
		AMGO	American Goldfinch	20	South	1						
		BLJA	Blue Jay	50	East	1						
2-Jun-2011	24	COGR	Cooper's Hawk	20	North	1		915	924	16	2	20%
		INBU	Indigo Bunting	20	East	1						
		AMRO	American Robin	60	Southwest	1						
		RWBL	Red-winged Blackbird	40	Southwest	1						
		RWBL	Red-winged Blackbird	70	North	5						
		COGR	Common Grackle	15	South	1						
2-Jun-2011	24	HOLA	Horned Lark	20	Northwest	1		915	924	16	2	20%
		BLJA	Blue Jay	30	Northwest	1						

Date	Point Number	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
				Distance (m)	(Bearing)	in Flock		Start	Stop	Temp °	Wind	Cloud
13-Jun-2011	1	HOLA	Horned Lark	30	Northeast	2		530	539	11	2	95
		HOWR	House Wren	100	North	1						
		HOLA	Horned Lark	50	Southeast	1						
		AMRO	American Robin	110	Northwest	1						
		MODO	Mourning Dove	100	North	1						
		SOSP	Song Sparrow	70	South	1						
		AMRO	American Robin	70	Southeast	1						
		AMGO	American Goldfinch	40	Southwest	3						
		AMRO	American Robin	30	South	1						
		MODO	Mourning Dove	50	South	1						
13-Jun-2011	2	SOSP	Song Sparrow	5	North	1		544	553	12	2	85%
		INBU	Indigo Bunting	20	Northwest	1						
		AMRO	American Robin	100	North	1						
		AMGO	American Goldfinch	20	South	1						
		FISP	Field Sparrow	70	Northeast	1						
		HOLA	Horned Lark	50	Northwest	1						
		COGR	Common Grackle	70	Northwest	1						
		RBWO	Red-bellied Woodpecker	120	East	1						
		HOLA	Horned Lark	40	Southwest	1						
		MODO	Mourning Dove	100	North	1						
13-Jun-2011	3	AMRO	American Robin	30	West	1		558	607	12	2	85%
		EATO	Eastern Towhee	40	Southeast	1						
		NOCA	Northern Cardinal	50	West	1						
		NOCA	Northern Cardinal	90	Northwest	1						
		ETTI	Tufted Titmouse	40	East	1						
		GRCA	Gray Catbird	60	Northwest	1						
		NOFL	Northern Flicker	50	East/Southeast	1						
		SOSP	Song Sparrow	50	Northeast	1						
		RTHA	Red-tailed Hawk	60	Northeast	1						
13-Jun-2011	4	EATO	Eastern Towhee	30	Northeast	2		611	620	12	2	40%
		HOLA	Horned Lark	40	Southwest	2						
		REVI	Red-eyed Vireo	60	Northeast	1						
		RWBL	Red-winged Blackbird	50	Northeast	1						
		AMCR	American Crow	110	Southwest	3						
		SOSP	Song Sparrow	30	West	1						
		HOLA	Horned Lark	30	South	2						
		BRNS	Barn Swallow	10	West	1						
		EUST	European Starling	70	South	4						
		COGR	Common Grackle	30	East	2						
13-Jun-2011	5	GRCA	Gray Catbird	5	North	1		624	633	12	40	
		COGR	Common Grackle	5	West	1						
		AMRO	American Robin	20	East	1						
		COGR	Common Grackle	50	Southwest	1						
		HOWR	House Wren	70	South	1						
		COGR	Common Grackle	15	North	1						
		AMRO	American Robin	10	South	2						
		COGR	Common Grackle	15	South	2						
		BHCO	Brown-headed Cowbird	10	West	2						
		HOFI	House Finch	10	North	3						
13-Jun-2011	6	SOSP	Song Sparrow	30	West	1		638	647	12	2	60%
		AMRO	American Robin	90	North	1						
		AMRO	American Robin	80	East	1						
		WOTH	Wood Thrush	100	Northwest	1						
		SAVS	Savannah Sparrow	40	West	1						
		KILL	Killdeer	60	East	1						
		COGR	Common Grackle	100	East	5						
		RWBL	Red-winged Blackbird	40	North	1						
13-Jun-2011	7	WOTH	Wood Thrush	25	Northeast	1		652	701	12	2	65%
		AMGO	American Goldfinch	20	East	1						
		INBU	Indigo Bunting	15	South	1						
		SOSP	Song Sparrow	10	South	2						
		BLJA	Blue Jay	70	West	2						
		BHVI	Blue-headed Vireo	50	West	1						
		AMRO	American Robin	40	North	1						
13-Jun-2011	8	RHWO	Red-headed Woodpecker	40	West	1		706	715	13	0	70%
		VESP	Vesper Sparrow	30	West	1						
		RWBL	Red-winged Blackbird	20	South	2						
		WOTH	Wood Thrush	90	Northwest	1						
		KILL	Killdeer	50	Northwest	1						
		EUST	European Starling	40	Northeast	1						
		HOSP	House Sparrow	70	North	7						
		FISP	Field Sparrow	60	Northwest	1						
		SAVS	Savannah Sparrow	40	Northwest	1						
		RWBL	Red-winged Blackbird	50	West	1						
		EUST	European Starling	30	West	2						
13-Jun-2011	9	SAVS	Savannah Sparrow	15	South	2		719	728	13	2	65%
		GBHE	Great Blue Heron	70	West	4						
		GRSP	Grasshopper Sparrow	20	Southeast	1						
		MODO	Mourning Dove	50	South	1						
		MODO	Mourning Dove	30	North	1						
		HOLA	Horned Lark	25	East	2						
		HOSP	House Sparrow	70	North	3						
		BHCO	Brown-headed Cowbird	40	North	1						
		SOSP	Song Sparrow	50	South	1						
		RWBL	Red-winged Blackbird	40	Southwest	2						
		EUST	European Starling	80	South	18						
13-Jun-2011	10	BRNS	Barn Swallow	10	North	2		734	743	13	0	50%
		EUST	European Starling	15	West	1						
		MODO	Mourning Dove	20	North	1						
		WBNU	White-breasted Nuthatch	30	West	1						
		AMCR	American Crow	150	South	2						
		HOSP	House Sparrow	10	East	3						
		CHSP	Chipping Sparrow	60	North	1						
		SOSP	Song Sparrow	50	Northwest	1						
13-Jun-2011	11	EAME	Eastern Meadowlark	30	Northeast	1		748	757	14	0	60%
		RWBL	Red-winged Blackbird	10	East	1						
		SAVS	Savannah Sparrow	15	East	1						
		HOLA	Horned Lark	15	West	1						
		RWBL	Red-winged Blackbird	70	Northwest	2						

Date	Point Number	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
				Distance (m)	(Bearing)	in Flock		Start	Stop	Temp °	Wind	Cloud
13-Jun-2011	11	COGR	Common Grackle	70	North	1		748	757	14	0	60%
		RWBL	Red-winged Blackbird	80	South	1						
		GRSP	Grasshopper Sparrow	25	Northwest	1						
		TUVU	Turkey Vulture	100	South	2						
		BOBO	Bobolink	70	South	2						
		RWBL	Red-winged Blackbird	50	Southwest	2						
13-Jun-2011	12	BLJA	Blue Jay	40	West	1		804	813	14	0	60%
		BLJA	Blue Jay	70	East	1						
		HOLA	Horned Lark	30	Northeast	1						
		FISP	Field Sparrow	50	Northeast	1						
		AMRO	American Robin	60	North	1						
		EABL	Eastern Bluebird	50	Northwest	1						
		SAVS	Savannah Sparrow	40	North	1						
		RBWO	Red-bellied Woodpecker	90	Northwest	1						
14-Jun-2011	13	KILL	Killdeer	20	West	1		534	543	9	11	100%
		RWBL	Red-winged Blackbird	10	West	1						
		RWBL	Red-winged Blackbird	10	East	2						
		AMCR	American Crow	120	Southwest	4						
		COGR	Common Grackle	40	East	3						
		KILL	Killdeer	40	Northeast	1						
		AMRO	American Robin	100	South	1						
		SOSP	Song Sparrow	30	Northwest	1						
14-Jun-2011	14	ETTI	Tufted Titmouse	110	Southeast	1		554	603	9	12	100%
		GRCA	Gray Catbird	10	North	1						
		AMRO	American Robin	40	South	1						
		BHCO	Brown-headed Cowbird	5	South	1						
		FISP	Field Sparrow	30	South	1						
		AMCR	American Crow	100	Northwest	1						
		SOSP	Song Sparrow	60	Southeast	1						
		BAOR	Baltimore Oriole	70	Southwest	1						
		WITU	Wild Turkey	50	South	1						
		EAKI	Eastern Kingbird	30	East	1						
14-Jun-2011	15	CANG	Canada Goose	10	West	37		614	623	9	7	100%
		CHSP	Chipping Sparrow	15	Northwest	2						
		CHSP	Chipping Sparrow	20	North	1						
		EABL	Eastern Bluebird	60	North	2						
		RBWO	Red-bellied Woodpecker	40	East	1						
		RWBL	Red-winged Blackbird	5	East	2						
		REVI	Red-eyed Vireo	50	East	1						
		SOSP	Song Sparrow	20	East	1						
		NOFL	Northern Flicker	50	West	1						
		WOTH	Wood Thrush	80	Southeast	1						
		REVI	Red-eyed Vireo	50	West	1						
		ACFL	Acadian Flycatcher	40	West	1						
		AMCR	American Crow	100	Northwest	1						
14-Jun-2011	16	INBU	Indigo Bunting	40	West	1		635	644	10	7	100%
		SOSP	Song Sparrow	50	Northwest	1						
		SCTA	Scarlet Tanager	5	West	1	Female feeding young					
		RWBL	Red-winged Blackbird	15	South	7						
		AMCR	American Crow	90	North	1						
		NOCA	Northern Cardinal	60	East/Northeast	1						
		SOSP	Song Sparrow	25	Southwest	1						
14-Jun-2011	17	EWPE	Eastern Wood Peewee	40	East/Southeast	1		653	702	10	2	100%
		CHSP	Chipping Sparrow	30	West	1						
		HOLA	Horned Lark	5	West	1						
		COGR	Common Grackle	5	Southwest	1						
		AMRO	American Robin	25	North	1						
		AMCR	American Crow	120	Southwest	2						
		KILL	Killdeer	15	Southeast	1						
		INBU	Indigo Bunting	50	West	1						
		AMGO	American Goldfinch	40	West	2						
		BAOR	Baltimore Oriole	90	East/Northeast	1						
		GCFL	Great Crested Flycatcher	60	West	1						
		RWBL	Red-winged Blackbird	40	Northwest	1						
		WIFL	Willow Flycatcher	50	Northeast	1						
14-Jun-2011	18	COYE	Common Yellowthroat	60	East/Northeast	1		717	726	11	0	100%
		RHWO	Red-headed Woodpecker	10	Southwest	2						
		RBGR	Rose-breasted Grosbeak	5	Southwest	2						
		AMGO	American Goldfinch	10	Southwest	2						
		KILL	Killdeer	60	East	2						
		COGR	Common Grackle	20	West	1						
		EUST	European Starling	20	West	22						
		EABL	Eastern Bluebird	15	Southwest	2						
		EUST	European Starling	30	West	2						
		HOLA	Horned Lark	40	North	1						
		AMRO	American Robin	50	Southwest	1						
		AMCR	American Crow	60	Southwest	1						
14-Jun-2011	19	CHSP	Chipping Sparrow	40	Northwest	1		737	746	11	13	100%
		KILL	Killdeer	15	North	1						
		COGR	Common Grackle	25	Northwest	1						
		RWBL	Red-winged Blackbird	30	West	1						
		HOLA	Horned Lark	30	East	1						
14-Jun-2011	20	SAVS	Savannah Sparrow	10	North	2		755	804	11	7	90%
		AMCR	American Crow	20	East	24						
		HOLA	Horned Lark	30	West	1						
		HOSP	House Sparrow	50	South	6						
		MODO	Mourning Dove	80	South	5						
		CHSP	Chipping Sparrow	40	Southeast	1						
		SAVS	Savannah Sparrow	25	East	1						
14-Jun-2011	21	AMRO	American Robin	80	South/Southeast	1		819	828	11	7	100%
		NOCA	Northern Cardinal	50	Southwest	1						
		AMRO	American Robin	50	South	1						
		SOSP	Song Sparrow	30	Southeast	1						
		HOLA	Horned Lark	40	North	1						
14-Jun-2011	22	EAME	Eastern Meadowlark	5	Northeast	1		839	848	12	0	90%
		AMRO	American Robin	5	East	1						
		AMRO	American Robin	20	Southwest	1						
		BCCH	Black-capped Chickadee	10	West	1						
		SOSP	Song Sparrow	55	East	1						
		CHSP	Chipping Sparrow	30	Northwest	1						
14-Jun-2011		SOSP	Song Sparrow	25	Southeast	1						

Date	Point Number	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
				Distance (m)	(Bearing)	in Flock		Start	Stop	Temp °	Wind	Cloud
14-Jun-2011	22	NOCA	Northern Cardinal	25	Northwest	1		839	848	12	0	90%
		HOFI	House Finch	50	Northeast	1						
		COGR	Common Grackle	30	West	1						
		INBU	Indigo Bunting	50	North	1						
		COYE	Common Yellowthroat	60	Northeast	1						
14-Jun-2011	23	COGR	Common Grackle	20	North	1		839	848	12	0	90%
		COGR	Common Grackle	30	North	1						
		HOWR	House Wren	25	Southeast	1						
		CHSW	Chimney Swift	10	East	1						
		AMGO	American Goldfinch	15	South	1						
		SOSP	Song Sparrow	25	South	1						
		AMRO	American Robin	60	North	1						
		RWBL	Red-winged Blackbird	55	North	1						
		BLJA	Blue Jay	90	West	1						
		RWBL	Red-winged Blackbird	60	Southwest	1						
		HOSP	House Sparrow	30	Southeast	4						
		NOFL	Northern Flicker	100	Northwest	1						
14-Jun-2011	24	TUVU	Turkey Vulture	30	South	1		900	909	13	2	90%
		AMRO	American Robin	50	Southwest	1						
		RWBL	Red-winged Blackbird	60	Northwest	1						
		REVI	Red-eyed Vireo	70	Southwest	1						
27-Jun-11	1	AMRO	American Robin	90	Northwest	1		538	547	50	2	5%
		HOWR	House Wren	80	West	1						
		AMRO	American Robin	70	South	1						
		SAVS	Savannah Sparrow	40	Southeast	1						
		HOSP	House Sparrow	5	South	3						
		AMGO	American Goldfinch	80	West	3						
		HOLA	Horned Lark	30	East	2						
		DICK	Dickcissel	30	South	1						
		INBU	Indigo Bunting	70	South	1						
		COGR	Common Grackle	30	Northeast	1						
27-Jun-11	2	HOLA	Horned Lark	40	East	1		557	606	12	0	5%
		INBU	Indigo Bunting	20	West	1						
		INBU	Indigo Bunting	60	South	1						
		SOSP	Song Sparrow	70	Northeast	1						
		SAVS	Savannah Sparrow	40	Southeast	1						
		NOCA	Northern Cardinal	120	South/Southeast	1						
		RTHA	Red-tailed Hawk	30	Southwest	1						
		AMRO	American Robin	30	West	1						
		AMCR	American Crow	70	Southwest	1						
		ETTI	Tufted Titmouse	40	Southwest	1						
		CARW	Carolina Wren	20	South	1						
27-Jun-11	3	EATO	Eastern Towhee	30	South/Southwest	1		617	626	12	0	5
		BRTH	Brown Thrasher	30	South	1						
		AMCR	American Crow	100	East	2						
		AMRO	American Robin	50	Northeast	1						
		FISP	Field Sparrow	60	Southwest	1						
		SOSP	Song Sparrow	40	East	1						
		RBWO	Red-bellied Woodpecker	60	Southeast	1						
		EABL	Eastern Bluebird	50	Northeast	9						
		COYE	Common Yellowthroat	60	East	1						
		GRCA	Gray Catbird	40	East	1						
27-Jun-11	4	BRNS	Barn Swallow	5	West	2		637	646	12	0	5
		FISP	Field Sparrow	10	West	1						
		FISP	Field Sparrow	10	Southwest	1						
		HOLA	Horned Lark	50	West	1						
		ETTI	Tufted Titmouse	120	South	1						
		RBGR	Rose-breasted Grosbeak	120	Southeast	1						
		ETTI	Tufted Titmouse	40	Northwest	1						
		BLJA	Blue Jay	50	Southwest	1						
		AMRO	American Robin	120	Southeast	1						
		AMRO	American Robin	50	East	1						
		COGR	Common Grackle	100	West	36						
		EWPE	Eastern Wood Peewee	50	Northwest	1						
		KILL	Killdeer	90	East/Southeast	1						
27-Jun-11	5	COGR	Common Grackle	20	South	1		655	704	13	0	5
		MODO	Mourning Dove	40	East	1						
		SOSP	Song Sparrow	5	North	1						
		WAVI	Warbling Vireo	30	Northeast	1						
		HOSP	House Sparrow	40	Northwest	7						
		AMGO	American Goldfinch	20	East	2						
		COGR	Common Grackle	10	South	1						
		BRTH	Brown Thrasher	30	West	1						
		NOCA	Northern Cardinal	50	Northwest	1						
		GRCA	Gray Catbird	100	Southwest	1						
		EUST	European Starling	30	South	1						
		COGR	Common Grackle	20	West	1						
27-Jun-11	6	KILL	Killdeer	5	North	1		717	726	15	2	10
		HOSP	House Sparrow	10	South	4						
		RWBL	Red-winged Blackbird	10	South	1						
		AMRO	American Robin	10	South	1						
		RWBL	Red-winged Blackbird	30	Northwest	1						
		AMRO	American Robin	50	West	1						
27-Jun-11	7	REVI	Red-eyed Vireo	30	Northwest	1		736	745	16	0	5
		AMGO	American Goldfinch	20	West	2						
		WBNU	White-breasted Nuthatch	20	Northwest	1						
		AMCR	American Crow	30	Southwest	1						
		ACFL	Acadian Flycatcher	40	Southwest	1						
		MODO	Mourning Dove	60	East	1						
27-Jun-11	8	AMRO	American Robin	5	West	2		758	807	17	2	40
		SOSP	Song Sparrow	5	East	2						
		SOSP	Song Sparrow	20	Southwest	1						
		AMRO	American Robin	5	East	1						
		SAVS	Savannah Sparrow	30	Southwest	1						
		GRCA	Gray Catbird	30	South	1						
		HOSP	House Sparrow	30	South	3						
		TUVU	Turkey Vulture	100	North	1						
		HOLA	Horned Lark	40	North	1						
		FISP	Field Sparrow	60	South	1						
		SAVS	Savannah Sparrow	10	West	1						

Date	Point Number	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
				Distance (m)	(Bearing)	in Flock		Start	Stop	Temp °	Wind	Cloud
27-Jun-11	9	RWBL	Red-winged Blackbird	20	South	1		816	825	18	0	40
		SOSP	Song Sparrow	40	South	1						
		HOLA	Horned Lark	30	West	1						
		HOLA	Horned Lark	40	Southeast	1						
		SAVS	Savannah Sparrow	50	Northeast	1						
		BHCO	Brown-headed Cowbird	40	Southwest	1						
		EABL	Eastern Bluebird	30	Northeast	1						
		AMRO	American Robin	40	South/Southwest	1						
		GRSP	Grasshopper Sparrow	20	Northwest	1						
27-Jun-11	10	COGR	Common Grackle	5	North	1		837	846	18	0	30
		HOSP	House Sparrow	15	West	5						
		EUST	European Starling	10	South	3						
		HOSP	House Sparrow	20	East	6						
		AMRO	American Robin	15	West	1						
		AMGO	American Goldfinch	10	South	1						
		SOSP	Song Sparrow	20	West	1						
		MODO	Mourning Dove	25	West	1						
27-Jun-11	11	HOLA	Horned Lark	5	South	2		856	905	20	0	30
		SAVS	Savannah Sparrow	AO	South	1						
		GRSP	Grasshopper Sparrow	5	Southeast	1						
		EAME	Eastern Meadowlark	40	Southeast	1						
		ETTI	Tufted Titmouse	120	Southeast	1						
		ETTI	Tufted Titmouse	100	West	1						
		COGR	Common Grackle	20	North	2						
		RWBL	Red-winged Blackbird	30	Southwest	1						
27-Jun-11	12	BLJA	Blue Jay	50	Northwest	1		914	923	20	0	25
		FISP	Field Sparrow	40	Northeast	1						
		REVI	Red-eyed Vireo	60	West	1						
		INBU	Indigo Bunting	60	North/Northwest	1						
		COGR	Common Grackle	40	Northwest	1						
		GCFL	Great Crested Flycatcher	70	Northwest	1						
		WOTH	Wood Thrush	70	West	1						
		ETTI	Tufted Titmouse	100	East	1						
28-Jun-11	13	KILL	Killdeer	40	East	1		540	549	16	0	0
		AMCR	American Crow	100	North	4						
		INBU	Indigo Bunting	35	West	1						
		RWBL	Red-winged Blackbird	15	West	3						
		SOSP	Song Sparrow	30	Northwest	1						
		COGR	Common Grackle	40	East	3						
		KILL	Killdeer	50	West	1						
28-Jun-11	14	CHSP	Chipping Sparrow	20	Northwest	1		553	602	16	0	0
		GRCA	Gray Catbird	10	Northwest	1						
		COGR	Common Grackle	25	Northwest	7						
		BHCO	Brown-headed Cowbird	15	South	2						
		AMCR	American Crow	100	Northwest	3						
		AMRO	American Robin	40	South	1						
		SOSP	Song Sparrow	60	Southeast	1						
		FISP	Field Sparrow	40	South	1						
		CHSP	Chipping Sparrow	30	South	1						
		AMCR	American Crow	40	East	5						
28-Jun-11	15	INBU	Indigo Bunting	50	West	1		607	616	17	0	0
		WOTH	Wood Thrush	80	South/Southeast	1						
		AMCR	American Crow	100	Northwest	2						
		NOFL	Northern Flicker	50	West	1						
		SOSP	Song Sparrow	30	East	1						
		REVI	Red-eyed Vireo	40	West	1						
		RBWO	Red-bellied Woodpecker	40	East	1						
		EABL	Eastern Bluebird	50	Northwest	2						
		AMRO	American Robin	40	Northwest	1						
		RWBL	Red-winged Blackbird	10	East	3						
28-Jun-11	16	AMCR	American Crow	90	Northwest	4		621	630	17	0	0
		SCTA	Scarlet Tanager	20	West	1						
		RWBL	Red-winged Blackbird	20	South	5						
		SOSP	Song Sparrow	40	Southwest	1						
		NOCA	Northern Cardinal	50	Northeast	1						
		ETTI	Tufted Titmouse	30	South	1						
		WBNU	White-breasted Nuthatch	30	Southwest	1						
28-Jun-11	17	INBU	Indigo Bunting	40	West	1		635	644	18	0	0
		HOLA	Horned Lark	20	West	1						
		AMCR	American Crow	100	Southwest	2						
		BAOR	Baltimore Oriole	70	Northeast	1						
		RWBL	Red-winged Blackbird	50	Northwest	3						
		AMRO	American Robin	30	North	1						
		GCFL	Great Crested Flycatcher	60	West	1						
		KILL	Killdeer	20	Southeast	1						
		AMGO	American Goldfinch	40	West	2						
		WIFL	Willow Flycatcher	50	Northeast	1						
28-Jun-11	18	EUST	European Starling	25	West	9		648	657	18	0	0
		RHWO	Red-headed Woodpecker	15	South	2						
		RBGR	Rose-breasted Grosbeak	10	Southwest	1						
		KILL	Killdeer	50	East	1						
		CHSP	Chipping Sparrow	40	Northwest	1						
		EABL	Eastern Bluebird	20	Southwest	2						
		AMRO	American Robin	40	Southwest	2						
		HOLA	Horned Lark	50	Northwest	1						
		EUST	European Starling	40	North	25						
		COGR	Common Grackle	30	West	9						
28-Jun-11	19	HOLA	Horned Lark	40	East	2		703	722	19	0	0
		RWBL	Red-winged Blackbird	40	West	4						
		SAVS	Savannah Sparrow	20	North	1						
		COGR	Common Grackle	25	Northwest	2						
		BHCO	Brown-headed Cowbird	30	North	1						
		AMRO	American Robin	20	South	1						
		SOSP	Song Sparrow	40	South	1						
28-Jun-11	20	CHSP	Chipping Sparrow	50	Southeast	1		736	745	20	0	0
		SAVS	Savannah Sparrow	30	East	1						
		MODO	Mourning Dove	60	Southeast	5						
		HOSP	House Sparrow	50	South	5						
		HOLA	Horned Lark	30	West	1						
		AMRO	American Robin	40	West	1						
		AMCR	American Crow	30	East	4						
		AMRO	American Robin	80	Southeast	1						

Date	Point Number	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
				Distance (m)	(Bearing)	in Flock		Start	Stop	Temp °	Wind	Cloud
28-Jun-11	21	NOCA	Northern Cardinal	40	Southwest	1		751	800	20	0	0
		HOLA	Horned Lark	50	North	1						
		EAME	Eastern Meadowlark	20	Northeast	1						
		AMRO	American Robin	40	Southwest	2						
		AMCR	American Crow	60	North	4						
		INBU	Indigo Bunting	25	Southeast	1						
28-Jun-11	22	INBU	Indigo Bunting	50	North	1		807	816	21	0	0
		GRCA	Gray Catbird	15	Northwest	1						
		AMRO	American Robin	20	Southwest	1						
		SOSP	Song Sparrow	35	East	1						
		HOFI	House Finch	50	Northeast	4						
		AMRO	American Robin	20	East	1						
		BCCH	Black-capped Chickadee	20	West	1						
		ETTI	Tufted Titmouse	30	Northeast	1						
		NOCA	Northern Cardinal	30	Northwest	1						
		COGR	Common Grackle	80	North	17						
28-Jun-11	23	CHSP	Chipping Sparrow	30	North	1		821	830	21	2	0
		HOWR	House Wren	30	Southeast	1						
		BLJA	Blue Jay	70	West	2						
		AMGO	American Goldfinch	20	South	3						
		COGR	Common Grackle	30	North	3						
		INBU	Indigo Bunting	25	East	1						
		SAVS	Savannah Sparrow	30	South	1						
		RWBL	Red-winged Blackbird	50	North	2						
		BLJA	Blue Jay	40	Southeast	1						
		AMRO	American Robin	50	Northeast	1						
28-Jun-11	24	HOSP	House Sparrow	30	Southeast	5		835	844	22	0	5
		RWBL	Red-winged Blackbird	70	North/Northwest	3						
		REVI	Red-eyed Vireo	70	Southwest	1						
		BLJA	Blue Jay	40	Northwest	1						
		COGR	Common Grackle	20	Southwest	2						
		HOLA	Horned Lark	20	Northwest	1						
		RTHA	Red-tailed Hawk	40	North	1						
7-Jul-11	1	AMRO	American Robin	50	Southwest	2		545	554	20	2	15
		RWBL	Red-winged Blackbird	10	East	1						
		NOCA	Northern Cardinal	30	Northeast	1						
		HOLA	Horned Lark	10	South	3						
		DICK	Dickcissel	30	West	1						
		AMCR	American Crow	50	West	7						
		MODO	Mourning Dove	30	West	9						
		GRSP	Grasshopper Sparrow	40	Northwest	1						
		HOWR	House Wren	70	North	1						
		COGR	Common Grackle	50	South	9						
		FISP	Field Sparrow	20	North/Northwest	1						
		AMGO	American Goldfinch	30	South	1						
		DICK	Dickcissel	20	Northwest	1						
		EUST	European Starling	10	South	3						
7-Jul-11	2	VESP	Vesper Sparrow	60	Southwest	1		559	608	20	0	15
		HOSP	House Sparrow	50	Southeast	6						
		MODO	Mourning Dove	30	East	33						
		GRYE	Greater Yellowlegs	50	West/Southwest	1						
		GRYE	Greater Yellowlegs	10	Southwest	2						
		KILL	Killdeer	10	Southwest	3						
		WODU	Wood Duck	30	North	1						
		MALL	Mallard	30	North	5						
		SAVS	Savannah Sparrow	60	Southwest	1						
		AMCR	American Crow	120	Northeast	1						
		RWBL	Red-winged Blackbird	20	West/Southwest	1						
		HOLA	Horned Lark	20	South	1						
		DICK	Dickcissel	30	Southeast	2						
		AMRO	American Robin	40	West/Southwest	1						
7-Jul-11	3	LESA	Least Sandpiper	30	Northwest	1		613	622	21	2	15
		AMCR	American Crow	100	North	5						
		BRNS	Barn Swallow	20	West	5						
		RWBL	Red-winged Blackbird	5	East	2						
		FISP	Field Sparrow	30	Southeast	1						
		SOSP	Song Sparrow	15	Southeast	2						
		HOLA	Horned Lark	40	Southwest	1						
7-Jul-11	4	SOSP	Song Sparrow	30	South	1		627	636	21	0	10
		COYE	Common Yellowthroat	30	South	1						
		COYE	Common Yellowthroat	50	Southeast	1						
		GBHE	Great Blue Heron	30	South	1						
		RWBL	Red-winged Blackbird	50	South	2						
		WOTH	Wood Thrush	100	South	1						
7-Jul-11	5	GBHE	Great Blue Heron	40	South	2		644	653	22	0	10
		RWBL	Red-winged Blackbird	10	West	8						
		COYE	Common Yellowthroat	20	Southwest	2						
		EAME	Eastern Meadowlark	40	East	1						
		SOSP	Song Sparrow	30	Southeast	1						
		COYE	Common Yellowthroat	50	Southeast	1						
		GBHE	Great Blue Heron	30	South	1						
		RWBL	Red-winged Blackbird	50	South	2						
7-Jul-11	6	WOTH	Wood Thrush	100	South	1		703	712	24	0	5
		FISP	Field Sparrow	40	North	1						
		ETTI	Tufted Titmouse	70	North	1						
		COYE	Common Yellowthroat	50	West	2						
		SOSP	Song Sparrow	40	West	1						
		YBCU	Yellow-billed Cuckoo	100	North	1						
		VESP	Vesper Sparrow	50	Northwest	1						
		SOSP	Song Sparrow	70	Northwest	1						
		AMCR	American Crow	80	Northwest	2						
		COYE	Common Yellowthroat	30	East	1						
		COYE	Common Yellowthroat	45	Southeast	1						
		SOSP	Song Sparrow	50	Southeast	1						
		RWBL	Red-winged Blackbird	25	Southeast	1						
		FISP	Field Sparrow	60	Southeast	1						
		REVI	Red-eyed Vireo	90	South/Southwest	1						
		HESP	Henslow's Sparrow	60	North/Northeast	1						
		RWBL	Red-winged Blackbird	90	North/Northeast	1						
		AMCR	American Crow	100	East	4						
		SAVS	Savannah Sparrow	50	East	1						
		HOLA	Horned Lark	40	Northwest	5						

Date	Point Number	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
				Distance (m)	(Bearing)	in Flock		Start	Stop	Temp °	Wind	Cloud
7-Jul-11	7	CHSP	Chipping Sparrow	5	North	1		725	734	24	0	0
		RWBL	Red-winged Blackbird	20	North	3						
		DOWO	Downy Woodpecker	5	North	1						
		SOSP	Song Sparrow	20	Northwest	1						
		EUST	European Starling	40	Northwest	6						
		HOSP	House Sparrow	5	North	8						
		GRCA	Gray Catbird	20	North	1						
7-Jul-11	8	DICK	Dickcissel	20	North	1		749	758	25	0	0
		SOSP	Song Sparrow	30	Northwest	1						
		SOSP	Song Sparrow	40	East	1						
		BRNS	Barn Swallow	50	North	1						
		SAVS	Savannah Sparrow	40	Northeast	1						
		GRSP	Grasshopper Sparrow	30	East	1						
		COYE	Common Yellowthroat	60	North	1						



December 2011

**RESULTS OF THE
PASSERINE MIGRATION SURVEY
REPUBLIC WIND FARM
SENECA AND SANDUSKY COUNTIES, OHIO**

Prepared for:
Republic Wind, LLC
Nordex USA, Inc.
300 South Wacker Drive
Suite 1500
Chicago, IL 60606

Prepared by:
BHE Environmental, Inc.
11733 Chesterdale Rd.
Cincinnati, OH 45246-4131
Phone: 513.326.1500
www.bheenvironmental.com

Notice: This report has been prepared by BHE Environmental, Inc., solely for the benefit of its client in accordance with an approved scope of work. BHE assumes no liability for the unauthorized use of this report or the information contained in it by a third party. Copyright © 2011 BHE Environmental, Inc.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1.0 INTRODUCTION	2
2.0 METHODS	2
2.1 PASSERINE MIGRATION SURVEY	2
3.0 RESULTS	3
3.1 BIRD MIGRATION	3
3.2 SENSITIVE SPECIES	7
4.0 DISCUSSION	7
5.0 CONCLUSIONS AND RECOMMENDATIONS	8
6.0 LITERATURE CITED	9

TABLES

- Table 1. National land use/land cover acreages in the Republic Wind, LLC Project Area, Seneca and Sandusky Counties Ohio.
- Table 2. Bird species observed during the Republic Wind Farm Passerine Migration Survey.
- Table 3. Bird species listed by the State of Ohio and recorded during the Republic Wind Farm Passerine Migration Survey.

FIGURE

- Figure 1. Passerine Migration Survey Locations for the Republic Wind Farm Project Area, Seneca and Sandusky counties, Ohio.

APPENDICES

- Appendix A. Passerine Migration Survey Observations.
- Appendix B. Photographs from Passerine Migration Survey Points.

EXECUTIVE SUMMARY

BHE Environmental, Inc. (BHE) was contracted to complete diurnal passerine migration surveys following methods described in the *On-Shore Bird and Bat Pre- and Post-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio* issued by the Ohio Department of Natural Resources, Division of Wildlife. This report provides data and analysis of results of the passerine migration surveys conducted by BHE in spring (April 4 through May 30) and fall (August 18 through November 18) 2011. Surveys were conducted by BHE at the proposed Republic Wind Farm project in Seneca and Sandusky counties, Ohio.

A total of 98 species were identified during the migration surveys including the following state-listed species: state endangered northern harrier (*Circus cyaneus*) and yellow-bellied sapsucker (*Sphyrapicus varius*); state threatened dark-eyed junco (*Junco hyemalis*), hermit thrush (*Catharus guttatus*), and least flycatcher (*Empidonax minimus*); state species of special interest green-winged teal (*Anas crecca*), golden crowned kinglet (*Regulus satrapa*), red-breasted nuthatch (*Sitta Canadensis*), and winter wren (*Troglodytes troglodytes*); and state species of concern bobolink (*Dolichonyx oryzivorus*). No federally listed species were observed during passerine migration surveys.

The passerine use survey of the Project Area did not reveal use by an unusual number or assemblage of species; use by sensitive bird species was limited. Due to the limited size of woodlots, wetlands, open water, and potential stopover sites, and due to an availability of similar habitat in northwestern Ohio, the Project Area does not represent a unique resource for large numbers of passerines during migration. The data did not demonstrate a relationship between the passerine use of the Project Area and the passerine migration through Magee Marsh or the western basin of Lake Erie. The survey results did not demonstrate avian use patterns that would indicate it is an essential contributor to passerine migration in the region.

1.0 INTRODUCTION

Republic Wind Farm, LLC, a subsidiary of Nordex USA, Inc. (Nordex), proposes construction of the Republic Wind Farm (RWF or Project Area) wind energy generation facility in Seneca and Sandusky counties, Ohio. The Project Area spans approximately 39,627 acres (ac; 16,036 hectares [ha]) of leased agricultural land northeast of the town of Republic, Ohio (Figure 1). This area represents the maximum area considered for placement of turbines and facility infrastructure; the actual area occupied by the turbines and access roads that will comprise the facility will be less than 1 percent of the Project Area discussed in this document.

BHE Environmental, Inc. (BHE) was contracted by Nordex to conduct passerine migration surveys at the proposed RWF according to specifications outlined in the Ohio Department of Natural Resources (ODNR) *On-Shore Bird and Bat Pre- and Post-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio, An Addendum to the Ohio Department of Natural Resource's Voluntary Cooperative Agreement* ("Ohio Protocol"). The purpose of this report is to document the results of the survey.

Passerines appear to be especially vulnerable to collision with wind turbines, and in one synthesis, were found to represent 74 percent of all fatalities recorded in existing data sets (Strickland 2008). The same synthesis observed a variety of displacement effects, most of them small-scale: some facilities appeared to have little effect on passerine distribution, while others showed species-specific impacts (Strickland 2008). While passerines are the most susceptible group of bird species, the numbers of bird casualties are low (NWCC 2010). Passerines are known to congregate in large numbers along the southern shore of Lake Erie (ODNR DOW no date); ODNR often recommends passerine migration surveys to evaluate whether a particular wind energy project area is part of that known migration concentration, as was the case in this instance.

2.0 METHODS

2.1 PASSERINE MIGRATION SURVEY

In order to gauge the rate at which nocturnal migrating passerines could potentially come into conflict with wind turbines at RWF, BHE conducted weekly migration surveys during seasonally favorable weather for migration (northerly winds in fall, southerly winds in spring). The surveys were conducted at 11 points within the project area during spring and fall migration (Figure 1). Points were established near wooded areas that are utilized by migrating passerines to forage and replenish fat reserves. Surveys began at dawn and were completed by no later than 10:00 am EST (Eastern Standard Time), per the Protocol. Every bird seen or heard during a 10 minute period at each established survey point was identified to species. Distance from the observer, direction of travel, number of individuals present, and behavior was recorded if possible. Weather conditions, including ambient temperature, wind speed, and cloud cover were recorded. Bird migration surveys were completed in spring (April 4 through May 30) and fall (August 18 through November 18) 2011. The surveys were completed from 11 points chosen near potential suitable stopover habitat (forested and grassed areas) for migrating songbirds (Figure 1).

3.0 RESULTS

3.1 BIRD MIGRATION

The Project Area is heavily influenced by agricultural practices; 84.7 percent of the Project Area is devoted to intensive row crop agriculture production with occasional woodlots that comprise 7.6 percent of the Project Area (Table 1). The Project Area itself likely does not represent an important stopover resource for migrating birds as it is largely in agricultural (row crop) land use. A total of 15,525 birds were observed from 98 species during migration surveys (Table 2). Twenty-two percent of birds were observed during spring surveys (3,225 individuals from 84 species) and 78 percent were observed during fall surveys (12,300 individuals from 69 species; Table 2).

Table 1. National land use/land cover acreages in the Republic Wind, LLC Project Area, Seneca and Sandusky Counties Ohio.

Land Use	Acres	Percent
Cultivated Crops	33,571.5	84.7%
Deciduous Forest	3,012.7	7.6%
Developed, Open Space	2,101.0	5.3%
Hay/Pasture	425.0	1.1%
Herbaceous	209.96	0.5%
Developed, Low Intensity	136.6	0.3%
Open Water	116.1	0.3%
Woody Wetlands	32.0	0.1%
Emergent Herbaceous Wetlands	10.5	<0.1%
Developed, Medium Intensity	8.3	<0.1%
Evergreen Forest	3.2	<0.1%
Total	39,626.6	100.0%

Red-winged blackbirds (*Agelaius phoeniceus*) comprised over half (62 percent) of the birds observed. Red-winged blackbirds were observed at an average of 310.1 birds per day for a total of 9,612 birds. European starling (*Sturnus vulgaris*) was the second most common species encountered. Starlings were observed at an average of 34.3 birds per day for a total of 1,062 birds. Other large numbers of birds encountered were from common species including: American crow (*Corvus brachyrhynchos*; 514 birds, 16.6 birds/day), common grackle (*Quisacalus quiscula*; 510 birds, 16.5 birds/day), American robin (*Turdus migratorius*; 484 birds, 15.6 birds/day), tree swallow (*Tachycineta bicolor*; 450 birds, 14.5 birds/day), and blue jay (*Cyanocitta cristata*; 346 birds, 11.2 birds/day) (Table 1). Large flocks (>100) of birds were limited to red-winged blackbirds, European starlings, and tree swallows. Data collected during the spring and fall migration surveys can be found in Appendix A.

Table 2. Bird species observed during the Republic Wind Farm Passerine Migration Survey.

Common Name	Scientific Name	Observations			
		Spring	Autumn	Birds/Day^	Total
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	501	9,111	310.1	9,612
European Starling	<i>Sturnus vulgaris</i>	119	943	34.3	1,062
American Crow	<i>Corvus brachyrhynchos</i>	321	193	16.6	514
Common Grackle	<i>Quiscalus quiscula</i>	179	331	16.5	510
American Robin	<i>Turdus migratorius</i>	320	164	15.6	484
Tree Swallow	<i>Tachycineta bicolor</i>	0	450	14.5	450
Blue Jay	<i>Cyanocitta cristata</i>	117	229	11.2	346
Mourning Dove	<i>Zenaida macroura</i>	108	106	6.9	214
American Goldfinch	<i>Spinus tristis</i>	109	77	6.0	186
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	115	69	5.9	184
House Sparrow	<i>Passer domesticus</i>	118	59	5.7	177
Tufted Titmouse	<i>Baeolophus bicolor</i>	111	38	4.8	149
Brown-headed Cowbird	<i>Molothrus ater</i>	86	32	3.8	118
Song Sparrow	<i>Melospiza melodia</i>	85	20	3.4	105
Northern Cardinal	<i>Cardinalis cardinalis</i>	67	34	3.3	101
Canada Goose	<i>Branta canadensis</i>	47	38	2.7	85
White-breasted Nuthatch	<i>Sitta carolinensis</i>	31	45	2.5	76
Chipping Sparrow	<i>Spizella passerina</i>	73	2	2.4	75
Northern Flicker	<i>Colaptes auratus</i>	48	19	2.2	67
Eastern Bluebird	<i>Sialia sialis</i>	17	48	2.1	65
Wood Thrush	<i>Hylocichla mustelina</i>	59	0	1.9	59
Baltimore Oriole	<i>Icterus galbula</i>	53	2	1.8	55
Black-capped Chickadee	<i>Poecile atricapillus</i>	33	17	1.6	50
Killdeer	<i>Charadrius vociferus</i>	35	13	1.5	48
Turkey Vulture	<i>Cathartes aura</i>	34	11	1.5	45
Downy Woodpecker	<i>Picoides pubescens</i>	26	18	1.4	44
Field Sparrow	<i>Spizella pusilla</i>	36	7	1.4	43
House Wren	<i>Troglodytes aedon</i>	36	6	1.4	42
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	42	1	1.4	43
Cedar Waxwing	<i>Bombycilla cedrorum</i>	0	41	1.3	41
Horned Lark	<i>Eremophila alpestris</i>	28	12	1.3	40
Yellow-rumped Warbler	<i>Dendroica coronata</i>	26	14	1.3	40
Eastern Wood-Pewee	<i>Contopus virens</i>	23	14	1.2	37
Indigo Bunting	<i>Passerina cyanea</i>	27	10	1.2	37
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	15	18	1.1	33
Gray Catbird	<i>Dumetella carolinensis</i>	17	6	0.7	23

Table 2. Bird species observed during the Republic Wind Farm Passerine Migration Survey.

Common Name	Scientific Name	Observations			
		Spring	Autumn	Birds/Day^	Total
House Finch	<i>Carpodacus mexicanus</i>	3	19	0.7	22
Red-eyed Vireo	<i>Vireo olivaceus</i>	16	5	0.7	21
Dark-eyed Junco*	<i>Junco hyemalis</i>	9	7	0.5	16
Red-tailed Hawk	<i>Buteo jamaicensis</i>	4	10	0.5	14
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	11	2	0.4	13
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	13	0	0.4	13
Barn Swallow	<i>Hirundo rustica</i>	2	7	0.3	9
Chimney Swift	<i>Chaetura pelagica</i>	3	5	0.3	8
Rusty Blackbird	<i>Euphagus carolinus</i>	8	0	0.3	8
Tennessee Warbler	<i>Vermivora peregrina</i>	8	0	0.3	8
Warbling Vireo	<i>Vireo gilvus</i>	5	3	0.3	8
White-throated Sparrow	<i>Zonotrichia albicollis</i>	4	5	0.3	9
Brown Thrasher	<i>Toxostoma rufum</i>	7	0	0.2	7
Carolina Wren	<i>Thryothorus ludovicianus</i>	2	4	0.2	6
Hairy Woodpecker	<i>Picoides villosus</i>	5	2	0.2	7
Mallard	<i>Anas platyrhynchos</i>	5	2	0.2	7
Pileated Woodpecker	<i>Dryocopus pileatus</i>	3	2	0.2	5
Acadian Flycatcher	<i>Empidonax virescens</i>	2	0	0.1	2
American Coot	<i>Fulica americana</i>	3	0	0.1	3
American Redstart	<i>Setophaga ruticilla</i>	3	0	0.1	3
Bobolink*	<i>Dolichonyx oryzivorus</i>	1	2	0.1	3
Common Yellowthroat	<i>Geothlypis trichas</i>	0	2	0.1	2
Eastern Kingbird	<i>Tyrannus tyrannus</i>	2	0	0.1	2
Eastern Meadowlark	<i>Sturnella magna</i>	2	1	0.1	3
Eastern Phoebe	<i>Sayornis phoebe</i>	1	2	0.1	3
Golden-crowned Kinglet*	<i>Regulus satrapa</i>	0	2	0.1	2
Great Blue Heron	<i>Ardea herodias</i>	3	1	0.1	4
Green-winged Teal*	<i>Anas crecca</i>	3	0	0.1	3
Nashville Warbler	<i>Vermivora ruficapilla</i>	3	1	0.1	4
Northern Harrier*	<i>Circus cyaneus</i>	1	1	0.1	2
Ovenbird	<i>Seiurus aurocapilla</i>	2	0	0.1	2
Red-breasted Nuthatch*	<i>Sitta canadensis</i>	2	0	0.1	2
Red-shouldered Hawk	<i>Buteo lineatus</i>	2	0	0.1	2
Savannah Sparrow	<i>Passerculus sandwichensis</i>	3	1	0.1	4
Scarlet Tanager	<i>Piranga olivacea</i>	4	0	0.1	4
Short-billed Dowitcher	<i>Limnodromus griseus</i>	0	2	0.1	2

Table 2. Bird species observed during the Republic Wind Farm Passerine Migration Survey.

Common Name	Scientific Name	Observations			
		Spring	Autumn	Birds/Day [^]	Total
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	0	2	0.1	2
Wild Turkey	<i>Meleagris gallopavo</i>	0	2	0.1	2
Willow Flycatcher	<i>Empidonax traillii</i>	2	0	0.1	2
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	0	2	0.1	2
Yellow-throated Warbler	<i>Dendroica dominica</i>	3	0	0.1	3
American Kestrel	<i>Falco sparverius</i>	0	1	0.0	1
Blue-headed Vireo	<i>Vireo solitarius</i>	1	0	0.0	1
Brown Creeper	<i>Certhia americana</i>	1	0	0.0	1
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	1	0	0.0	1
Cooper's Hawk	<i>Accipiter cooperii</i>	1	0	0.0	1
Gray-cheeked Thrush	<i>Catharus minimus</i>	0	1	0.0	1
Green Heron	<i>Butorides virescens</i>	1	0	0.0	1
Hermit Thrush*	<i>Catharus guttatus</i>	0	1	0.0	1
Least Flycatcher*	<i>Empidonax minimus</i>	1	0	0.0	1
Northern Bobwhite	<i>Colinus virginianus</i>	1	0	0.0	1
Orchard Oriole	<i>Icterus spurius</i>	1	0	0.0	1
Pine Warbler	<i>Dendroica pinus</i>	1	0	0.0	1
Ring-necked Pheasant	<i>Phasianus colchicus</i>	1	0	0.0	1
Rock Pigeon	<i>Columba livia</i>	0	1	0.0	1
Ruby-crowned Kinglet	<i>Regulus calendula</i>	0	1	0.0	1
Swainson's Thrush	<i>Catharus ustulatus</i>	0	1	0.0	1
White-eyed Vireo	<i>Vireo griseus</i>	1	0	0.0	1
Winter Wren*	<i>Troglodytes troglodytes</i>	0	1	0.0	1
Worm-eating Warbler	<i>Helmitheros vermivorum</i>	1	0	0.0	1
Yellow-bellied Sapsucker*	<i>Sphyrapicus varius</i>	0	1	0.0	1
Yellow-throated Vireo	<i>Vireo flavifrons</i>	1	0	0.0	1
Total		3,225	12,300	n/a	15,525

[^] 31 observation days

* Listed by the State of Ohio, see Table 3.

Table 3. Bird species listed by the State of Ohio and recorded during the Republic Wind Farm Passerine Migration Survey.

Common Name	Ohio Listed Species Classification	Total Number of Birds Observed
Northern Harrier	Endangered	2
Yellow-bellied Sapsucker	Endangered	1
Dark-eyed Junco	Threatened	16
Least Flycatcher	Threatened	1
Hermit Thrush	Threatened	1
Bobolink	Species of Concern	3
Green-winged Teal	Species of Special Interest	3
Red-breasted Nuthatch	Species of Special Interest	2
Golden-crowned Kinglet	Species of Special Interest	2
Winter Wren	Species of Special Interest	1

3.2 SENSITIVE SPECIES

Results of the passerine migration surveys showed limited use of the Project Area by listed avian species. No federally listed bird species were observed. Thirty-two individuals representing 10 state-listed species were observed during the surveys representing only 0.19% of the observed individuals (Table 3). Of these, half (n=16) were dark-eyed juncos (*Junco hyemalis*), nine were observed during spring surveys and seven in autumn. Two northern harriers (*Circus cyaneus*) were observed during spring and autumn surveys. A single yellow-bellied sapsucker (*Sphyrapicus varius*) was observed feeding during autumn surveys. One least flycatcher (*Empidonax minimus*) was observed during spring surveys and a single hermit thrush was observed during the autumn surveys. A total of three bobolinks (*Dolichonyx oryzivorus*) were observed, one during spring surveys and two during autumn surveys. A small flock of three green-winged teal (*Anas crecca*) was observed during spring surveys. Two red-breasted nuthatches (*Sitta canadensis*) were recorded during spring surveys and two golden-crowned kinglets (*Regulus satrapa*) were observed during autumn surveys. A single winter wren (*Troglodytes troglodytes*) was recorded during the autumn surveys.

4.0 DISCUSSION

Bird migration is commonly perceived as involving north-south movements of populations on a large scale, typically associated with seasons. However, there are many types of migratory behavior; some are simple, others more complex. Most seasonal movement between northern and southern climes follows a system of flyways and these flyways are loosely defined by geographical features. These physical features include coasts, river valleys, and mountain ranges, and together form the four major North American migratory corridors: the Atlantic, Mississippi, Central, and Pacific flyways. The Project Area lies along the eastern edge of the Mississippi flyway which also includes, although to a lesser extent, the Ohio River Valley and tributaries. Magee Marsh Wildlife Area is a 2,202 acre wetland complex and part of the Lake Erie Western Basin Important Bird area that is located approximately 25 miles northwest of the Project Area. The marsh is a critical feeding and resting habitat for more than 150 species of migrating songbirds in both spring and fall; more than 300 species of birds have been recorded on the area including more than 150 species of migrating songbirds (ODNR DOW).

The Project Area is largely covered with row crops and does not contain features known to attract large concentrations of migrating birds, i.e., lakes, rivers, large streams, large wetlands, topographic ridges, large forests, or large grasslands (see Appendix B for site photos). Passerine use results were consistent with a landscape dominated by row crop monoculture. Based upon observations of migrating passerines, the Project Area does not appear to be an important part of a passerine migratory pathway. One species (red-winged blackbirds) comprised over half of the total birds observed. Large flocks observed using the area consisted of common species (red-winged blackbirds, European starlings, and tree swallows) and listed species were not recorded in large numbers.

Nocturnally migrating passerines are the most abundant species at most wind energy facilities and are the most commonly reported fatalities (NAS 2007). In a review of bird collisions documented in 31 studies at wind-energy facilities outside California, Erickson et al. (2001) reported that songbirds comprised 78 percent of avian fatalities. Bird mortality at wind farms is generally only a few birds per turbine distributed among many species and is influenced by factors that are largely lacking at the Project Area, e.g., rivers, lakes, large wetlands, large forest tracts, large grasslands. In 2007, the NAS reported an average of 2.22 bird fatalities per turbine per year from wind energy facilities in the upper Midwest, the region most comparable to the Project Area. When spread among the many species, the effect of this small mortality level would be reduced even more on any one species.

5.0 CONCLUSIONS

The passerine use survey of the Project Area did not reveal use by an unusual number or assemblage of species; use by sensitive bird species was limited. Due to the limited size of woodlots, wetlands, open water, and potential stopover sites, and due to an availability of similar habitat in northwestern Ohio, the Project Area does not represent a unique resource for large numbers of passerines during migration. The data did not demonstrate a relationship between the passerine use of the Project Area and the unique passerine migration through Magee Marsh or the western basin of Lake Erie. The survey results did not demonstrate avian use patterns that would indicate it is an essential contributor to passerine migration in the region.

6.0 LITERATURE CITED

- Erickson, W., G. Johnson, M. Stickland, D. Young, Jr., K. Sernka, and R. Good. 2001. Avian Collisions with Wind Turbines: A Summary of Existing Studies and Comparisons to Other Sources of Avian Collision Mortality in the United States. Washington, DC: Resolve, Inc.
- National Academy of Sciences (NAS). 2007. Environmental Impacts of Wind-Energy Projects. National Academy Press. Washington, DC.
- National Wind Coordinating Collaborative (NWCC). 2010. Wind turbine interactions with birds, bats, and their habitats: A summary of research results and priority questions. Spring 2010. 8 pp.
- Ohio Department of Natural Resources Division of Wildlife (ODNR DOW). No date. Wildlife Area Maps - Magee Marsh Wildlife Area.
http://www.dnr.state.oh.us/Home/wild_resourcessubhomepage/WildlifeAreaMaps/NorthwestOhioWildlifeAreaMaps/MageeMarshWildlifeArea/tabid/19778/Default.aspx. Accessed Spring 2011.
- Strickland, M. D. 2008. Overview of avian interactions with wind energy development. Webinar, presented April 8, 2008.
www.westinc.com/webinars/20080408AvianOverview.pdf. Accessed Spring 2011.

FIGURE

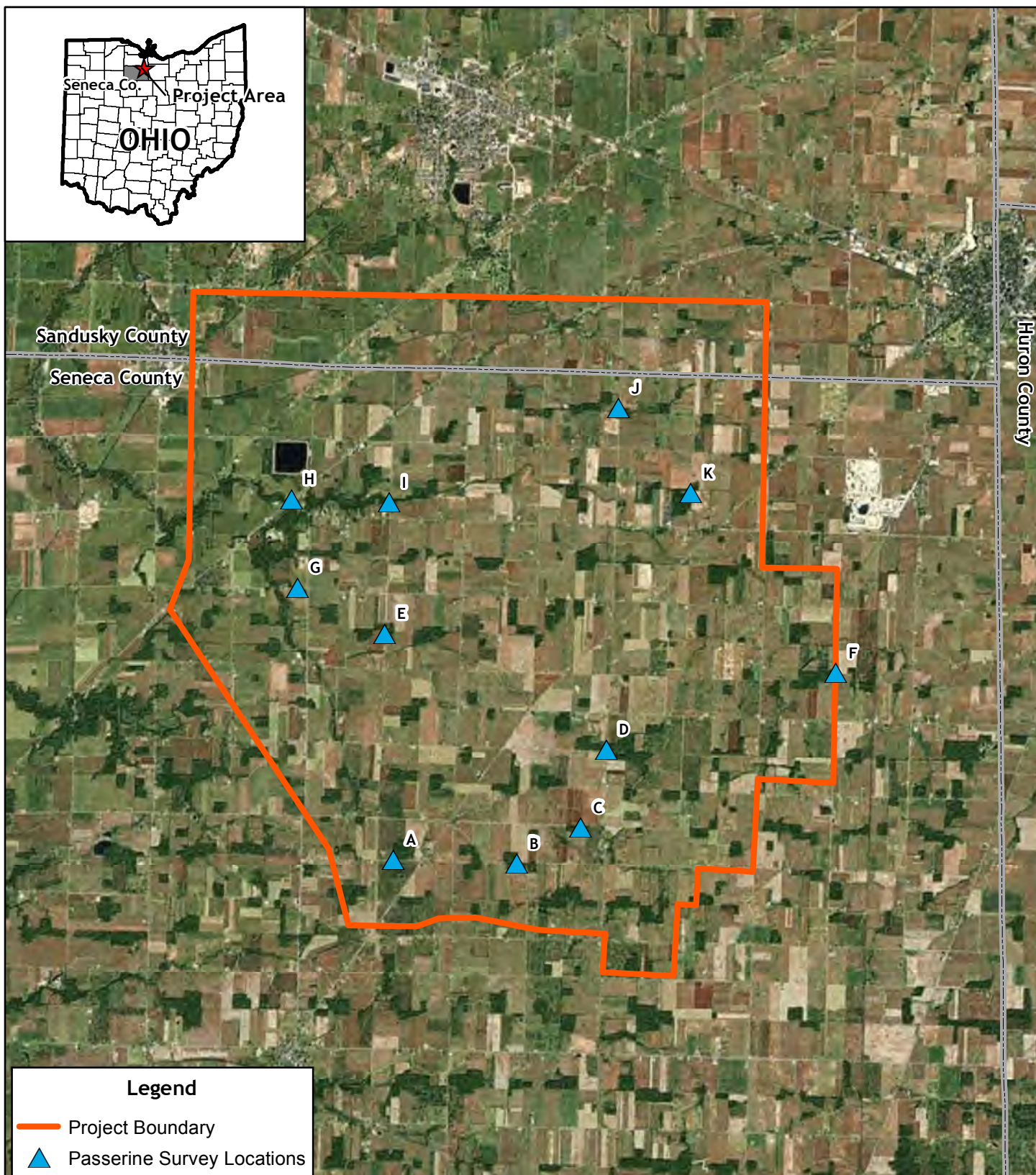


Figure 1. Passerine Migration Survey Locations for the Republic Wind Farm Project Area, Seneca and Sandusky counties, Ohio.

	<p>Miles</p>	<p>December 2011</p>	
	<p>Project No. 1953.001</p>	<p>Basemap: NAIP Imagery - Seneca County, OH (2010)</p>	

APPENDIX A

Passerine Migration Survey Observations

Passerine Migration Field Data.

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
4-Apr-11	A	Spring	AMRO	American Robin	6	NE	1		6:50	6:55	16	5	100%
		Spring	AMRO	American Robin	4	N	1						
		Spring	AMRO	American Robin	6	NE	1						
		Spring	AMRO	American Robin	3	NE	1						
		Spring	SOSP	Song Sparrow	2	NW	1						
		Spring	SOSP	Song Sparrow	3	NW	1						
		Spring	AMRO	American Robin	1	E	1						
		Spring	GBHE	Great Blue Heron	6	SE	1						
		Spring	AMCR	American Crow	100	NW	24						
		Spring	RBWO	Red-bellied Woodpecker	10	S	1						
		Spring	NOCA	Northern Cardinal	10	N	1						
4-Apr-11	B	Spring	AMRO	American Robin	100	NE	1		7:05	7:10	16	7	100%
		Spring	WBNU	White-breasted Nuthatch	100	S	1						
		Spring	AMRO	American Robin	100	E	1						
		Spring	AMCR	American Crow	100	SE	1						
		Spring	AMCR	American Crow	150	E	1						
		Spring	RBWO	Red-bellied Woodpecker	110	W	1						
		Spring	AMCR	American Crow	120	SW	3						
		Spring	AMRO	American Robin	150	E	1						
		Spring	ETTI	Tufted Titmouse	80	W	1						
4-Apr-11	C	Spring	CAGO	Canada Goose	300	NE	2		7:23	7:28	16	7	100%
		Spring	AMRO	American Robin	60	NE	1						
		Spring	AMCR	American Crow			1						
		Spring	EUST	European Starling	50	E	1						
		Spring	AMRO	American Robin	40	NW	1						
		Spring	TUVU	Turkey Vulture	30	E	1						
		Spring	NOCA	Northern Cardinal	60	NE	1						
		Spring	AMCR	American Crow	30	E	1						
		Spring	ETTI	Tufted Titmouse	50	NW	1						
		Spring	AMCR	American Crow	40	N	3						
5-Apr-11	D	Spring	AMCR	American Crow	40	NE	1		6:55	7:00	4	0	90%
		Spring	AMRO	American Robin	50	NE	1						
		Spring	SOSP	Song Sparrow	60	SE	1						
		Spring	ETTI	Tufted Titmouse	100	E	1						
		Spring	AMRO	American Robin	100	SW	1						
		Spring	SOSP	Song Sparrow	50	S	1						
		Spring	RBWO	Red-bellied Woodpecker	20	E	1						
		Spring	AMCR	American Crow	10		3						
		Spring	ETTI	Tufted Titmouse	80	NE	1						
5-Apr-11	E	Spring	COGR	Common Grackle	40		1		7:28	7:33	4	0	95%
		Spring	RBWO	Red-bellied Woodpecker	100	E	1						
		Spring	ETTI	Tufted Titmouse	120	E	1						
		Spring	NOFL	Northern Flicker	50	SW	1						
		Spring	AMRO	American Robin	60	E	1						
		Spring	BLJA	Blue Jay	80	-	2						
		Spring	RWBL	Red-winged Blackbird	100	-	20						
		Spring	MODO	Mourning Dove	30	N	2						
		Spring	RBWO	Red-bellied Woodpecker	100	SE	1						
		Spring	RBWO	Red-bellied Woodpecker	50	SW	1						
		Spring	MODO	Mourning Dove	40	S	1						
		Spring	DEJU	Dark-eyed Junco	20	SW	1						
		Spring	AMRO	American Robin	60	SW	1						
		Spring	AMCR	American Crow	20	W	1						
		Spring	SOSP	Song Sparrow	50	N	1						
		Spring	NOCA	Northern Cardinal	30	N	1						
		Spring	ETTI	Tufted Titmouse	100	S	1						
		Spring	AMRO	American Robin	60	S	1						
		Spring	GWTE	Green-winged Teal	20		3						
		Spring	CARW	Carolina Wren	60	SW	1						
		Spring	AMRO	American Robin	20	SW	3						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
5-Apr-11	F	Spring	AMCR	American Crow	100	W	1		7:51	7:56	4	10	
		Spring	AMRO	American Robin	60	W	1						
		Spring	BLJA	Blue Jay	40	W	1						
		Spring	AMRO	American Robin	30	N	1						
		Spring	COGR	Common Grackle	20		1						
		Spring	NOFL	Northern Flicker	60	NW	1						
		Spring	BHCO	Brown-headed Cowbird	15		1						
		Spring	FISP	Field Sparrow	70	NW	1						
		Spring	WBNU	White-breasted Nuthatch	90	W	1						
		Spring	RWBL	Red-winged Blackbird	30		30						
5-Apr-11	G	Spring	AMRO	American Robin	10	SW	1		8:10	8:15	4	0	100%
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	COGR	Common Grackle	30	S	1						
		Spring	AMRO	American Robin	40	E	1						
		Spring	BCCH	Black-capped Chickadee	20	S	1						
		Spring	NOCA	Northern Cardinal	40	S	1						
		Spring	SOSP	Song Sparrow	40	N	1						
		Spring	SOSP	Song Sparrow	60	SW	1						
		Spring	SOSP	Song Sparrow	100	N	1						
5-Apr-11	H	Spring	AMRO	American Robin	20	S	1		8:21		4	0	100%
		Spring	AMRO	American Robin	10	N	1						
		Spring	COGR	Common Grackle	10		1						
		Spring	RBWO	Red-bellied Woodpecker	50	W	1						
		Spring	WBNU	White-breasted Nuthatch	30	E	1						
		Spring	SOSP	Song Sparrow	10	S	1						
		Spring	RWBL	Red-winged Blackbird	40	N	1						
		Spring	RBWO	Red-bellied Woodpecker	30	SE	1						
		Spring	NOCA	Northern Cardinal	20	NW	1						
		Spring	EUST	European Starling	30	S	1						
		Spring	CAGO	Canada Goose	10	NW	2						
		Spring	ETTI	Tufted Titmouse	20	W	1						
5-Apr-11	I	Spring	AMRO	American Robin	30	E	1		8:24	8:32	4	0	100%
		Spring	AMRO	American Robin	30	N	1						
		Spring	WBNU	White-breasted Nuthatch	20	W	1						
		Spring	NOCA	Northern Cardinal	50	W	1						
		Spring	AMRO	American Robin	50	N	1						
		Spring	AMCR	American Crow	30	W	2						
		Spring	COGR	Common Grackle	20	W	1						
		Spring	MODO	Mourning Dove	100	N	1						
		Spring	SOSP	Song Sparrow	20	N	1						
		Spring	HOFI	House Finch	10	S	1						
5-Apr-11	J	Spring	BHCO	Brown-headed Cowbird	30	SW	1		8:51	8:56	4	0	95%
		Spring	SOSP	Song Sparrow	30	NW	1						
		Spring	RBWO	Red-bellied Woodpecker	40	SW	1						
		Spring	NOCA	Northern Cardinal	20	W	1						
		Spring	SOSP	Song Sparrow	40	SW	1						
		Spring	COGR	Common Grackle	20		2						
		Spring	KILL	Killdeer	60	N	2						
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	AMRO	American Robin	20	SE	1						
		Spring	AMRO	American Robin	40	E	1						
		Spring	DOWO	Downy Woodpecker	10	S	1						
		Spring	ETTI	Tufted Titmouse	20	NW	1						
		Spring	AMRO	American Robin	40	W	1						
5-Apr-11	K	Spring	NOCA	Northern Cardinal	10	W	1		9:03	9:08	4	0	100%
		Spring	RWBL	Red-winged Blackbird	10		150						
		Spring	AMRO	American Robin	20	S	1						
		Spring	AMRO	American Robin	10	E	4						
		Spring	AMRO	American Robin	5	NE	9						
		Spring	BLJA	Blue Jay	40	NW	1						
		Spring	BLJA	Blue Jay	30	E	1						
		Spring	RBWO	Red-bellied Woodpecker	20	W	1						
		Spring	SOSP	Song Sparrow	30	E	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
11-Apr-11	A	Spring	CAGO	Canada Goose	20	N	1	Walking in middle of woodlot	808	818	19	2	100%
		Spring	AMCR	American Crow	20	W	1						
		Spring	NOFL	Northern Flicker	60	NW	1						
		Spring	AMRO	American Robin	40	W	1						
		Spring	NOCA	Northern Cardinal	80	SE	1						
11-Apr-11	B	Spring	RWBL	Red-winged Blackbird	10	W	8		753	803	19	5	100%
		Spring	COGR	Common Grackle	10	W	3						
		Spring	CHSP	Chipping Sparrow	20	W	1						
		Spring	RUBL	Rusty Blackbird	10	W	4						
		Spring	AMRO	American Robin	40	E	1						
		Spring	NOFL	Northern Flicker	70	W	1						
		Spring	AMCR	American Crow	80	S	2						
11-Apr-11	C	Spring	NOFL	Northern Flicker	40	SW	1		735	745	19	2	100%
		Spring	RBWO	Red-bellied Woodpecker	80	S	1						
		Spring	RHWO	Red-headed Woodpecker	50	SW	1						
		Spring	DEJU	Dark-eyed Junco	30	SW	1						
		Spring	NOFL	Northern Flicker	30	SE	1						
		Spring	EAME	Eastern Meadowlark	100	NW	1						
		Spring	AMCR	American Crow	60	S	1						
		Spring	AMRO	American Robin	25	W	1						
		Spring	EATO	Eastern Towhee	70	SW	1						
11-Apr-11	D	Spring	EABL	Eastern Bluebird	10	S	2		720	730	19	2	100%
		Spring	AMRO	American Robin	20	W	1						
		Spring	MALL	Mallard	40	SW	2						
		Spring	RBWO	Red-bellied Woodpecker	40	W	1						
		Spring	NOCA	Northern Cardinal	60	E	1						
		Spring	BLJA	Blue Jay	80	NE	1						
		Spring	COGR	Common Grackle	10	N	3						
		Spring	NOCA	Northern Cardinal	20	W	1						
11-Apr-11	E	Spring	CHSP	Chipping Sparrow	5	E	1		823	833	19	2	100%
		Spring	RBWO	Red-bellied Woodpecker	60	E	1						
		Spring	RWBL	Red-winged Blackbird	40	N	18						
		Spring	ETTI	Tufted Titmouse	60	NW	2						
		Spring	DOWO	Downy Woodpecker	30	E	1						
		Spring	RBWO	Red-bellied Woodpecker	50	SE	1						
		Spring	AMRO	American Robin	20	W	1						
		Spring	EUST	European Starling	20	NW	4						
		Spring	COGR	Common Grackle	10	W	1						
		Spring	KILL	Killdeer	30	SW	1						
11-Apr-11	F	Spring	NOCA	Northern Cardinal	60	W	1		702	712	19	7	100%
		Spring	SAVS	Savannah Sparrow	40	SE	1						
		Spring	AMRO	American Robin	20	W	1						
		Spring	COGR	Common Grackle	40	S	1						
		Spring	AMRO	American Robin	50	NW	1						
		Spring	BHCO	Brown-headed Cowbird	20	N	3						
		Spring	NOFL	Northern Flicker	100	SE	1						
		Spring	COGR	Common Grackle	10	W	6						
		Spring	RWBL	Red-winged Blackbird	10	E	14						
		Spring	RWBL	Red-winged Blackbird	10	S	26						
10-Apr-11	G	Spring	AMRO	American Robin	50	NW	1		804	814	15	7	60%
		Spring	AMRO	American Robin	30	E	1						
		Spring	RBWO	Red-bellied Woodpecker	20	E	1						
		Spring	AMCR	American Crow	100	SW	3						
		Spring	KILL	Killdeer	60	NE	2						
10-Apr-11	H	Spring	NOFL	Northern Flicker	60	NW	1		750	800	15	2	100%
		Spring	BCCH	Black-capped Chickadee	30	W	1						
		Spring	AMRO	American Robin	70	E	1						
		Spring	RWBL	Red-winged Blackbird	40	W	1						
		Spring	AMRO	American Robin	50	S	1						
		Spring	COGR	Common Grackle	50	N	1						
		Spring	DOWO	Downy Woodpecker	40	SW	1						
		Spring	RBWO	Red-bellied Woodpecker	50	E	1						
		Spring	BLJA	Blue Jay	30	N	3						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
10-Apr-11	I	Spring	ETTI	Tufted Titmouse	40	SW	1		736	746	15	11	50%
		Spring	FISP	Field Sparrow	60	S	1						
		Spring	CAGO	Canada Goose	100	SW	8						
		Spring	AMRO	American Robin	50	W	1						
		Spring	ETTI	Tufted Titmouse	50	NW	1						
		Spring	NOCA	Northern Cardinal	40	S	1						
		Spring	DOWO	Downy Woodpecker	35	SW	1						
		Spring	BLJA	Blue Jay	90	W	1						
10-Apr-11	J	Spring	DEJU	Dark-eyed Junco	30	E	5		721	731	14	9	100%
		Spring	AMCR	American Crow	100	SE	3						
		Spring	ETTI	Tufted Titmouse	20	SW	1						
		Spring	AMRO	American Robin	20	NW	2						
		Spring	NOFL	Northern Flicker	40	E	1						
		Spring	MODO	Mourning Dove	10	E	1						
		Spring	RBWO	Red-bellied Woodpecker	30	SW	1						
		Spring	HOLA	Horned Lark	50	NE	1						
		Spring	EUST	European Starling	10	NE	5						
		Spring	DOWO	Downy Woodpecker	30	E	1						
10-Apr-11	K	Spring	NOFL	Northern Flicker	50	E	1		705	715	14	2	100%
		Spring	KILL	Killdeer	40	NW	1						
		Spring	AMRO	American Robin	10	NE	1						
		Spring	RWBL	Red-winged Blackbird	60	E	32						
		Spring	COGR	Common Grackle	20	W	1						
		Spring	EUST	European Starling	10	W	6						
		Spring	BLJA	Blue Jay	40	W	1						
		Spring	RBWO	Red-bellied Woodpecker	50	NW	1						
		Spring	COGR	Common Grackle	10	W	1						
		Spring	BLJA	Blue Jay	40	W	1						
		Spring	RBWO	Red-bellied Woodpecker	50	NW	1						
		Spring	COGR	Common Grackle	10	W	1						
20-Apr-11	A	Spring	EATO	Eastern Towhee	70	N	1		7:30	7:40	13	5	100%
		Spring	AMCR	American Crow	5	S	1						
		Spring	AMCR	American Crow	30	E	5						
		Spring	AMRO	American Robin	10	NW	1						
		Spring	BCCH	Black-capped Chickadee	20	NE	1						
		Spring	ETTI	Tufted Titmouse	10	N	1						
		Spring	ETTI	Tufted Titmouse	30	SW	1						
		Spring	EATO	Eastern Towhee	1	N	1						
		Spring	COGR	Common Grackle	6	SW	1						
		Spring	AMCR	American Crow	40	SE	1						
		Spring	MYWA	Yellow-rumped Warbler	1	N	3	Foraging					
		Spring	NOFL	Northern Flicker	20	W	1						
		Spring	AMRO	American Robin	50	S	1						
		Spring	AMRO	American Robin	20	SE	1						
		Spring	COGR	Common Grackle	10	W	1						
		Spring	AMCR	American Crow	30	E	1						
		Spring	COGR	Common Grackle	-	W	3						
20-Apr-11	B	Spring	NOFL	Northern Flicker	100	E	1		7:45	7:55	13	7	100%
		Spring	RBWO	Red-bellied Woodpecker	10	N	1						
		Spring	RBWO	Red-bellied Woodpecker	100	W	1						
		Spring	ETTI	Tufted Titmouse	5	N	1						
		Spring	ETTI	Tufted Titmouse	25	SW	1						
		Spring	AMRO	American Robin	30	NE	1						
		Spring	AMRO	American Robin	10	SE	1						
		Spring	MYWA	Yellow-rumped Warbler	2	W	4	Foraging					
		Spring	DOWO	Downy Woodpecker	40	NW	1						
		Spring	EATO	Eastern Towhee	50	E	1						
		Spring	EATO	Eastern Towhee	100	SW	1						
		Spring	AMRO	American Robin	10	W	1						
		Spring	BCCH	Black-capped Chickadee	20	N	5						
		Spring	TUVU	Turkey Vulture	150	NNW	12						
		Spring	AMCR	American Crow	25	N	1						
		Spring	AMCR	American Crow	30	SSW	4						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
20-Apr-11	C	Spring	MYWA	Yellow-rumped Warbler	1	N	5		8:00	8:10	13	7	100%
		Spring	YTWA	Yellow-throated Warbler	1	N	3						
		Spring	EATO	Eastern Towhee	30	SW	1						
		Spring	AMRO	American Robin	10	NE	1						
		Spring	AMRO	American Robin	100	E	1						
		Spring	ETTI	Tufted Titmouse	100	S	1						
		Spring	ETTI	Tufted Titmouse	20	W	1						
		Spring	BHCO	Brown-headed Cowbird	1	N	4						
		Spring	BRCR	Brown Creeper	1	E	1						
		Spring	BCCH	Black-capped Chickadee	10	NW	1						
		Spring	RBWO	Red-bellied Woodpecker	30	SE	1						
		Spring	RBWO	Red-bellied Woodpecker	50	S	1						
		Spring	AMCR	American Crow	10	S	1						
		Spring	AMRO	American Robin	25	N	1						
		Spring	DOWO	Downy Woodpecker	10	W	1						
		Spring	PIWO	Pileated Woodpecker	100	S	1						
20-Apr-11	D	Spring	RWBL	Red-winged Blackbird	-	SE	20		8:30	8:40	13	7	100%
		Spring	AMRO	American Robin	20	NW	1						
		Spring	AMRO	American Robin	100	E	1						
		Spring	ETTI	Tufted Titmouse	20	E	1						
		Spring	SOSP	Song Sparrow	5	S	1						
		Spring	COGR	Common Grackle	10	NE	1						
		Spring	AMRO	American Robin	100	N	1						
		Spring	MODO	Mourning Dove	30	SW	1						
		Spring	TUVU	Turkey Vulture	-	NW	4						
		Spring	COGR	Common Grackle	30	W	1						
		Spring	HAWO	Hairy Woodpecker	20	W	1						
		Spring	ETTI	Tufted Titmouse	100	N	1						
		Spring	BCCH	Black-capped Chickadee	5	SE	1						
		Spring	RBWO	Red-bellied Woodpecker	10	NE	1						
		Spring	RTHA	Red-tailed Hawk	-	N	1						
		Spring	SOSP	Song Sparrow	10	NW	1						
		Spring	COGR	Common Grackle	15	NW	1						
		Spring	ETTI	Tufted Titmouse	40	E	1						
		Spring	BCCH	Black-capped Chickadee	10	E	1						
		Spring	AMRO	American Robin	5	NE	1						
		Spring	AMCR	American Crow	20	NW	1						
21-Apr-11	E	Spring	CHSP	Chipping Sparrow	3	E	1		7:05	7:15	4	3	0%
		Spring	AMRO	American Robin	10	NE	1						
		Spring	BLJA	Blue Jay	3	E	1						
		Spring	AMRO	American Robin	15	NW	1						
		Spring	AMRO	American Robin	30	NNE	1						
		Spring	NOCA	Northern Cardinal	50	W	1						
		Spring	BLJA	Blue Jay	20	N	1						
		Spring	EATO	Eastern Towhee	10	SW	1						
		Spring	RBWO	Red-bellied Woodpecker	100	W	1						
		Spring	HAWO	Hairy Woodpecker	3	NE	1						
		Spring	BLJA	Blue Jay	40	W	1						
		Spring	AMRO	American Robin	10	NW	1						
		Spring	AMCR	American Crow	100	W	1						
		Spring	RBWO	Red-bellied Woodpecker	20	SE	1						
		Spring	NOFL	Northern Flicker	10	SW	1						
		Spring	EATO	Eastern Towhee	100	W	1						
		Spring	NOCA	Northern Cardinal	50	NE	1						
		Spring	KILL	Killdeer	3	W	1						
		Spring	COGR	Common Grackle	-	NNW	5						
		Spring	RWBL	Red-winged Blackbird	30	E	1						
		Spring	BHCO	Brown-headed Cowbird	10	E	1						
		Spring	COGR	Common Grackle	30	NW	1						
		Spring	NOFL	Northern Flicker	100	NNW	1						

Passerine Migration Field Data.

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
21-Apr-11	F	Spring	AMRO	American Robin	30	NE	1		6:45	6:55	4	3	0%
		Spring	AMRO	American Robin	50	N	1						
		Spring	AMCR	American Crow	100	SW	1						
		Spring	AMCR	American Crow	30	W	1						
		Spring	AMRO	American Robin	100	S	1						
		Spring	NOCA	Northern Cardinal	100	NW	1						
		Spring	FISP	Field Sparrow	20	NW	1						
		Spring	RBWO	Red-bellied Woodpecker	30	W	1						
		Spring	NOFL	Northern Flicker	40	SW	1						
		Spring	BCCH	Black-capped Chickadee	10	W	1						
		Spring	AMRO	American Robin	5	N	1						
		Spring	RTHA	Red-tailed Hawk	30	W	1						
		Spring	BLJA	Blue Jay	10	N	1						
		Spring	NOFL	Northern Flicker	20	NW	1						
		Spring	BHCO	Brown-headed Cowbird	-	S	10						
		Spring	EUST	European Starling	-	S	10						
		Spring	ETTI	Tufted Titmouse	40	WSW	1						
		Spring	AMRO	American Robin	30	WSW	1						
		Spring	ETTI	Tufted Titmouse	100	NW	1						
21-Apr-11	G	Spring	CHSP	Chipping Sparrow	2	E	1		7:20	7:30	4	3	0%
		Spring	CHSP	Chipping Sparrow	40	NW	1						
		Spring	AMRO	American Robin	30	E	1						
		Spring	AMRO	American Robin	100	NE	1						
		Spring	RBWO	Red-bellied Woodpecker	40	S	1						
		Spring	MODO	Mourning Dove	10	SW	1						
		Spring	AMRO	American Robin	5	S	1						
		Spring	BLJA	Blue Jay	50	S	1						
		Spring	COGR	Common Grackle	-	S	1						
		Spring	AMCR	American Crow	100	SE	1						
		Spring	FISP	Field Sparrow	150	SE	1						
		Spring	KILL	Killdeer	20	SW	1						
		Spring	COGR	Common Grackle	-	NW	4						
		Spring	SOSP	Song Sparrow	1	S	1						
		Spring	RBWO	Red-bellied Woodpecker	10	N	1						
21-Apr-11	H	Spring	AMCR	American Crow	2	N	1		7:50	8:00	4	3	0%
		Spring	AMRO	American Robin	10	E	1						
		Spring	RBWO	Red-bellied Woodpecker	5	NW	1						
		Spring	HAWO	Hairy Woodpecker	20	SE	1						
		Spring	SOSP	Song Sparrow	10	N	1						
		Spring	CHSP	Chipping Sparrow	5	W	1						
		Spring	NOFL	Northern Flicker	30	SW	1						
		Spring	AMRO	American Robin	40	NE	1						
		Spring	ETTI	Tufted Titmouse	10	E	1						
		Spring	BCCH	Black-capped Chickadee	15	NW	1						
		Spring	SOSP	Song Sparrow	5	W	1						
		Spring	AMCR	American Crow	10	SE	1						
		Spring	RTHA	Red-tailed Hawk	-	NE	1						
		Spring	TUVU	Turkey Vulture	-	N	3						
		Spring	ETTI	Tufted Titmouse	30	SW	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
21-Apr-11	I	Spring	NOCA	Northern Cardinal	40	E	1		7:35	7:45	4	3	0%
		Spring	AMRO	American Robin	10	NW	1						
		Spring	RBWO	Red-bellied Woodpecker	30	NE	1						
		Spring	ETTI	Tufted Titmouse	10	W	1						
		Spring	AMRO	American Robin	40	NW	1						
		Spring	TUVU	Turkey Vulture	-	N	2						
		Spring	DOWO	Downy Woodpecker	20	W	1						
		Spring	SOSP	Song Sparrow	30	E	1						
		Spring	BLJA	Blue Jay	50	SE	1						
		Spring	COGR	Common Grackle	-	SW	4						
		Spring	AMRO	American Robin	100	NW	1						
		Spring	EAPH	Eastern Phoebe	4	S	1						
		Spring	ETTI	Tufted Titmouse	20	W	1						
		Spring	NOCA	Northern Cardinal	10	NW	1						
		Spring	AMRO	American Robin	50	SE	1						
		Spring	BHCO	Brown-headed Cowbird	-	SE	2						
21-Apr-11	J	Spring	SOSP	Song Sparrow	10	NW	1		8:10	8:20	4	5	10%
		Spring	FISP	Field Sparrow	5	E	1						
		Spring	CARW	Carolina Wren	30	S	1						
		Spring	AMRO	American Robin	50	SE	1						
		Spring	AMCR	American Crow	10	NE	1						
		Spring	DOWO	Downy Woodpecker	10	W	1						
		Spring	AMRO	American Robin	5	W	1						
		Spring	RBWO	Red-bellied Woodpecker	30	NW	1						
		Spring	EUST	European Starling	5	S	10						
		Spring	RWBL	Red-winged Blackbird	15	S	1						
		Spring	COGR	Common Grackle	10	E	1						
		Spring	SOSP	Song Sparrow	30	SE	1						
		Spring	ETTI	Tufted Titmouse	5	N	1						
		Spring	AMCR	American Crow	5	W	1						
		Spring	ETTI	Tufted Titmouse	20	W	1						
		Spring	AMRO	American Robin	10	NE	1						
21-Apr-11	K	Spring	AMRO	American Robin	5 to 10	NNE	15	Foraging	8:25	8:35	4	5	10%
		Spring	MYWA	Yellow-rumped Warbler	3	NW	5	Foraging					
		Spring	SOSP	Song Sparrow	20	NE	1						
		Spring	AMRO	American Robin	15	SW	1						
		Spring	RWBL	Red-winged Blackbird	50	SW	10						
		Spring	CHSP	Chipping Sparrow	10	S	1						
		Spring	RBWO	Red-bellied Woodpecker	30	W	1						
		Spring	BLJA	Blue Jay	40	W	1						
		Spring	BCCH	Black-capped Chickadee	15	W	1						
		Spring	ETTI	Tufted Titmouse	5	NW	1						
		Spring	AMRO	American Robin	30	W	1						
		Spring	RBWO	Red-bellied Woodpecker	5	W	1						
		Spring	TUVU	Turkey Vulture	-	NE	3	Flyover					
		Spring	COGR	Common Grackle	10	W	6						
24-Apr-11	A	Spring	AMCR	American Crow	50	NW	3		715	724	10	0	75%
		Spring	AMRO	American Robin	40	W	1						
		Spring	NOCA	Northern Cardinal	60	S	1						
		Spring	RBWO	Red-bellied Woodpecker	30	N	1						
		Spring	ETTI	Tufted Titmouse	40	SE	1						
		Spring	ETTI	Tufted Titmouse	70	7W	1						
24-Apr-11	B	Spring	COGR	Common Grackle	10	W	3		659	708	10	2	75%
		Spring	CHSP	Chipping Sparrow	20	W	1						
		Spring	RUBL	Rusty Blackbird	10	W	4						
		Spring	AMRO	American Robin	40	E	1						
		Spring	NOCA	Northern Cardinal	20	NW	1						
		Spring	AMRO	American Robin	35	SE	1						
		Spring	BHCO	Brown-headed Cowbird	40	E	1						
		Spring	ETTI	Tufted Titmouse	30	SW	1						
		Spring	AMRO	American Robin	20	WNW	3						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
24-Apr-11	C	Spring	AMRO	American Robin	60	SW	1		645	654	11	0	80%
		Spring	RBGR	Rose-breasted Grosbeak	50	W	1						
		Spring	FISP	Field Sparrow	50	NW	1						
		Spring	BLJA	Blue Jay	25	SW	2						
		Spring	SOSP	Song Sparrow	30	NW	1						
		Spring	RWBL	Red-winged Blackbird	15	W	6						
		Spring	AMRO	American Robin	25	SE	1						
		Spring	ETTI	Tufted Titmouse	40	E	1						
24-Apr-11	D	Spring	AMRO	American Robin	50	NE	1		641	650	11	0	85%
		Spring	EABL	Eastern Bluebird	30	SW	2						
		Spring	RBWO	Red-bellied Woodpecker	20	NW	1						
		Spring	FISP	Field Sparrow	50	N	1						
		Spring	AMGO	American Goldfinch	40	N	4						
		Spring	RBWO	Red-bellied Woodpecker	40	NW	1						
		Spring	EUST	European Starling	40	SW	6						
		Spring	BLJA	Blue Jay	10	W	1						
24-Apr-11	E	Spring	RWBL	Red-winged Blackbird	50	NW	2		730	739	11	0	85%
		Spring	ETTI	Tufted Titmouse	20	NE	1						
		Spring	DOWO	Downy Woodpecker	15	S	1						
		Spring	RBWO	Red-bellied Woodpecker	60	SW	1						
		Spring	MODO	Mourning Dove	15	S	2						
		Spring	WBNU	White-breasted Nuthatch	40	NE	1						
		Spring	BLJA	Blue Jay	30	E	1						
		Spring	RBWO	Red-bellied Woodpecker	45	NW	1						
24-Apr-11	F	Spring	NOCA	Northern Cardinal	60	W	1		627	636	9	0	75%
		Spring	SAVS	Savannah Sparrow	40	SE	1						
		Spring	AMRO	American Robin	20	W	1						
		Spring	COGR	Common Grackle	40	S	1						
		Spring	AMRO	American Robin	50	NW	1						
		Spring	BHCO	Brown-headed Cowbird	20	N	3						
		Spring	NOFL	Northern Flicker	100	SE	1						
		Spring	COGR	Common Grackle	10	W	6						
		Spring	AMRO	American Robin	50	NW	1						
		Spring	RWBL	Red-winged Blackbird	45	SW	1						
		Spring	COGR	Common Grackle	10	N	1						
		Spring	AMCR	American Crow	100	SW	3						
24-Apr-11	G	Spring	KILL	Killdeer	60	NE	2		744	752	11	0	90%
		Spring	CHSP	Chipping Sparrow	20	W	1						
		Spring	RBGR	Rose-breasted Grosbeak	40	NW	1						
		Spring	FISP	Field Sparrow	60	NW	1						
		Spring	RWBL	Red-winged Blackbird	30	NW	1						
		Spring	ETTI	Tufted Titmouse	50	S	1						
		Spring	BCCH	Black-capped Chickadee	70	S	1						
		Spring	AMRO	American Robin	30	NW	1						
24-Apr-11	H	Spring	NOFL	Northern Flicker	60	NW	1		758	807	11	0	85%
		Spring	COGR	Common Grackle	50	N	1						
		Spring	DOWO	Downy Woodpecker	40	SW	1						
		Spring	RWBL	Red-winged Blackbird	40	W	1						
		Spring	AMRO	American Robin	50	S	1						
		Spring	COGR	Common Grackle	50	N	1						
		Spring	DOWO	Downy Woodpecker	40	SW	1						
		Spring	RBWO	Red-bellied Woodpecker	50	E	1						
		Spring	BLJA	Blue Jay	30	N	3						
		Spring	BLJA	Blue Jay	30	E	1		813	822	11	0	90%
		Spring	MODO	Mourning Dove	80	S	1						
		Spring	BAOR	Baltimore Oriole	30	SW	1						
		Spring	FISP	Field Sparrow	30	SW	1						
		Spring	AMRO	American Robin	40	NW	1						
		Spring	BHCO	Brown-headed Cowbird	40	W	1						
		Spring	AMCR	American Crow	30	S	3						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
24-Apr-11	J	Spring	GRCA	Gray Catbird	5	E	1		601	610	11	0	80%
		Spring	ETTI	Tufted Titmouse	15	NW	1						
		Spring	ETTI	Tufted Titmouse	60	W	1						
		Spring	RBWO	Red-bellied Woodpecker	30	SW	1						
		Spring	HOLA	Horned Lark	50	NE	1						
		Spring	EUST	European Starling	10	NE	5						
		Spring	DOWO	Downy Woodpecker	30	E	1						
		Spring	HOWR	House Wren	30	SE	1						
		Spring	RBWO	Red-bellied Woodpecker	4	SW	1						
		Spring	MODO	Mourning Dove	30	N	1						
		Spring	AMRO	American Robin	30	N	1						
		Spring	NOFL	Northern Flicker	40	SW	1						
		Spring	AMCR	American Crow	60	W	1						
		Spring	GRCA	Gray Catbird	5	E	1						
		Spring	ETTI	Tufted Titmouse	15	NW	1						
		Spring	ETTI	Tufted Titmouse	60	W	1						
		Spring	RBWO	Red-bellied Woodpecker	30	SW	1						
		Spring	HOLA	Horned Lark	50	NE	1						
		Spring	EUST	European Starling	10	NE	5						
		Spring	DOWO	Downy Woodpecker	30	E	1						
		Spring	AMRO	American Robin	70	NW	1						
24-Apr-11	K	Spring	NOFL	Northern Flicker	50	E	1		614	623	10	0	75%
		Spring	KILL	Killdeer	40	NW	1						
		Spring	AMRO	American Robin	10	NE	1						
		Spring	RWBL	Red-winged Blackbird	60	E	32						
		Spring	COGR	Common Grackle	20	W	1						
		Spring	EUST	European Starling	10	W	6						
		Spring	BLJA	Blue Jay	40	W	1						
		Spring	RBWO	Red-bellied Woodpecker	50	NW	1						
		Spring	AMRO	American Robin	5	E	1						
		Spring	ETTI	Tufted Titmouse	15	NW	1						
		Spring	HOSP	House Sparrow	10	SE	3						
		Spring	BAOR	Baltimore Oriole	10	S	1						
		Spring	BLJA	Blue Jay	15	SW	2						
		Spring	COGR	Common Grackle	20	W	2						
		Spring	RBWO	Red-bellied Woodpecker	30	N	1						
		Spring	RWBL	Red-winged Blackbird	20	N	4						
		Spring	BHCO	Brown-headed Cowbird	15	SW	1						
27-Apr-11	A	Spring	NOFL	Northern Flicker	50	S	1		723	732	13	4	50%
		Spring	DOWO	Downy Woodpecker	10	W	1						
		Spring	CAGO	Canada Goose	60	N	3						
		Spring	NAWA	Nashville Warbler	30	S	1						
		Spring	NOFL	Northern Flicker	50	S	1						
		Spring	DOWO	Downy Woodpecker	10	W	1						
		Spring	AMCR	American Crow	50	N	4						
		Spring	AMCR	American Crow	80	NE	4						
		Spring	BLJA	Blue Jay	50	W	1						
		Spring	ETTI	Tufted Titmouse	40	NE	1						
27-Apr-11	B	Spring	RWBL	Red-winged Blackbird	5	S	8		711	720	13	5	50%
		Spring	HOSP	House Sparrow	3	S	4						
		Spring	CHSP	Chipping Sparrow	5	W	4						
		Spring	RWBL	Red-winged Blackbird	10	W	1						
		Spring	AMRO	American Robin	15	SE	1						
		Spring	AMCR	American Crow	50	S	1						
		Spring	BHCO	Brown-headed Cowbird	40	W	1						
		Spring	BLJA	Blue Jay	40	W	1						
27-Apr-11	C	Spring	NOFL	Northern Flicker	50	NW	1		659	708	13	4	45%
		Spring	AMRO	American Robin	30	E	1						
		Spring	WOTH	Wood Thrush	50	SE	1						
		Spring	AMCR	American Crow	60	SE	3						
		Spring	NOFL	Northern Flicker	40	S	1						
		Spring	RSHA	Red-shouldered Hawk	30	S	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
27-Apr-11	D	Spring	ETTI	Tufted Titmouse	20	NW	2		646	655	14	4	55%
		Spring	WTSP	White-throated Sparrow	40	SW	1						
		Spring	AMCR	American Crow	50	NE	2						
27-Apr-11	E	Spring	AMRO	American Robin	30	N	1		735	744	14	6	50%
		Spring	BLJA	Blue Jay	40	NE	1						
		Spring	HOSP	House Sparrow	50	NW	7						
		Spring	CHSP	Chipping Sparrow	40	S	1						
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	BLJA	Blue Jay	40	E	1						
		Spring	AMGO	American Goldfinch	20	W	2						
27-Apr-11	F	Spring	AMCR	American Crow	20	SW	3		634	643	14	0	40%
		Spring	AMRO	American Robin	50	NW	1						
		Spring	MODO	Mourning Dove	60	S	1						
		Spring	AMGO	American Goldfinch	20	NW	2						
		Spring	BAOR	Baltimore Oriole	30	N	1						
		Spring	COGR	Common Grackle	15	N	4						
27-Apr-11	G	Spring	ETTI	Tufted Titmouse	45	SW	1		747	756	15	0	50%
		Spring	COGR	Common Grackle	50	E	2						
		Spring	AMGO	American Goldfinch	20	NW	2						
		Spring	NOCA	Northern Cardinal	40	NW	1						
		Spring	CHSP	Chipping Sparrow	30	W	1						
		Spring	BLJA	Blue Jay	50	NE	1						
27-Apr-11	H	Spring	AMRO	American Robin	50	SW	1		800	809	15	2	60%
		Spring	COGR	Common Grackle	40	N	1						
		Spring	DOWO	Downy Woodpecker	40	S	1						
		Spring	RBWO	Red-bellied Woodpecker	50	ENE	1						
		Spring	BLJA	Blue Jay	40	N	3						
		Spring	BCCH	Black-capped Chickadee	50	S	1						
		Spring	AMRO	American Robin	30	NW	1						
		Spring	NOCA	Northern Cardinal	40	SE	1						
		Spring	EUST	European Starling	30	SW	1						
27-Apr-11	I	Spring	ETTI	Tufted Titmouse	40	W	1		812	821	16	2	50%
		Spring	WBNU	White-breasted Nuthatch	30	N	1						
		Spring	MODO	Mourning Dove	80	S	3						
		Spring	BAOR	Baltimore Oriole	20	SW	1						
		Spring	AMRO	American Robin	50	NW	1						
		Spring	FISP	Field Sparrow	30	SW	1						
27-Apr-11	J	Spring	KILL	Killdeer	30	SE	1		602	611	15	0	50%
		Spring	AMRO	American Robin	50	W	1						
		Spring	AMRO	American Robin	35	NW	1						
		Spring	AMRO	American Robin	40	NE	1						
		Spring	RWBL	Red-winged Blackbird	60	S	1						
		Spring	BHCO	Brown-headed Cowbird	20	E	3						
		Spring	AMRO	American Robin	20	E	1						
		Spring	COGR	Common Grackle	40	NW	1						
		Spring	ETTI	Tufted Titmouse	50	W	1						
		Spring	WBNU	White-breasted Nuthatch	60	W	1						
		Spring	EUST	European Starling	30	N	4						
		Spring	SOSP	Song Sparrow	10	N	1						
		Spring	DEJU	Dark-eyed Junco	10	N	2						
		Spring	BLJA	Blue Jay	60	NE	1						
27-Apr-11	K	Spring	BLJA	Blue Jay	60	E	2		616	625	16	0	50%
		Spring	AMRO	American Robin	50	E	1						
		Spring	AMRO	American Robin	30	NW	1						
		Spring	AMRO	American Robin	10	W	1						
		Spring	ETTI	Tufted Titmouse	45	E	1						
		Spring	KILL	Killdeer	70	SE	1						
		Spring	MODO	Mourning Dove	20	E	1						
		Spring	NOFL	Northern Flicker	100	SE	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
2-May-11	A	Spring	DOWO	Downy Woodpecker	20	E	1		659	708	10	5	90%
		Spring	AMRO	American Robin	30	SE	1						
		Spring	COGR	Common Grackle	20	E	1						
		Spring	NAWA	Nashville Warbler	30	S	1						
		Spring	NOFL	Northern Flicker	50	S	1						
		Spring	DOWO	Downy Woodpecker	10	W	1						
		Spring	CAGO	Canada Goose	60	N	5						
		Spring	AMCR	American Crow	80	NE	4						
		Spring	BLJA	Blue Jay	50	W	1						
		Spring	ETTI	Tufted Titmouse	40	NE	1						
		Spring	SCTA	Scarlet Tanager	30	S	1						
		Spring	BHCO	Brown-headed Cowbird	10	W	1						
		Spring	NOFL	Northern Flicker	60	W	1						
		Spring	AMCR	American Crow	60	N	1						
2-May-11	B	Spring	AMCR	American Crow	30	SW	1		646	655	10	5	95%
		Spring	RWBL	Red-winged Blackbird	10	SW	7						
		Spring	NOCA	Northern Cardinal	30	NE	1						
		Spring	AMRO	American Robin	50	NE	1						
		Spring	BHCO	Brown-headed Cowbird	60	N	1						
		Spring	ETTI	Tufted Titmouse	80	NE	1						
		Spring	AMRO	American Robin	40	W	1						
		Spring	BLJA	Blue Jay	40	W	1						
2-May-11	C	Spring	CHSP	Chipping Sparrow	30	E	1		634	643	10	15	95%
		Spring	AMRO	American Robin	20	E	1						
		Spring	GCFL	Great Crested Flycatcher	30	S	1						
		Spring	ETTI	Tufted Titmouse	25	E	1						
		Spring	FISP	Field Sparrow	50	NW	1						
		Spring	BHCO	Brown-headed Cowbird	90	NW	1						
		Spring	BLJA	Blue Jay	30	SW	1						
		Spring	SOSP	Song Sparrow	20	NW	1						
		Spring	AMRO	American Robin	60	SW	1						
		Spring	RBGR	Rose-breasted Grosbeak	50	W	1						
		Spring	BRTH	Brown Thrasher	70	W	1						
2-May-11	D	Spring	RBWO	Red-bellied Woodpecker	30	E	2		619	628	10	4	90%
		Spring	RBWO	Red-bellied Woodpecker	20	NW	1						
		Spring	FISP	Field Sparrow	50	N	1						
		Spring	AMRO	American Robin	70	NE	1						
		Spring	AMGO	American Goldfinch	20	E	1						
		Spring	KILL	Killdeer	25	SW	1						
2-May-11	E	Spring	NOFL	Northern Flicker	40	W	1		712	721	9	4	95%
		Spring	AMGO	American Goldfinch	20	W	3						
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	BLJA	Blue Jay	40	E	1						
		Spring	AMRO	American Robin	40	N	1						
		Spring	MODO	Mourning Dove	30	NW	1						
		Spring	MODO	Mourning Dove	15	S	1						
		Spring	RBGR	Rose-breasted Grosbeak	40	E	1						
		Spring	BLJA	Blue Jay	35	E	1						
		Spring	RBWO	Red-bellied Woodpecker	60	SW	1						
		Spring	RBWO	Red-bellied Woodpecker	100	W	1						
		Spring	HOSP	House Sparrow	50	NW	8						
		Spring	WBNU	White-breasted Nuthatch	60	NE	1						
		Spring	CHSP	Chipping Sparrow	40	S	1						
		Spring	BAOR	Baltimore Oriole	30	SE	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
2-May-11	F	Spring	NOCA	Northern Cardinal	30	NE	2		604	613	9	4	90%
		Spring	RHWO	Red-headed Woodpecker	40	W	2						
		Spring	AMRO	American Robin	50	NW	1						
		Spring	WOTH	Wood Thrush	45	WSW	1						
		Spring	COGR	Common Grackle	10	N	1						
		Spring	AMGO	American Goldfinch	10	NW	2						
		Spring	RBGR	Rose-breasted Grosbeak	15	N	1						
		Spring	BAOR	Baltimore Oriole	20	NW	1						
		Spring	MODO	Mourning Dove	60	S	1						
		Spring	AMCR	American Crow	70	SW	1						
		Spring	FISP	Field Sparrow	100	SE	1						
2-May-11	G	Spring	CHSP	Chipping Sparrow	20	W	1		725	734	10	9	85%
		Spring	RBGR	Rose-breasted Grosbeak	40	NW	1						
		Spring	FISP	Field Sparrow	60	NW	1						
		Spring	RWBL	Red-winged Blackbird	30	NW	1						
		Spring	ETTI	Tufted Titmouse	50	S	1						
		Spring	BLJA	Blue Jay	40	E	1						
		Spring	COGR	Common Grackle	40	E	2						
		Spring	AMGO	American Goldfinch	20	NW	1						
		Spring	NOCA	Northern Cardinal	100	W	1						
2-May-11	H	Spring	BCCH	Black-capped Chickadee	70	S	1		738	747	11	2	100%
		Spring	AMRO	American Robin	30	NW	1						
		Spring	NOCA	Northern Cardinal	40	SE	1						
		Spring	EUST	European Starling	30	SW	1						
		Spring	NAWA	Nashville Warbler	20	S	1						
		Spring	WIFL	Willow Flycatcher	40	W	1						
		Spring	BAOR	Baltimore Oriole	50	N	1						
		Spring	GBHE	Great Blue Heron	20	S	1						
2-May-11	I	Spring	NOCA	Northern Cardinal	40	S	1		805	814	11	2	95%
		Spring	BLJA	Blue Jay	40	SW	2						
		Spring	ETTI	Tufted Titmouse	60	W	1						
		Spring	WBNU	White-breasted Nuthatch	30	NW	1						
		Spring	BLJA	Blue Jay	30	E	1						
		Spring	MODO	Mourning Dove	80	S	1						
		Spring	BAOR	Baltimore Oriole	30	SW	1						
		Spring	NOHA	Northern Harrier	60	NW	1						
		Spring	RBNU	Red-breasted Nuthatch	40	NW	1						
		Spring	BHCO	Brown-headed Cowbird	40	W	1						
2-May-11	J	Spring	AMRO	American Robin	20	E	1		537	546	10	9	95%
		Spring	HOWR	House Wren	30	SE	1						
		Spring	RBWO	Red-bellied Woodpecker	4	SW	1						
		Spring	MODO	Mourning Dove	30	N	1						
		Spring	AMRO	American Robin	30	N	1						
		Spring	NOFL	Northern Flicker	40	SW	1						
		Spring	AMCR	American Crow	60	W	1						
		Spring	GRCA	Gray Catbird	5	E	1						
		Spring	ETTI	Tufted Titmouse	15	NW	1						
		Spring	ETTI	Tufted Titmouse	60	W	1						
2-May-11	K	Spring	AMRO	American Robin	5	E	1		550	559	10	6	90%
		Spring	ETTI	Tufted Titmouse	15	NW	1						
		Spring	HOSP	House Sparrow	10	SE	3						
		Spring	BAOR	Baltimore Oriole	10	S	1						
		Spring	BLJA	Blue Jay	15	SW	2						
		Spring	COGR	Common Grackle	20	W	2						
		Spring	RBWO	Red-bellied Woodpecker	30	N	1						
		Spring	RWBL	Red-winged Blackbird	20	N	4						
2-May-11	K	Spring	BHCO	Brown-headed Cowbird	15	SW	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
4-May-11	A	Spring	AMRO	American Robin	20	S	2		712	721	7	5	100%
		Spring	CHSP	Chipping Sparrow	20	N	1						
		Spring	ETTI	Tufted Titmouse	5	NE	1						
		Spring	AMCR	American Crow	5	S	4						
		Spring	MYWA	Yellow-rumped Warbler	10	W	1						
		Spring	BCCH	Black-capped Chickadee	2	SW	1						
		Spring	MYWA	Yellow-rumped Warbler	20	W	2						
		Spring	RBWO	Red-bellied Woodpecker	60	SW	1						
4-May-11	B	Spring	RWBL	Red-winged Blackbird	20	SW	8		659	708	7	2	100%
		Spring	ETTI	Tufted Titmouse	50	NE	1						
		Spring	WOTH	Wood Thrush	60	NE	1						
		Spring	REVI	Red-eyed Vireo	30	NE	1						
		Spring	AMCR	American Crow	80	S	1						
		Spring	EUST	European Starling	60	SW	12						
		Spring	PIWO	Pileated Woodpecker	20	N	1						
		Spring	BAOR	Baltimore Oriole	40	NE	1						
		Spring	HOSP	House Sparrow	10	S	1						
		Spring	NOCA	Northern Cardinal	5	S	1						
4-May-11	C	Spring	BAOR	Baltimore Oriole	30	S	1		646	655	8	0	100%
		Spring	AMCR	American Crow	10	W	1						
		Spring	BCCH	Black-capped Chickadee	30	S	1						
		Spring	HOLA	Horned Lark	50	NW	1						
4-May-11	D	Spring	MODO	Mourning Dove	20	S	1		632	641	8	0	100%
		Spring	FISP	Field Sparrow	50	N	1						
		Spring	HOWR	House Wren	20	E	1						
		Spring	WOTH	Wood Thrush	50	SW	1						
		Spring	RBWO	Red-bellied Woodpecker	20	NE	1						
		Spring	ETTI	Tufted Titmouse	15	N	1						
		Spring	BLJA	Blue Jay	20	NW	1						
		Spring	AMRO	American Robin	5	N	1						
4-May-11	E	Spring	NOFL	Northern Flicker	5	E	2		725	734	8	0	100%
		Spring	CHSP	Chipping Sparrow	10	S	1						
		Spring	AMRO	American Robin	10	N	1						
		Spring	REVI	Red-eyed Vireo	30	E	1						
		Spring	AMRO	American Robin	15	S	1						
		Spring	BAOR	Baltimore Oriole	50	E	1						
		Spring	AMRO	American Robin	5	W	1						
		Spring	WTSP	White-throated Sparrow	40	W	3						
4-May-11	F	Spring	AMRO	American Robin	30	W	1		617	626	9	2	100%
		Spring	SOSP	Song Sparrow	20	S	1						
		Spring	AMCR	American Crow	40	NW	1						
		Spring	HOWR	House Wren	40	W	1						
		Spring	AMRO	American Robin	20	NW	1						
		Spring	HOLA	Horned Lark	20	E	2						
4-May-11	G	Spring	KILL	Killdeer	30	NW	1		739	748	8	0	100%
		Spring	BHCO	Brown-headed Cowbird	20	NW	2						
		Spring	AMRO	American Robin	5	S	2						
		Spring	WBNU	White-breasted Nuthatch	5	E	1						
		Spring	BLJA	Blue Jay	20	NW	1						
		Spring	WOTH	Wood Thrush	60	S	1						
		Spring	AMGO	American Goldfinch	10	W	2						
		Spring	AMCR	American Crow	100	NW	1						
4-May-11	H	Spring	BCCH	Black-capped Chickadee	30	W	1		754	803	9	5	100%
		Spring	CHSP	Chipping Sparrow	30	NE	1						
		Spring	AMRO	American Robin	60	E	1						
		Spring	MODO	Mourning Dove	40	NE	1						
		Spring	BHCO	Brown-headed Cowbird	30	W	1						
		Spring	YTVI	Yellow-throated Vireo	20	W	1						
		Spring	RWBL	Red-winged Blackbird	10	S	1						
		Spring	NOCA	Northern Cardinal	50	SW	1						
		Spring	SOSP	Song Sparrow	60	NW	1						
		Spring	WBNU	White-breasted Nuthatch	50	W	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
4-May-11	I	Spring	REVI	Red-eyed Vireo	15	W	1		807	816	9	0	100%
		Spring	BCCH	Black-capped Chickadee	30	NE	1						
		Spring	EAKI	Eastern Kingbird	10	W	1						
		Spring	BAOR	Baltimore Oriole	20	SW	1						
		Spring	NOCA	Northern Cardinal	30	W	1						
		Spring	HOWR	House Wren	40	NE	1						
		Spring	BAOR	Baltimore Oriole	25	SW	1						
		Spring	WBNU	White-breasted Nuthatch	40	NW	1						
		Spring	SOSP	Song Sparrow	50	S	1						
		Spring	NOCA	Northern Cardinal	60	SW	1						
		Spring	BLJA	Blue Jay	40	S	1						
		Spring	AMCR	American Crow	70	N	4						
		Spring	GRHE	Green Heron	20	S	1						
		Spring	COGR	Common Grackle	70	N	2						
		Spring	EWPE	Eastern Wood-Pewee	80	NW	1						
		Spring	CHSP	Chipping Sparrow	50	SW	1						
4-May-11	J	Spring	WOTH	Wood Thrush	30	E	1		545	554	7	5	100%
		Spring	AMRO	American Robin	30	SE	1						
		Spring	WBNU	White-breasted Nuthatch	40	S	1						
		Spring	ETTI	Tufted Titmouse	55	S	1						
		Spring	WOTH	Wood Thrush	30	S	1						
		Spring	AMCR	American Crow	100	W	2						
		Spring	MYWA	Yellow-rumped Warbler	30	SW	1						
		Spring	HOWR	House Wren	40	SW	1						
		Spring	MODO	Mourning Dove	30	N	1						
		Spring	DOWO	Downy Woodpecker	20	W	1						
		Spring	BHCO	Brown-headed Cowbird	20	NW	1						
4-May-11	K	Spring	AMRO	American Robin	10	E	2		559	608	7	0	100%
		Spring	AMRO	American Robin	30	NE	1						
		Spring	CHSP	Chipping Sparrow	20	N	1						
		Spring	RWBL	Red-winged Blackbird	10	N	2						
		Spring	COGR	Common Grackle	10	N	1						
		Spring	MODO	Mourning Dove	30	NW	1						
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	BCCH	Black-capped Chickadee	40	SW	1						
		Spring	AMRO	American Robin	40	NW	3						
		Spring	HOSP	House Sparrow	10	NW	6						
		Spring	SOSP	Song Sparrow	5	W	1						
		Spring	WBNU	White-breasted Nuthatch	40	NW	1						
		Spring	SOSP	Song Sparrow	10	N	1						
10-May-11	A	Spring	CHSP	Chipping Sparrow	25	N	1		709	718	17	9	95%
		Spring	MYWA	Yellow-rumped Warbler	20	W	1						
		Spring	AMRO	American Robin	25	S	1						
		Spring	AMRO	American Robin	30	NE	1						
		Spring	RBWO	Red-bellied Woodpecker	50	SW	1						
		Spring	AMCR	American Crow	20	W	3						
		Spring	WAVI	Warbling Vireo	10	N	1						
		Spring	INBU	Indigo Bunting	15	NE	1						
10-May-11	B	Spring	ETTI	Tufted Titmouse	10	NE	1		655	704	17	4	100%
		Spring	RWBL	Red-winged Blackbird	20	SW	6						
		Spring	COGR	Common Grackle	25	SW	2						
		Spring	REVI	Red-eyed Vireo	25	NE	1						
		Spring	ETTI	Tufted Titmouse	40	NE	1						
		Spring	WOTH	Wood Thrush	70	NE	1						
		Spring	AMCR	American Crow	100	S	3						
		Spring	EUST	European Starling	50	E	4						
		Spring	BAOR	Baltimore Oriole	30	NE	1						
		Spring	HOSP	House Sparrow	10	S	6						
		Spring	NOCA	Northern Cardinal	10	N	1						
		Spring	AMRO	American Robin	25	W	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
10-May-11	C	Spring	WOTH	Wood Thrush	60	SW	1		641	650	16	9	95%
		Spring	CHSP	Chipping Sparrow	50	E	1						
		Spring	AMRO	American Robin	30	SW	1						
		Spring	ETTI	Tufted Titmouse	25	W	1						
		Spring	BHCO	Brown-headed Cowbird	35	W	1						
		Spring	WBNU	White-breasted Nuthatch	30	W	1						
		Spring	EWPE	Eastern Wood-Pewee	40	SE	1						
		Spring	INBU	Indigo Bunting	30	W	1						
		Spring	AMGO	American Goldfinch	10	W	1						
		Spring	HOWR	House Wren	50	NW	1						
		Spring	AMCR	American Crow	10	WNW	3						
		Spring	HOLA	Horned Lark	60	NW	2						
10-May-11	D	Spring	MODO	Mourning Dove	25	S	2		628	637	16	9	90%
		Spring	SOSP	Song Sparrow	40	SE	1						
		Spring	GCFL	Great Crested Flycatcher	60	NE	1						
		Spring	BRTH	Brown Thrasher	40	N	1						
		Spring	RBWO	Red-bellied Woodpecker	100	E	1						
		Spring	EUST	European Starling	20	NE	6						
		Spring	EABL	Eastern Bluebird	30	S	2						
		Spring	BLJA	Blue Jay	25	NNW	1						
		Spring	RBWO	Red-bellied Woodpecker	40	E	2						
		Spring	AMRO	American Robin	30	N	1						
		Spring	WOTH	Wood Thrush	50	E	1						
10-May-11	E	Spring	BLJA	Blue Jay	40	NE	1		723	732	17	5	95%
		Spring	AMRO	American Robin	10	NE	1						
		Spring	SOSP	Song Sparrow	20	S	1						
		Spring	WOTH	Wood Thrush	50	N	1						
		Spring	ETTI	Tufted Titmouse	30	SE	1						
		Spring	AMGO	American Goldfinch	20	W	4						
		Spring	CHSP	Chipping Sparrow	10	SW	1						
		Spring	MODO	Mourning Dove	15	S	2						
		Spring	MYWA	Yellow-rumped Warbler	25	W	2						
		Spring	RBWO	Red-bellied Woodpecker	100	W	1						
		Spring	NOFL	Northern Flicker	15	E	1						
		Spring	HOSP	House Sparrow	40	NE	5						
		Spring	AMRO	American Robin	5	NW	1						
		Spring	COGR	Common Grackle	30	W	1						
		Spring	EWPE	Eastern Wood-Pewee	40	E	1						
		Spring	KILL	Killdeer	60	NE	2						
		Spring	EUST	European Starling	5	W	1						
		Spring	AMRO	American Robin	40	NE	1						
		Spring	HOWR	House Wren	50	SE	1						
		Spring	WBNU	White-breasted Nuthatch	50	NE	1						
	F	Spring	AMGO	American Goldfinch	25	N	3		614	623			
		Spring	BHCO	Brown-headed Cowbird	15	N	1						
		Spring	ETTI	Tufted Titmouse	100	E	1						
		Spring	CAGO	Canada Goose	10	W	2						
		Spring	AMCR	American Crow	15	SW	2						
		Spring	RBGR	Rose-breasted Grosbeak	20	N	1						
		Spring	WOTH	Wood Thrush	60	NW	1						
		Spring	SOSP	Song Sparrow	40	N	1						
		Spring	EUST	European Starling	30	N	1						
		Spring	RBWO	Red-bellied Woodpecker	30	SW	1						
		Spring	RBWO	Red-bellied Woodpecker	50	SE	1		738	747	18	9	100%
10-May-11	G	Spring	INBU	Indigo Bunting	20	SE	1						
		Spring	AMGO	American Goldfinch	10	SW	4						
		Spring	AMRO	American Robin	50	S	1						
		Spring	WOTH	Wood Thrush	60	NW	1						
		Spring	MODO	Mourning Dove	70	N	2						
		Spring	CHSP	Chipping Sparrow	25	W	1						
		Spring	KILL	Killdeer	40	NW	1						
		Spring	BLJA	Blue Jay	40	E	1						
		Spring	AMCR	American Crow	100	NNW	3						
		Spring	AMCR	American Crow	100	NNW	3						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
10-May-11	H	Spring	GRCA	Gray Catbird	20	W	1		751	800	18	4	100%
		Spring	EUST	European Starling	10	S	3						
		Spring	AMRO	American Robin	30	NE	1						
		Spring	EWPE	Eastern Wood-Pewee	15	SE	1						
		Spring	RBGR	Rose-breasted Grosbeak	10	W	1						
		Spring	BAOR	Baltimore Oriole	15	S	1						
		Spring	BRNS	Barn Swallow	5	W	1						
		Spring	BLJA	Blue Jay	15	S	1						
		Spring	NOCA	Northern Cardinal	50	SW	1						
		Spring	CHSP	Chipping Sparrow	40	E	1						
		Spring	RWBL	Red-winged Blackbird	70	NNW	2						
		Spring	MODO	Mourning Dove	50	NE	1						
10-May-11	I	Spring	ETTI	Tufted Titmouse	50	W	1		806	815	19	4	100%
		Spring	NOCA	Northern Cardinal	50	S	1						
		Spring	SOSP	Song Sparrow	50	SE	1						
		Spring	MODO	Mourning Dove	90	S	2						
		Spring	HOWR	House Wren	30	NE	1						
		Spring	WBNU	White-breasted Nuthatch	30	NW	1						
		Spring	EWPE	Eastern Wood-Pewee	60	NW	1						
		Spring	REVI	Red-eyed Vireo	20	W	1						
		Spring	AMCR	American Crow	50	N	5						
		Spring	BLJA	Blue Jay	20	E	1						
		Spring	BHCO	Brown-headed Cowbird	50	SW	2						
		Spring	BLJA	Blue Jay	60	SW	1						
		Spring	ETTI	Tufted Titmouse	30	S	1						
10-May-11	J	Spring	GRCA	Gray Catbird	35	N	1		545	554	15	5	95%
		Spring	BHCO	Brown-headed Cowbird	15	N	2						
		Spring	GRCA	Gray Catbird	10	SE	2						
		Spring	HOWR	House Wren	50	N	1						
		Spring	NOFL	Northern Flicker	45	SW	1						
		Spring	CHSP	Chipping Sparrow	40	N	1						
		Spring	AMRO	American Robin	30	N	1						
		Spring	AMGO	American Goldfinch	15	SE	2						
		Spring	RBWO	Red-bellied Woodpecker	70	SW	1						
		Spring	COGR	Common Grackle	10	N	1						
		Spring	ETTI	Tufted Titmouse	20	NW	1						
		Spring	MODO	Mourning Dove	30	N	2						
		Spring	DOWO	Downy Woodpecker	20	W	1						
		Spring	WOTH	Wood Thrush	50	NW	1						
		Spring	AMGO	American Goldfinch	20	E	2						
		Spring	RWBL	Red-winged Blackbird	70	NW	4						
		Spring	COGR	Common Grackle	90	N	3						
		Spring	HOLA	Horned Lark	30	E	1						
10-May-11	K	Spring	MODO	Mourning Dove	30	W	2		558	607	15	2	90%
		Spring	HOWR	House Wren	20	SW	1						
		Spring	RWBL	Red-winged Blackbird	15	S	1						
		Spring	RWBL	Red-winged Blackbird	20	E	2						
		Spring	BAOR	Baltimore Oriole	15	S	1						
		Spring	HAWO	Hairy Woodpecker	15	NW	1						
		Spring	CHSP	Chipping Sparrow	15	NW	1						
		Spring	AMRO	American Robin	20	E	4						
		Spring	COGR	Common Grackle	30	E	2						
		Spring	HOSP	House Sparrow	15	NW	7						
		Spring	MODO	Mourning Dove	30	N	2						
		Spring	BLJA	Blue Jay	20	NW	1						
		Spring	RBWO	Red-bellied Woodpecker	50	NW	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
12-May-11	A	Spring	RBWO	Red-bellied Woodpecker	50	SW	1						
		Spring	AMCR	American Crow	20	W	4						
		Spring	DOWO	Downy Woodpecker	20	NE	1						
		Spring	ETTI	Tufted Titmouse	45	NE	1						
		Spring	AMRO	American Robin	30	SE	1						
		Spring	BLJA	Blue Jay	40	SW	1						
		Spring	COGR	Common Grackle	20	E	2						
		Spring	NOFL	Northern Flicker	70	SSE	1						
		Spring	WOTH	Wood Thrush	50	SW	1						
		Spring	AMGO	American Goldfinch	30	W	3						
		Spring	RBWO	Red-bellied Woodpecker	30	SE	1						
		Spring	RBGR	Rose-breasted Grosbeak	10	NE	1						
12-May-11	B	Spring	RWBL	Red-winged Blackbird	15	W	4		741	750	17	0	100%
		Spring	SOSP	Song Sparrow	20	W	1						
		Spring	WEVI	White-eyed Vireo	15	NW	1						
		Spring	AMCR	American Crow	20	SE	3						
		Spring	CHSP	Chipping Sparrow	30	W	1						
		Spring	BRTH	Brown Thrasher	20	NW	1						
		Spring	NOCA	Northern Cardinal	20	W	1						
		Spring	RBGR	Rose-breasted Grosbeak	40	N	1						
		Spring	WBNU	White-breasted Nuthatch	20	N	1						
		Spring	PIWA	Pine Warbler	40	E	1						
		Spring	AMRO	American Robin	15	W	2						
		Spring	AMCR	American Crow	100	W	2						
		Spring	ETTI	Tufted Titmouse	30	N	1						
		Spring	INBU	Indigo Bunting	5	W	2						
		Spring	CAGO	Canada Goose	100	NW	5						
		Spring	COGR	Common Grackle	5	N	1						
12-May-11	C	Spring	SCTA	Scarlet Tanager	20	SW	1		728	737	17	0	80%
		Spring	BAOR	Baltimore Oriole	15	S	1						
		Spring	EAME	Eastern Meadowlark	40	NW	1						
		Spring	INBU	Indigo Bunting	30	W	1						
		Spring	AMGO	American Goldfinch	10	W	1						
		Spring	HOWR	House Wren	50	NW	1						
		Spring	AMCR	American Crow	70	S	2						
		Spring	WOTH	Wood Thrush	60	SW	1						
		Spring	CHSP	Chipping Sparrow	50	E	1						
		Spring	COHA	Cooper's Hawk	30	SW	1						
		Spring	ETTI	Tufted Titmouse	25	W	1						
		Spring	BHCO	Brown-headed Cowbird	35	W	1						
		Spring	WBNU	White-breasted Nuthatch	30	W	1						
		Spring	EWPE	Eastern Wood-Pewee	40	SE	1						
		Spring	EABL	Eastern Bluebird	40	W	2						
		Spring	RBGR	Rose-breasted Grosbeak	30	W	1						
		Spring	BOBO	Bobolink	30	W	1						
12-May-11	D	Spring	CHSP	Chipping Sparrow	20	W	1		715	724	18	0	80%
		Spring	AMRO	American Robin	40	NW	1						
		Spring	EUST	European Starling	15	NE	1						
		Spring	HOWR	House Wren	50	NW	1						
		Spring	ETTI	Tufted Titmouse	40	NW	1						
		Spring	MYWA	Yellow-rumped Warbler	30	NE	1						
		Spring	RBWO	Red-bellied Woodpecker	40	E	2						
		Spring	AMRO	American Robin	30	N	1						
		Spring	OROR	Orchard Oriole	10	N	1						
		Spring	RBGR	Rose-breasted Grosbeak	40	NE	1						
		Spring	EABL	Eastern Bluebird	30	SE	1						
		Spring	BAOR	Baltimore Oriole	50	NE	1						
		Spring	FISP	Field Sparrow	70	N	1						
		Spring	CAGO	Canada Goose	60	N	6						
		Spring	SOSP	Song Sparrow	50	SE	1						
		Spring	GCFL	Great Crested Flycatcher	60	NE	1						
		Spring	CSWA	Chestnut-sided Warbler	15	NE	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
12-May-11	E	Spring	CHSP	Chipping Sparrow	20	N	1		759	808	18	0	100%
		Spring	AMRO	American Robin	30	E	1						
		Spring	TEWA	Tennessee Warbler	25	NW	1						
		Spring	EUST	European Starling	5	W	1						
		Spring	AMRO	American Robin	40	NE	1						
		Spring	HOWR	House Wren	50	SE	1						
		Spring	GRCA	Gray Catbird	30	NE	1						
		Spring	RBWO	Red-bellied Woodpecker	70	W	1						
		Spring	SOSP	Song Sparrow	40	W	1						
		Spring	BLJA	Blue Jay	40	NW	1						
		Spring	ETTI	Tufted Titmouse	50	NW	1						
		Spring	BLJA	Blue Jay	40	N	1						
		Spring	AMRO	American Robin	5	NW	1						
		Spring	COGR	Common Grackle	30	W	1						
		Spring	EWPE	Eastern Wood-Pewee	40	E	1						
		Spring	KILL	Killdeer	60	NE	2						
		Spring	NOFL	Northern Flicker	70	SE	1						
		Spring	RHWO	Red-headed Woodpecker	15	N	1						
		Spring	HOFI	House Finch	20	W	1						
		Spring	RWBL	Red-winged Blackbird	25	NW	3						
		Spring	COGR	Common Grackle	15	NW	2						
		Spring	AMGO	American Goldfinch	20	W	3						
12-May-11	F	Spring	CAGO	Canada Goose	10	W	2		655	704	17	0	80%
		Spring	AMCR	American Crow	15	SW	2						
		Spring	RSHA	Red-shouldered Hawk	15	SW	1						
		Spring	BHVI	Blue-headed Vireo	30	W	1						
		Spring	AMGO	American Goldfinch	40	N	1						
		Spring	BHCO	Brown-headed Cowbird	15	N	1						
		Spring	ETTI	Tufted Titmouse	100	E	1						
		Spring	SCTA	Scarlet Tanager	70	W	1						
		Spring	GCFL	Great Crested Flycatcher	100	E	1						
		Spring	WOTH	Wood Thrush	80	NW	1						
		Spring	SOSP	Song Sparrow	50	N	1						
		Spring	EUST	European Starling	30	N	1						
		Spring	MODO	Mourning Dove	30	N	1						
		Spring	LEFL	Least Flycatcher	30	N	1						
		Spring	RBWO	Red-bellied Woodpecker	40	W	1						
12-May-11	G	Spring	AMGO	American Goldfinch	10	W	3		810	819	18	0	100%
		Spring	AMRO	American Robin	50	S	1						
		Spring	WOTH	Wood Thrush	50	NW	1						
		Spring	RBWO	Red-bellied Woodpecker	50	SE	1						
		Spring	INBU	Indigo Bunting	30	SE	1						
		Spring	AMRE	American Redstart	15	SE	1						
		Spring	TUVU	Turkey Vulture	10	E	1						
		Spring	COGR	Common Grackle	20	N	1						
		Spring	INBU	Indigo Bunting	30	W	1						
		Spring	GCFL	Great Crested Flycatcher	60	S	1						
		Spring	MODO	Mourning Dove	30	NW	1						
		Spring	AMRO	American Robin	40	W	1						
		Spring	RBWO	Red-bellied Woodpecker	30	W	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
12-May-11	H	Spring	AMRO	American Robin	15	E	2		821	830	18	0	100%
		Spring	EWPE	Eastern Wood-Pewee	20	SE	1						
		Spring	AMRO	American Robin	30	NE	1						
		Spring	AMRO	American Robin	45	NW	1						
		Spring	NOCA	Northern Cardinal	50	S	1						
		Spring	RBGR	Rose-breasted Grosbeak	30	SW	1						
		Spring	ETTI	Tufted Titmouse	40	SW	1						
		Spring	COGR	Common Grackle	30	S	2						
		Spring	EUST	European Starling	40	NW	4						
		Spring	RBGR	Rose-breasted Grosbeak	10	W	1						
		Spring	BAOR	Baltimore Oriole	15	W	1						
		Spring	BRNS	Barn Swallow	5	W	1						
		Spring	GRCA	Gray Catbird	10	W	1						
		Spring	EUST	European Starling	10	S	1						
		Spring	BLJA	Blue Jay	10	S	1						
12-May-11	I	Spring	EWPE	Eastern Wood-Pewee	40	NW	1		833	842	18	0	100%
		Spring	REVI	Red-eyed Vireo	20	W	1						
		Spring	AMCR	American Crow	50	N	3						
		Spring	NOCA	Northern Cardinal	45	S	1						
		Spring	BHCO	Brown-headed Cowbird	50	W	2						
		Spring	BLJA	Blue Jay	30	W	1						
		Spring	MODO	Mourning Dove	70	S	1						
		Spring	ETTI	Tufted Titmouse	60	W	1						
		Spring	HOWR	House Wren	40	NE	1						
		Spring	SOSP	Song Sparrow	50	SE	1						
		Spring	COGR	Common Grackle	50	N	2						
		Spring	BAOR	Baltimore Oriole	20	NW	1						
		Spring	CHSP	Chipping Sparrow	40	SW	1						
		Spring	AMRO	American Robin	20	N	1						
		Spring	AMRO	American Robin	50	SW	1						
		Spring	REVI	Red-eyed Vireo	10	E	1						
		Spring	RBWO	Red-bellied Woodpecker	70	NW	1						
		Spring	RWBL	Red-winged Blackbird	90	N	3						
12-May-11	J	Spring	AMRO	American Robin	20	N	1		620	629	17	0	70%
		Spring	WOTH	Wood Thrush	50	Start Time	1						
		Spring	AMRO	American Robin	30	SW	1						
		Spring	AMGO	American Goldfinch	15	SE	2						
		Spring	RBWO	Red-bellied Woodpecker	70	SW	1						
		Spring	COGR	Common Grackle	10	N	1						
		Spring	ETTI	Tufted Titmouse	50	NW	1						
		Spring	AMCO	American Coot	60	W	3						
		Spring	RWBL	Red-winged Blackbird	20	N	2						
		Spring	AMRO	American Robin	30	W	2						
		Spring	HOWR	House Wren	40	N	1						
		Spring	HOSP	House Sparrow	40	N	1						
		Spring	CHSP	Chipping Sparrow	30	N	1						
		Spring	BLJA	Blue Jay	100	NE	1						
		Spring	ACFL	Acadian Flycatcher	40	SW	1						
		Spring	BHCO	Brown-headed Cowbird	30	SW	1						
		Spring	GRCA	Gray Catbird	15	N	1						
		Spring	BHCO	Brown-headed Cowbird	15	N	2						
		Spring	GRCA	Gray Catbird	10	E	2						
		Spring	TEWA	Tennessee Warbler	25	SE	2						
		Spring	OVEN	Ovenbird	40	W	1						
		Spring	WBNU	White-breasted Nuthatch	40	S	1						
		Spring	WOTH	Wood Thrush	60	WNW	1						
		Spring	AMGO	American Goldfinch	10	E	5						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
12-May-11	K	Spring	AMRO	American Robin	15	SW	1		636	645	17	0	70%
		Spring	WAVI	Warbling Vireo	20	W	1						
		Spring	MODO	Mourning Dove	30	W	2						
		Spring	HOWR	House Wren	15	SW	1						
		Spring	RWBL	Red-winged Blackbird	15	S	1						
		Spring	NOBW	Northern Bobwhite	35	W	1	Probably Domestic					
		Spring	AMRO	American Robin	25	SW	1						
		Spring	FISP	Field Sparrow	40	NE	1						
		Spring	RPHE	Ring-necked Pheasant	25	NW	1	Probably Domestic					
		Spring	KILL	Killdeer	50	SE	3						
		Spring	TEWA	Tennessee Warbler	20	S	1						
		Spring	RWBL	Red-winged Blackbird	20	E	1						
		Spring	BAOR	Baltimore Oriole	15	S	1						
		Spring	HAWO	Hairy Woodpecker	5	NW	1						
		Spring	CHSP	Chipping Sparrow	15	NW	1						
		Spring	EUST	European Starling	20	NW	3						
		Spring	CAGO	Canada Goose	100	NW	4						
		Spring	SOSP	Song Sparrow	20	N	1						
		Spring	WEWA	Worm-eating Warbler	30	NW	1						
15-May-11	A	Spring	ETTI	Tufted Titmouse	10	N	1		626	635	18	2	50%
		Spring	NOCA	Northern Cardinal	25	NE	2						
		Spring	RHWO	Red-headed Woodpecker	20	W	2						
		Spring	COGR	Common Grackle	25	N	2						
		Spring	WOTH	Wood Thrush	40	SW	1						
		Spring	AMRO	American Robin	50	N	1						
		Spring	WBNU	White-breasted Nuthatch	60	E	1						
		Spring	AMCR	American Crow	70	SSW	8						
		Spring	AMGO	American Goldfinch	30	W	4						
		Spring	SCTA	Scarlet Tanager	60	SW	1						
		Spring	MYWA	Yellow-rumped Warbler	15	W	1						
		Spring	RBWO	Red-bellied Woodpecker	60	SW	1						
		Spring	RBGR	Rose-breasted Grosbeak	20	N	1						
		Spring	EWPE	Eastern Wood-Pewee	15	E	1						
15-May-11	B	Spring	RWBL	Red-winged Blackbird	20	SW	7		613	622	18	2	65%
		Spring	AMCR	American Crow	30	SW	4						
		Spring	WOTH	Wood Thrush	50	NE	1						
		Spring	CHSP	Chipping Sparrow	40	W	1						
		Spring	AMRO	American Robin	15	S	2						
		Spring	EUST	European Starling	20	W	2						
		Spring	BAOR	Baltimore Oriole	40	NE	1						
		Spring	HOLA	Horned Lark	70	NW	1						
		Spring	HOSP	House Sparrow	10	S	3						
		Spring	REVI	Red-eyed Vireo	30	NNE	1						
		Spring	BLJA	Blue Jay	50	SE	1						
		Spring	AMCR	American Crow	70	NW	2						
		Spring	TEWA	Tennessee Warbler	15	NE	2						
15-May-11	C	Spring	HOLA	Horned Lark	60	NW	2		557	606	17	0	50%
		Spring	BHCO	Brown-headed Cowbird	50	W	2						
		Spring	FISP	Field Sparrow	50	NW	1						
		Spring	AMRO	American Robin	30	E	1						
		Spring	AMRO	American Robin	40	SW	1						
		Spring	RBGR	Rose-breasted Grosbeak	10	S	2						
		Spring	ETTI	Tufted Titmouse	20	E	1						
		Spring	BCCH	Black-capped Chickadee	20	S	2						
		Spring	AMCR	American Crow	30	W	4						
		Spring	BLJA	Blue Jay	25	S	1						
		Spring	CHSP	Chipping Sparrow	25	E	1						
		Spring	BHCO	Brown-headed Cowbird	30	SE	1						
		Spring	SOSP	Song Sparrow	25	NW	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
15-May-11	D	Spring	AMGO	American Goldfinch	30	E	3		542	551	16	2	50%
		Spring	HOWR	House Wren	20	E	1						
		Spring	AMRO	American Robin	10	N	1						
		Spring	RBWO	Red-bellied Woodpecker	20	NNE	1						
		Spring	AMRO	American Robin	70	NE	1						
		Spring	FISP	Field Sparrow	40	N	1						
		Spring	MODO	Mourning Dove	30	S	2						
		Spring	RBWO	Red-bellied Woodpecker	20	W	1						
		Spring	EABL	Eastern Bluebird	50	S	2						
		Spring	RBWO	Red-bellied Woodpecker	60	W	1						
15-May-11	E	Spring	AMRO	American Robin	30	N	1		640	649	19	0	50%
		Spring	CHSP	Chipping Sparrow	10	S	1						
		Spring	MODO	Mourning Dove	20	S	2						
		Spring	RBWO	Red-bellied Woodpecker	60	SW	1						
		Spring	NOFL	Northern Flicker	50	W	1						
		Spring	RBGR	Rose-breasted Grosbeak	30	E	1						
		Spring	BLJA	Blue Jay	15	SW	1						
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	AMRO	American Robin	40	SW	1						
		Spring	BAOR	Baltimore Oriole	40	E	1						
		Spring	REVI	Red-eyed Vireo	30	E	1						
		Spring	RBWO	Red-bellied Woodpecker	100	W	1						
		Spring	MODO	Mourning Dove	40	W	1						
		Spring	WOTH	Wood Thrush	50	W	1						
15-May-11	F	Spring	BRTH	Brown Thrasher	40	N	1		529	538			
		Spring	NOCA	Northern Cardinal	40	NE	1						
		Spring	AMRO	American Robin	40	NW	1						
		Spring	WOTH	Wood Thrush	50	SW	1						
		Spring	HOLA	Horned Lark	30	E	2						
		Spring	HOWR	House Wren	40	W	1						
		Spring	RBGR	Rose-breasted Grosbeak	20	NW	1						
		Spring	MODO	Mourning Dove	20	S	3						
		Spring	AMCR	American Crow	80	E	8						
		Spring	FISP	Field Sparrow	60	SW	1						
		Spring	COGR	Common Grackle	10	S	8						
		Spring	FISP	Field Sparrow	80	SE	1						
15-May-11	G	Spring	TUVU	Turkey Vulture	15	E	1		654	703	16	0	60%
		Spring	COGR	Common Grackle	20	N	1						
		Spring	INBU	Indigo Bunting	40	W	1						
		Spring	GCFL	Great Crested Flycatcher	60	S	1						
		Spring	MODO	Mourning Dove	30	N	1						
		Spring	AMRO	American Robin	40	W	1						
		Spring	RBWO	Red-bellied Woodpecker	20	W	1						
		Spring	CHSP	Chipping Sparrow	25	W	1						
		Spring	KILL	Killdeer	40	NW	1						
		Spring	BLJA	Blue Jay	70	E	1						
		Spring	AMCR	American Crow	100	W	4						
		Spring	AMGO	American Goldfinch	10	W	3						
		Spring	INBU	Indigo Bunting	30	SE	1						
		Spring	AMGO	American Goldfinch	10	SW	2						
		Spring	AMRO	American Robin	50	S	1						
		Spring	WOTH	Wood Thrush	50	NW	1						
		Spring	MODO	Mourning Dove	70	N	2						
		Spring	CHSP	Chipping Sparrow	15	W	1						
		Spring	KILL	Killdeer	40	NW	1						
		Spring	BLJA	Blue Jay	20	E	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
15-May-11	H	Spring	EWPE	Eastern Wood-Pewee	20	E	1		706	715	20	0	75%
		Spring	AMRO	American Robin	30	E	1						
		Spring	EUST	European Starling	30	SW	1						
		Spring	RBGR	Rose-breasted Grosbeak	40	W	1						
		Spring	MODO	Mourning Dove	40	NE	1						
		Spring	RWBL	Red-winged Blackbird	60	NNW	4						
		Spring	COGR	Common Grackle	50	NW	2						
		Spring	NOCA	Northern Cardinal	15	SE	1						
		Spring	BAOR	Baltimore Oriole	30	SW	1						
		Spring	GRCA	Gray Catbird	30	SW	1						
		Spring	SOSP	Song Sparrow	60	S	1						
		Spring	ETTI	Tufted Titmouse	40	W	1						
15-May-11	I	Spring	NOCA	Northern Cardinal	30	W	1		721	730	20	2	75%
		Spring	BLJA	Blue Jay	30	E	1						
		Spring	MODO	Mourning Dove	80	S	2						
		Spring	BHCO	Brown-headed Cowbird	50	W	1						
		Spring	COGR	Common Grackle	50	N	2						
		Spring	EWPE	Eastern Wood-Pewee	50	N	1						
		Spring	CHSP	Chipping Sparrow	50	SW	1						
		Spring	BLJA	Blue Jay	50	SW	1						
		Spring	RBWO	Red-bellied Woodpecker	70	NW	1						
		Spring	ETTI	Tufted Titmouse	60	W	1						
		Spring	BAOR	Baltimore Oriole	30	SSW	1						
		Spring	NOCA	Northern Cardinal	50	S	1						
		Spring	HOWR	House Wren	30	NE	1						
		Spring	SOSP	Song Sparrow	40	S	1						
		Spring	COGR	Common Grackle	25	S	3						
15-May-11	J	Spring	ETTI	Tufted Titmouse	15	NW	1		736	745	22	2	70%
		Spring	AMRO	American Robin	20	NE	1						
		Spring	WOTH	Wood Thrush	30	S	1						
		Spring	MODO	Mourning Dove	30	N	2						
		Spring	ETTI	Tufted Titmouse	60	S	1						
		Spring	AMCR	American Crow	80	W	2						
		Spring	DOWO	Downy Woodpecker	10	W	1						
		Spring	BHCO	Brown-headed Cowbird	20	S	2						
		Spring	NOFL	Northern Flicker	40	SW	1						
		Spring	RBWO	Red-bellied Woodpecker	10	SW	1						
		Spring	AMRO	American Robin	50	N	1						
15-May-11	K	Spring	AMRO	American Robin	10	E	2		751	800	22	0	60%
		Spring	BAOR	Baltimore Oriole	20	S	1						
		Spring	COGR	Common Grackle	30	W	2						
		Spring	BHCO	Brown-headed Cowbird	15	SSW	1						
		Spring	RWBL	Red-winged Blackbird	20	N	5						
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	CHSP	Chipping Sparrow	20	N	1						
		Spring	RBWO	Red-bellied Woodpecker	40	NW	1						
		Spring	BLJA	Blue Jay	30	SW	1						
		Spring	HOSP	House Sparrow	20	NW	9						
		Spring	BCCH	Black-capped Chickadee	10	W	1						
16-May-11	A	Spring	CAGO	Canada Goose	30	NW	3		708	717	4	4	70%
		Spring	AMCR	American Crow	30	S	3						
		Spring	SOSP	Song Sparrow	40	NW	1						
		Spring	AMRO	American Robin	10	W	1						
		Spring	SAVS	Savannah Sparrow	50	W	1						
		Spring	ETTI	Tufted Titmouse	40	E	1						
		Spring	BHCO	Brown-headed Cowbird	40	SE	1						
		Spring	AMRO	American Robin	40	E	1						
		Spring	BAOR	Baltimore Oriole	70	WNW	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
16-May-11	B	Spring	RWBL	Red-winged Blackbird	10	SW	3		720	729	6	0	75%
		Spring	INBU	Indigo Bunting	20	W	1						
		Spring	WAVI	Warbling Vireo	15	W	1						
		Spring	AMCR	American Crow	40	ESE	1						
		Spring	EUST	European Starling	20	W	1						
		Spring	SOSP	Song Sparrow	40	W	1						
		Spring	HOFI	House Finch	10	W	1						
		Spring	BHCO	Brown-headed Cowbird	40	NW	1						
		Spring	BAOR	Baltimore Oriole	20	NW	1						
		Spring	TEWA	Tennessee Warbler	20	S	1						
16-May-11	C	Spring	RWBL	Red-winged Blackbird	60	NW	1		733	742	6	7	70%
		Spring	MALL	Mallard	20	W	3						
		Spring	RTHA	Red-tailed Hawk	50	NW	1						
		Spring	CHSP	Chipping Sparrow	30	E	1						
		Spring	AMRO	American Robin	20	E	1						
		Spring	GCFL	Great Crested Flycatcher	30	S	1						
		Spring	ETTI	Tufted Titmouse	30	E	1						
		Spring	FISP	Field Sparrow	60	NW	1						
		Spring	BHCO	Brown-headed Cowbird	90	NW	1						
		Spring	BLJA	Blue Jay	30	SW	1						
		Spring	SOSP	Song Sparrow	10	NW	1						
		Spring	AMRO	American Robin	60	SW	1						
		Spring	RBGR	Rose-breasted Grosbeak	50	W	1						
		Spring	RBWO	Red-bellied Woodpecker	70	W	1						
16-May-11	D	Spring	BAOR	Baltimore Oriole	30	W	1		748	757	6	0	70%
		Spring	WBNU	White-breasted Nuthatch	40	E	1						
		Spring	SOSP	Song Sparrow	5	S	1						
		Spring	EABL	Eastern Bluebird	20	S	1						
16-May-11	E	Spring	HOSP	House Sparrow	20	NW	6		651	700	4	10	80%
		Spring	WOTH	Wood Thrush	60	E	1						
		Spring	BLJA	Blue Jay	40	E	1						
		Spring	BAOR	Baltimore Oriole	50	S	2						
		Spring	RBNU	Red-breasted Nuthatch	20	E	1						
		Spring	CHSP	Chipping Sparrow	30	W	1						
		Spring	AMGO	American Goldfinch	10	NW	2						
		Spring	AMRO	American Robin	35	E	1						
		Spring	HOWR	House Wren	40	NE	1						
		Spring	SOSP	Song Sparrow	60	NW	1						
		Spring	BLJA	Blue Jay	20	E	1						
		Spring	AMRO	American Robin	60	S	1						
		Spring	BLJA	Blue Jay	20	E	1						
16-May-11	F	Spring	AMCR	American Crow	20	N	1		803	812	4	0	80%
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	TEWA	Tennessee Warbler	5	W	1						
		Spring	AMRE	American Redstart	5	W	1						
		Spring	AMCR	American Crow	15	SW	2						
		Spring	RBGR	Rose-breasted Grosbeak	20	N	1						
		Spring	WOTH	Wood Thrush	60	NW	1						
		Spring	AMRO	American Robin	30	N	1						
		Spring	FISP	Field Sparrow	60	SW	1						
16-May-11	G	Spring	COGR	Common Grackle	30	NE	1		636	645	4	7	80%
		Spring	AMRO	American Robin	100	N	1						
		Spring	ETTI	Tufted Titmouse	50	S	1						
		Spring	AMCR	American Crow	60	W	3						
		Spring	AMGO	American Goldfinch	25	S	2						
		Spring	INBU	Indigo Bunting	60	N	1						
		Spring	BLJA	Blue Jay	50	E	1						
		Spring	GCFL	Great Crested Flycatcher	40	S	1						
		Spring	AMRO	American Robin	20	SE	1						
		Spring	CHSP	Chipping Sparrow	20	W	1						
		Spring	AMRO	American Robin	40	S	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
16-May-11	H	Spring	OVEN	Ovenbird	50	W	1		623	632	4	7	100%
		Spring	AMCR	American Crow	80	S	1						
		Spring	AMRO	American Robin	30	E	1						
		Spring	RBGR	Rose-breasted Grosbeak	40	SW	1						
		Spring	RWBL	Red-winged Blackbird	60	NNW	1						
		Spring	AMRO	American Robin	30	E	1						
16-May-11	I	Spring	AMRO	American Robin	50	NE	2		610	619	4	9	100%
		Spring	EATO	Eastern Towhee	40	S	1						
		Spring	AMCR	American Crow	30	W	1						
		Spring	AMCR	American Crow	40	E	1						
		Spring	ACFL	Acadian Flycatcher	50	WSW	1						
		Spring	COGR	Common Grackle	30	SW	2						
		Spring	BAOR	Baltimore Oriole	40	S	1						
16-May-11	J	Spring	AMRO	American Robin	20	N	1		555	604	15	9	100%
		Spring	MODO	Mourning Dove	40	N	1						
		Spring	RBWO	Red-bellied Woodpecker	25	SW	1						
		Spring	AMRO	American Robin	40	NW	1						
		Spring	WOTH	Wood Thrush	40	SW	1						
		Spring	INBU	Indigo Bunting	25	N	1						
16-May-11	K	Spring	AMRO	American Robin	20	W	1		808	817			75%
		Spring	AMRO	American Robin	30	NW	1						
		Spring	HOSP	House Sparrow	20	N	4						
		Spring	CHSW	Chimney Swift	15	SE	1						
22-May-11	A	Spring	AMRO	American Robin	10	E	1		529	538	13	2	100%
		Spring	COGR	Common Grackle	20	E	2						
		Spring	AMCR	American Crow	60	SW	3						
		Spring	RBGR	Rose-breasted Grosbeak	25	NE	1						
		Spring	EWPE	Eastern Wood-Pewee	20	ESE	1						
		Spring	AMGO	American Goldfinch	30	WSW	3						
		Spring	RHWO	Red-headed Woodpecker	10	W	1						
		Spring	NOFL	Northern Flicker	60	SW	1						
		Spring	BLJA	Blue Jay	40	W	1						
		Spring	CHSP	Chipping Sparrow	50	N	1						
		Spring	AMRO	American Robin	40	E	1						
		Spring	SOSP	Song Sparrow	40	NW	1						
		Spring	BHCO	Brown-headed Cowbird	40	SSE	1						
22-May-11	B	Spring	HOLA	Horned Lark	60	NW	1		639	648	13	0	100%
		Spring	BLJA	Blue Jay	50	SE	1						
		Spring	RWBL	Red-winged Blackbird	10	SE	2						
		Spring	SOSP	Song Sparrow	40	W	1						
		Spring	INBU	Indigo Bunting	20	NW	1						
		Spring	ETTI	Tufted Titmouse	40	NE	1						
		Spring	BAOR	Baltimore Oriole	50	NE	1						
		Spring	WOTH	Wood Thrush	60	NE	1						
		Spring	BLJA	Blue Jay	45	W	1						
		Spring	NOCA	Northern Cardinal	30	NE	1						
		Spring	AMRO	American Robin	70	W	1						
22-May-11	C	Spring	RBGR	Rose-breasted Grosbeak	10	S	1		626	635	12	2	100%
		Spring	AMCR	American Crow	30	SW	4						
		Spring	SOSP	Song Sparrow	25	NW	1						
		Spring	AMRO	American Robin	30	E	1						
		Spring	BLJA	Blue Jay	30	SSW	1						
		Spring	BHCO	Brown-headed Cowbird	70	NW	1						
		Spring	ETTI	Tufted Titmouse	20	W	1						
		Spring	AMRO	American Robin	50	NW	1						
		Spring	FISP	Field Sparrow	60	NW	1						
		Spring	RWBL	Red-winged Blackbird	40	NW	3						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
22-May-11	D	Spring	RBWO	Red-bellied Woodpecker	30	NNE	1		611	12	12	0	100%
		Spring	AMRO	American Robin	80	NE	1						
		Spring	FISP	Field Sparrow	30	N	1						
		Spring	MODO	Mourning Dove	30	S	2						
		Spring	RBWO	Red-bellied Woodpecker	20	W	1						
		Spring	BLJA	Blue Jay	40	N	1						
		Spring	RWBL	Red-winged Blackbird	30	S	2						
		Spring	RBWO	Red-bellied Woodpecker	20	W	1						
		Spring	EABL	Eastern Bluebird	50	S	2						
		Spring	SOSP	Song Sparrow	60	W	1						
		Spring	WOTH	Wood Thrush	60	SW	1						
		Spring	KILL	Killdeer	30	SE	1						
22-May-11	E	Spring	CHSP	Chipping Sparrow	20	S	1		708	717	16	2	100%
		Spring	RBWO	Red-bellied Woodpecker	50	SW	1						
		Spring	RBGR	Rose-breasted Grosbeak	40	E	1						
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	BAOR	Baltimore Oriole	30	E	1						
		Spring	RBWO	Red-bellied Woodpecker	90	W	1						
		Spring	WOTH	Wood Thrush	40	W	1						
		Spring	NOFL	Northern Flicker	15	SE	1						
		Spring	AMRO	American Robin	20	N	1						
		Spring	AMRO	American Robin	15	S	1						
		Spring	AMRO	American Robin	40	NW	1						
		Spring	BLJA	Blue Jay	40	E	1						
		Spring	MODO	Mourning Dove	30	NW	1						
		Spring	HOSP	House Sparrow	40	NW	6						
		Spring	CHSP	Chipping Sparrow	30	SE	1						
		Spring	AMGO	American Goldfinch	10	NW	4						
		Spring	HOWR	House Wren	50	NE	1						
		Spring	BLJA	Blue Jay	20	E	1						
22-May-11	F	Spring	NOCA	Northern Cardinal	50	NE	1		556	605	13	2	100%
		Spring	WOTH	Wood Thrush	50	SW	1						
		Spring	HOWR	House Wren	30	W	1						
		Spring	MODO	Mourning Dove	25	S	2						
		Spring	FISP	Field Sparrow	70	SW	1						
		Spring	AMCR	American Crow	30	NE	3						
		Spring	AMRE	American Redstart	20	W	1						
		Spring	AMRO	American Robin	30	N	1						
		Spring	SOSP	Song Sparrow	30	S	1						
		Spring	AMRO	American Robin	20	NW	1						
		Spring	HOLA	Horned Lark	30	E	1						
		Spring	RBGR	Rose-breasted Grosbeak	20	N	1						
22-May-11	G	Spring	COGR	Common Grackle	30	NW	3		724	733	16	0	100%
		Spring	INBU	Indigo Bunting	40	W	1						
		Spring	MODO	Mourning Dove	40	NW	2						
		Spring	CHSP	Chipping Sparrow	25	W	1						
		Spring	KILL	Killdeer	50	NW	1						
		Spring	BLJA	Blue Jay	50	E	1						
		Spring	AMCR	American Crow	90	W	5						
		Spring	WOTH	Wood Thrush	50	NW	1						
		Spring	RBWO	Red-bellied Woodpecker	40	SE	1						
		Spring	MODO	Mourning Dove	80	NW	1						
		Spring	INBU	Indigo Bunting	30	SE	1						
		Spring	GCFL	Great Crested Flycatcher	30	SW	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
22-May-11	H	Spring	AMRO	American Robin	30	E	1		737	746	17	2	100%
		Spring	RBGR	Rose-breasted Grosbeak	50	W	1						
		Spring	RWBL	Red-winged Blackbird	60	NW	1						
		Spring	COGR	Common Grackle	40	NW	2						
		Spring	NOCA	Northern Cardinal	20	SE	1						
		Spring	BAOR	Baltimore Oriole	30	W	1						
		Spring	GRCA	Gray Catbird	40	SW	1						
		Spring	ETTI	Tufted Titmouse	40	W	1						
		Spring	CHSP	Chipping Sparrow	30	NE	1						
		Spring	BHCO	Brown-headed Cowbird	40	W	2						
		Spring	SOSP	Song Sparrow	50	W	1						
		Spring	BCCH	Black-capped Chickadee	50	S	1						
		Spring	AMCR	American Crow	90	S	3						
22-May-11	I	Spring	BLJA	Blue Jay	30	E	1		752	801	17	0	100%
		Spring	BHCO	Brown-headed Cowbird	50	W	2						
		Spring	EWPE	Eastern Wood-Pewee	40	N	1						
		Spring	BLJA	Blue Jay	50	SW	1						
		Spring	ETTI	Tufted Titmouse	40	W	1						
		Spring	NOCA	Northern Cardinal	40	W	1						
		Spring	SOSP	Song Sparrow	30	S	1						
		Spring	REVI	Red-eyed Vireo	20	W	1						
		Spring	BAOR	Baltimore Oriole	20	SW	1						
		Spring	HOWR	House Wren	50	NE	1						
		Spring	NOCA	Northern Cardinal	60	NW	1						
		Spring	AMCR	American Crow	80	N	5						
		Spring	COGR	Common Grackle	50	NW	3						
		Spring	CHSP	Chipping Sparrow	50	SW	1						
		Spring	AMRO	American Robin	20	N	1						
		Spring	WBNU	White-breasted Nuthatch	20	NW	1						
		Spring	MODO	Mourning Dove	90	S	1						
22-May-11	J	Spring	AMRO	American Robin	30	SE	1		529	538	13	2	100%
		Spring	ETTI	Tufted Titmouse	50	S	1						
		Spring	AMCR	American Crow	90	W	4						
		Spring	HOWR	House Wren	40	SW	1						
		Spring	MODO	Mourning Dove	30	N	1						
		Spring	DOWO	Downy Woodpecker	30	W	1						
		Spring	BHCO	Brown-headed Cowbird	20	NW	1						
		Spring	RBWO	Red-bellied Woodpecker	10	SW	1						
		Spring	AMRO	American Robin	30	N	1						
		Spring	NOFL	Northern Flicker	40	SW	1						
		Spring	ETTI	Tufted Titmouse	15	NW	1						
		Spring	WOTH	Wood Thrush	40	SW	1						
		Spring	INBU	Indigo Bunting	30	N	1						
		Spring	MODO	Mourning Dove	50	S	1						
		Spring	NOFL	Northern Flicker	30	SW	1						
22-May-11	K	Spring	AMRO	American Robin	10	E	1		542	601	13	2	100%
		Spring	BAOR	Baltimore Oriole	20	S	1						
		Spring	COGR	Common Grackle	20	W	4						
		Spring	RWBL	Red-winged Blackbird	30	N	2						
		Spring	BHCO	Brown-headed Cowbird	20	SW	1						
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	BLJA	Blue Jay	40	SW	1						
		Spring	BCCH	Black-capped Chickadee	20	W	1						
		Spring	AMRO	American Robin	30	NE	1						
		Spring	CHSP	Chipping Sparrow	20	N	1						
		Spring	MODO	Mourning Dove	40	NW	1						
		Spring	HOSP	House Sparrow	10	NW	4						
		Spring	SOSP	Song Sparrow	5	N	1						
		Spring	RBWO	Red-bellied Woodpecker	40	NW	1						
		Spring	WAVI	Warbling Vireo	25	N	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
23-May-11	A	Spring	NOCA	Northern Cardinal	25	NE	2		533	542	17	9	75%
		Spring	RHWO	Red-headed Woodpecker	20	W	2						
		Spring	COGR	Common Grackle	25	N	2						
		Spring	RBGR	Rose-breasted Grosbeak	25	NE	1						
		Spring	EWPE	Eastern Wood-Pewee	20	ESE	1						
		Spring	AMGO	American Goldfinch	30	WSW	3						
		Spring	RHWO	Red-headed Woodpecker	10	W	1						
		Spring	NOFL	Northern Flicker	60	SW	1						
		Spring	BLJA	Blue Jay	40	W	1						
		Spring	EWPE	Eastern Wood-Pewee	15	E	1						
		Spring	RBWO	Red-bellied Woodpecker	50	SW	1						
		Spring	AMCR	American Crow	20	W	4						
		Spring	BHCO	Brown-headed Cowbird	40	SSE	1						
		Spring	WOTH	Wood Thrush	50	SW	1						
		Spring	WOTH	Wood Thrush	40	SW	1						
		Spring	AMRO	American Robin	50	N	1						
		Spring	WBNU	White-breasted Nuthatch	60	E	1						
		Spring	AMCR	American Crow	70	SSW	6						
		Spring	AMGO	American Goldfinch	30	W	2						
23-May-11	B	Spring	RWBL	Red-winged Blackbird	20	SW	7		644	653	17	0	85%
		Spring	AMCR	American Crow	30	SW	4						
		Spring	WOTH	Wood Thrush	50	NE	1						
		Spring	CHSP	Chipping Sparrow	40	W	1						
		Spring	AMRO	American Robin	15	S	2						
		Spring	EUST	European Starling	20	W	2						
		Spring	BAOR	Baltimore Oriole	40	NE	1						
		Spring	HOLA	Horned Lark	70	NW	1						
		Spring	HOSP	House Sparrow	10	S	3						
		Spring	REVI	Red-eyed Vireo	30	NNE	1						
		Spring	BLJA	Blue Jay	50	SE	1						
		Spring	AMCR	American Crow	70	NW	2						
		Spring	BLJA	Blue Jay	45	W	1						
		Spring	NOCA	Northern Cardinal	30	NE	1						
		Spring	AMRO	American Robin	70	W	1						
		Spring	INBU	Indigo Bunting	10	SE	1						
		Spring	SOSP	Song Sparrow	40	W	1						
		Spring	INBU	Indigo Bunting	20	NW	1						
23-May-11	C	Spring	BHCO	Brown-headed Cowbird	40	W	1		632	641	17	9	80%
		Spring	AMRO	American Robin	30	SW	1						
		Spring	RBGR	Rose-breasted Grosbeak	20	S	1						
		Spring	BLJA	Blue Jay	30	S	1						
		Spring	SOSP	Song Sparrow	30	NW	1						
		Spring	AMRO	American Robin	20	E	1						
		Spring	ETTI	Tufted Titmouse	20	E	1						
		Spring	CHSP	Chipping Sparrow	30	E	1						
		Spring	RBWO	Red-bellied Woodpecker	60	WNW	1						
23-May-11	D	Spring	AMGO	American Goldfinch	30	E	1		619	628	15	5	90%
		Spring	AMRO	American Robin	20	N	1						
		Spring	FISP	Field Sparrow	40	N	1						
		Spring	EABL	Eastern Bluebird	40	S	1						
		Spring	RBWO	Red-bellied Woodpecker	50	W	1						
		Spring	BAOR	Baltimore Oriole	20	W	1						
		Spring	SOSP	Song Sparrow	10	S	1						
		Spring	MODO	Mourning Dove	30	S	2						
		Spring	AMRO	American Robin	50	SW	1						
		Spring	KILL	Killdeer	40	SW	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
23-May-11	E	Spring	CHSP	Chipping Sparrow	15	S	1		711	720	16	9	75%
		Spring	RBWO	Red-bellied Woodpecker	50	SW	1						
		Spring	RBGR	Rose-breasted Grosbeak	30	E	1						
		Spring	AMRO	American Robin	40	SW	1						
		Spring	REVI	Red-eyed Vireo	30	E	1						
		Spring	MODO	Mourning Dove	40	W	2						
		Spring	WOTH	Wood Thrush	60	W	1						
		Spring	NOFL	Northern Flicker	10	E	1						
		Spring	AMRO	American Robin	15	S	1						
		Spring	AMGO	American Goldfinch	20	W	1						
		Spring	MODO	Mourning Dove	50	S	1						
		Spring	BLJA	Blue Jay	40	E	1						
		Spring	HOWR	House Wren	40	NE	1						
		Spring	HOSP	House Sparrow	20	NW	5						
23-May-11	F	Spring	BRTH	Brown Thrasher	40	N	1		605	614	17	9	80%
		Spring	AMRO	American Robin	40	NW	1						
		Spring	HOLA	Horned Lark	50	E	2						
		Spring	RBGR	Rose-breasted Grosbeak	20	NW	1						
		Spring	MODO	Mourning Dove	30	S	1						
		Spring	FISP	Field Sparrow	60	SW	1						
		Spring	AMCR	American Crow	40	N	3						
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	AMCR	American Crow	15	SW	1						
		Spring	WOTH	Wood Thrush	50	NW	1						
		Spring	HOWR	House Wren	40	W	1						
		Spring	HOLA	Horned Lark	70	SE	1						
		Spring	NOCA	Northern Cardinal	50	N	1						
23-May-11	G	Spring	INBU	Indigo Bunting	40	W	1		726	735	16	9	75%
		Spring	MODO	Mourning Dove	30	N	1						
		Spring	RBWO	Red-bellied Woodpecker	30	W	1						
		Spring	KILL	Killdeer	50	NW	1						
		Spring	AMCR	American Crow	90	W	5						
		Spring	MODO	Mourning Dove	60	N	2						
		Spring	BLJA	Blue Jay	30	E	1						
		Spring	AMRO	American Robin	60	S	1						
		Spring	WOTH	Wood Thrush	50	NW	1						
		Spring	CHSP	Chipping Sparrow	30	W	1						
		Spring	WOTH	Wood Thrush	50	NW	1						
		Spring	TUVU	Turkey Vulture	100	S	3						
		Spring	GCFL	Great Crested Flycatcher	40	S	1						
		Spring	ETTI	Tufted Titmouse	50	S	1						
23-May-11	H	Spring	AMRO	American Robin	30	E	1		740	749	18	9	85%
		Spring	RBGR	Rose-breasted Grosbeak	40	W	1						
		Spring	MODO	Mourning Dove	30	NE	1						
		Spring	RWBL	Red-winged Blackbird	50	NW	3						
		Spring	BAOR	Baltimore Oriole	40	SW	1						
		Spring	ETTI	Tufted Titmouse	50	W	1						
		Spring	EWPE	Eastern Wood-Pewee	30	E	1						
		Spring	EUST	European Starling	20	SW	3						
		Spring	RWBL	Red-winged Blackbird	60	NW	1						
		Spring	SOSP	Song Sparrow	50	S	1						
		Spring	NOCA	Northern Cardinal	30	SW	1						
		Spring	WIFL	Willow Flycatcher	50	W	1						
		Spring	AMRO	American Robin	60	W	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
23-May-11	I	Spring	BLJA	Blue Jay	30	NE	1		755	804	17	5	90%
		Spring	MODO	Mourning Dove	70	S	1						
		Spring	COGR	Common Grackle	40	NE	2						
		Spring	CHSP	Chipping Sparrow	50	SW	1						
		Spring	ETTI	Tufted Titmouse	50	W	1						
		Spring	BAOR	Baltimore Oriole	30	SW	1						
		Spring	HOWR	House Wren	40	NE	1						
		Spring	COGR	Common Grackle	20	S	1						
		Spring	BCCH	Black-capped Chickadee	30	NE	1						
		Spring	EWPE	Eastern Wood-Pewee	40	NW	1						
		Spring	AMCR	American Crow	60	N	1						
		Spring	NOCA	Northern Cardinal	40	S	1						
23-May-11	J	Spring	AMRO	American Robin	30	SE	1		536	545	15	9	80%
		Spring	ETTI	Tufted Titmouse	50	S	1						
		Spring	WOTH	Wood Thrush	40	S	1						
		Spring	HOWR	House Wren	50	SW	1						
		Spring	BHCO	Brown-headed Cowbird	20	NW	1						
		Spring	RBWO	Red-bellied Woodpecker	10	SW	1						
		Spring	GRCA	Gray Catbird	10	NW	1						
		Spring	ETTI	Tufted Titmouse	15	NW	1						
		Spring	MODO	Mourning Dove	30	N	1						
		Spring	INBU	Indigo Bunting	20	N	1						
		Spring	RWBL	Red-winged Blackbird	40	SE	1						
		Spring	AMCR	American Crow	90	W	6						
23-May-11	K	Spring	ETTI	Tufted Titmouse	20	NW	1		549	558	15	9	85%
		Spring	HOSP	House Sparrow	10	SE	4						
		Spring	BLJA	Blue Jay	20	SW	1						
		Spring	RBWO	Red-bellied Woodpecker	40	NW	1						
		Spring	BHCO	Brown-headed Cowbird	20	SW	1						
		Spring	AMRO	American Robin	10	E	1						
		Spring	CHSP	Chipping Sparrow	20	NW	1						
		Spring	MODO	Mourning Dove	40	NW	2						
		Spring	HOSP	House Sparrow	20	NW	5						
		Spring	SOSP	Song Sparrow	10	N	1						
		Spring	AMRO	American Robin	30	NW	1						
		Spring	CHSW	Chimney Swift	20	SW	2						
		Spring	COGR	Common Grackle	30	W	4						
		Spring	BLJA	Blue Jay	40	NW	2						
		Spring	BAOR	Baltimore Oriole	20	S	1						
29-May-11	A	Spring	WOTH	Wood Thrush	40	SW	1		710	719	20	0	0%
		Spring	AMRO	American Robin	50	N	1						
		Spring	WBNU	White-breasted Nuthatch	60	E	1						
		Spring	AMCR	American Crow	70	SSW	8						
		Spring	NOCA	Northern Cardinal	40	SE	1						
		Spring	AMGO	American Goldfinch	30	WSW	3						
		Spring	RHWO	Red-headed Woodpecker	10	W	1						
		Spring	NOFL	Northern Flicker	60	SW	1						
		Spring	BLJA	Blue Jay	40	W	1						
		Spring	CHSP	Chipping Sparrow	50	N	1						
		Spring	AMRO	American Robin	40	E	1						
		Spring	SOSP	Song Sparrow	40	NW	1						
		Spring	BHCO	Brown-headed Cowbird	40	SSE	1						
		Spring	WOTH	Wood Thrush	50	SW	1						
		Spring	COGR	Common Grackle	20	E	2						
		Spring	AMCR	American Crow	60	SW	3						
		Spring	RBGR	Rose-breasted Grosbeak	25	NE	1						
		Spring	EWPE	Eastern Wood-Pewee	20	ESE	1						
		Spring	AMGO	American Goldfinch	30	W	4						
		Spring	AMRO	American Robin	10	E	1						
		Spring	COGR	Common Grackle	20	E	2						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
29-May-11	B	Spring	HOLA	Horned Lark	60	NW	1		725	734	20	0	0%
		Spring	WOTH	Wood Thrush	50	SE	1						
		Spring	RWBL	Red-winged Blackbird	10	SE	2						
		Spring	SOSP	Song Sparrow	40	W	1						
		Spring	INBU	Indigo Bunting	20	NW	1						
		Spring	ETTI	Tufted Titmouse	40	NE	1						
		Spring	BAOR	Baltimore Oriole	40	NE	1						
		Spring	HOLA	Horned Lark	70	NW	1						
		Spring	HOSP	House Sparrow	10	S	3						
		Spring	REVI	Red-eyed Vireo	30	NNE	1						
		Spring	WAVI	Warbling Vireo	20	W	1						
		Spring	AMCR	American Crow	70	NW	2						
		Spring	WOTH	Wood Thrush	45	W	1						
		Spring	NOCA	Northern Cardinal	30	NE	1						
		Spring	AMRO	American Robin	70	W	1						
29-May-11	C	Spring	BHCO	Brown-headed Cowbird	50	W	1		738	747	21	0	0%
		Spring	FISP	Field Sparrow	40	NW	1						
		Spring	RBGR	Rose-breasted Grosbeak	20	S	1						
		Spring	BCCH	Black-capped Chickadee	20	S	1						
		Spring	BLJA	Blue Jay	20	S	1						
		Spring	SOSP	Song Sparrow	30	NW	1						
		Spring	GCFL	Great Crested Flycatcher	30	S	1						
		Spring	BHCO	Brown-headed Cowbird	100	NW	1						
		Spring	AMRO	American Robin	50	SW	1						
		Spring	BRTH	Brown Thrasher	60	W	1						
		Spring	CHSP	Chipping Sparrow	30	E	1						
		Spring	RBGR	Rose-breasted Grosbeak	50	W	1						
		Spring	RBWO	Red-bellied Woodpecker	40	W	1						
29-May-11	D	Spring	AMGO	American Goldfinch	30	E	2		742	751	22	0	0%
		Spring	AMRO	American Robin	15	N	1						
		Spring	AMRO	American Robin	80	NE	1						
		Spring	MODO	Mourning Dove	30	SW	1						
		Spring	EABL	Eastern Bluebird	50	S	2						
		Spring	WBNU	White-breasted Nuthatch	40	E	1						
		Spring	FISP	Field Sparrow	60	N	1						
		Spring	WOTH	Wood Thrush	60	SW	1						
		Spring	BLJA	Blue Jay	30	W	1						
		Spring	RBWO	Red-bellied Woodpecker	30	E	1						
		Spring	KILL	Killdeer	30	SW	1						
29-May-11	E	Spring	AMRO	American Robin	30	N	1		656	705	20	0	0%
		Spring	MODO	Mourning Dove	20	S	2						
		Spring	NOFL	Northern Flicker	40	W	1						
		Spring	BLJA	Blue Jay	20	S	1						
		Spring	AMRO	American Robin	50	SW	1						
		Spring	REVI	Red-eyed Vireo	25	E	1						
		Spring	MODO	Mourning Dove	30	W	1						
		Spring	CHSP	Chipping Sparrow	20	S	1						
		Spring	BAOR	Baltimore Oriole	50	E	1						
		Spring	AMGO	American Goldfinch	20	W	1						
		Spring	RBWO	Red-bellied Woodpecker	60	SW	1						
		Spring	WBNU	White-breasted Nuthatch	50	NE	1						
		Spring	BLJA	Blue Jay	40	E	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
29-May-11	F	Spring	BRTH	Brown Thrasher	40	N	1		757	806	22	0	0%
		Spring	AMRO	American Robin	50	NW	1						
		Spring	HOLA	Horned Lark	40	E	2						
		Spring	RBGR	Rose-breasted Grosbeak	20	NW	1						
		Spring	AMCR	American Crow	80	E	4						
		Spring	COGR	Common Grackle	20	S	1						
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	WOTH	Wood Thrush	60	NW	1						
		Spring	FISP	Field Sparrow	60	SW	1						
		Spring	AMCR	American Crow	40	W	2						
		Spring	NOCA	Northern Cardinal	25	NE	1						
		Spring	COGR	Common Grackle	10	N	2						
		Spring	AMGO	American Goldfinch	10	NW	3						
		Spring	FISP	Field Sparrow	100	SE	1						
29-May-11	G	Spring	TUVU	Turkey Vulture	20	E	3		627	636	19	0	0%
		Spring	INBU	Indigo Bunting	40	W	1						
		Spring	MODO	Mourning Dove	35	N	2						
		Spring	RBWO	Red-bellied Woodpecker	20	W	1						
		Spring	KILL	Killdeer	40	NW	1						
		Spring	AMCR	American Crow	100	W	1						
		Spring	INBU	Indigo Bunting	40	SE	1						
		Spring	WOTH	Wood Thrush	50	NW	1						
		Spring	MODO	Mourning Dove	70	S	2						
		Spring	BLJA	Blue Jay	20	E	1						
		Spring	INBU	Indigo Bunting	20	SE	1						
		Spring	CHSP	Chipping Sparrow	30	W	1						
		Spring	AMRO	American Robin	50	S	1						
		Spring	GCFL	Great Crested Flycatcher	60	S	1						
		Spring	AMRO	American Robin	40	W	1						
29-May-11	H	Spring	EWPE	Eastern Wood-Pewee	20	E	1		641	650	20	0	0%
		Spring	EUST	European Starling	30	SW	2						
		Spring	MODO	Mourning Dove	40	NE	1						
		Spring	COGR	Common Grackle	50	NW	2						
		Spring	BAOR	Baltimore Oriole	30	SW	1						
		Spring	SOSP	Song Sparrow	50	S	1						
		Spring	BCCH	Black-capped Chickadee	30	W	1						
		Spring	RWBL	Red-winged Blackbird	10	S	3						
		Spring	SOSP	Song Sparrow	60	NW	1						
		Spring	AMRO	American Robin	30	NW	1						
		Spring	GBHE	Great Blue Heron	70	N	1						
		Spring	RWBL	Red-winged Blackbird	60	NW	3						
		Spring	AMRO	American Robin	30	E	1						
29-May-11	I	Spring	NOCA	Northern Cardinal	30	W	1		614	623	18	0	0%
		Spring	MODO	Mourning Dove	70	S	2						
		Spring	COGR	Common Grackle	50	N	1						
		Spring	CHSP	Chipping Sparrow	50	SW	1						
		Spring	RBWO	Red-bellied Woodpecker	60	NW	1						
		Spring	BAOR	Baltimore Oriole	25	SW	1						
		Spring	HOWR	House Wren	20	NE	1						
		Spring	COGR	Common Grackle	30	S	4						
		Spring	BCCH	Black-capped Chickadee	30	NE	1						
		Spring	WBNU	White-breasted Nuthatch	40	W	1						
		Spring	COGR	Common Grackle	70	S	5						
		Spring	NOCA	Northern Cardinal	40	S	1						
		Spring	BHCO	Brown-headed Cowbird	40	W	1						
		Spring	EATO	Eastern Towhee	30	S	2						
		Spring	RWBL	Red-winged Blackbird	20	NE	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
29-May-11	J	Spring	WOTH	Wood Thrush	30	E	1		556	605	18	0	0%
		Spring	WBNU	White-breasted Nuthatch	40	S	1						
		Spring	AMCR	American Crow	100	W	5						
		Spring	MODO	Mourning Dove	30	N	2						
		Spring	BHCO	Brown-headed Cowbird	20	NW	1						
		Spring	HOWR	House Wren	30	SE	1						
		Spring	NOFL	Northern Flicker	60	W	1						
		Spring	ETTI	Tufted Titmouse	60	W	1						
		Spring	AMRO	American Robin	40	NW	1						
		Spring	INBU	Indigo Bunting	20	N	1						
		Spring	AMRO	American Robin	50	N	1						
		Spring	RBWO	Red-bellied Woodpecker	10	SW	1						
29-May-11	K	Spring	AMRO	American Robin	25	SW	1		542	551	18	0	0%
		Spring	FISP	Field Sparrow	40	NE	1						
		Spring	PIWO	Pileated Woodpecker	60	NW	1						
		Spring	KILL	Killdeer	50	SE	3						
		Spring	MODO	Mourning Dove	20	S	1						
		Spring	RWBL	Red-winged Blackbird	20	E	1						
		Spring	BAOR	Baltimore Oriole	15	S	1						
		Spring	DOWO	Downy Woodpecker	5	NW	1						
		Spring	CHSP	Chipping Sparrow	15	NW	1						
		Spring	EUST	European Starling	20	NW	3						
		Spring	CAGO	Canada Goose	100	NW	4						
		Spring	SOSP	Song Sparrow	20	N	1						
		Spring	ETTI	Tufted Titmouse	20	NW	1						
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	WBNU	White-breasted Nuthatch	30	NNW	1						
30-May-11	A	Spring	NOCA	Northern Cardinal	25	NE	2		700	709	18	9	85%
		Spring	RHWO	Red-headed Woodpecker	20	W	2						
		Spring	COGR	Common Grackle	25	N	2						
		Spring	RBGR	Rose-breasted Grosbeak	25	NE	1						
		Spring	EWPE	Eastern Wood-Pewee	20	ESE	1						
		Spring	AMGO	American Goldfinch	30	W	5						
		Spring	RHWO	Red-headed Woodpecker	20	W	1						
		Spring	WOTH	Wood Thrush	60	SW	1						
		Spring	BLJA	Blue Jay	40	W	1						
		Spring	CHSP	Chipping Sparrow	15	E	1						
		Spring	BHCO	Brown-headed Cowbird	50	SW	1						
		Spring	AMCR	American Crow	20	W	4						
		Spring	BHCO	Brown-headed Cowbird	40	SSE	1						
		Spring	WOTH	Wood Thrush	50	SW	1						
		Spring	WOTH	Wood Thrush	40	NW	1						
		Spring	AMRO	American Robin	50	N	1						
		Spring	WBNU	White-breasted Nuthatch	60	E	1						
		Spring	AMCR	American Crow	70	SSW	8						
		Spring	AMGO	American Goldfinch	30	W	4						
		Spring	AMRO	American Robin	10	E	1						
		Spring	COGR	Common Grackle	30	E	2						
		Spring	AMCR	American Crow	45	SW	3						
30-May-11	B	Spring	ETTI	Tufted Titmouse	20	SW	1		645	654	18	9	85%
		Spring	AMCR	American Crow	30	SW	4						
		Spring	AMRO	American Robin	20	E	1						
		Spring	CHSP	Chipping Sparrow	40	W	1						
		Spring	AMRO	American Robin	15	S	2						
		Spring	EUST	European Starling	20	W	2						
		Spring	BAOR	Baltimore Oriole	40	NE	1						
		Spring	HOLA	Horned Lark	70	NW	1						
		Spring	HOSP	House Sparrow	10	S	3						
		Spring	REVI	Red-eyed Vireo	30	NNE	1						
		Spring	BLJA	Blue Jay	50	SE	1						
		Spring	AMCR	American Crow	70	NW	2						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
30-May-11	C	Spring	HOLA	Horned Lark	50	NW	2		632	641	18	9	80%
		Spring	AMRO	American Robin	30	E	1						
		Spring	ETTI	Tufted Titmouse	20	E	1						
		Spring	AMCR	American Crow	40	W	1						
		Spring	CHSP	Chipping Sparrow	30	E	1						
		Spring	AMRO	American Robin	50	NW	1						
		Spring	FISP	Field Sparrow	50	NW	1						
		Spring	BLJA	Blue Jay	30	SW	1						
		Spring	RBGR	Rose-breasted Grosbeak	40	W	1						
		Spring	RWBL	Red-winged Blackbird	50	NW	2						
		Spring	SOSP	Song Sparrow	15	NW	1						
		Spring	RBWO	Red-bellied Woodpecker	60	W	1						
30-May-11	D	Spring	HOWR	House Wren	20	E	1		617	626	17	9	90%
		Spring	RBWO	Red-bellied Woodpecker	30	NE	1						
		Spring	FISP	Field Sparrow	40	N	1						
		Spring	RBWO	Red-bellied Woodpecker	40	SW	1						
		Spring	BAOR	Baltimore Oriole	20	W	1						
		Spring	SOSP	Song Sparrow	10	S	1						
		Spring	HOWR	House Wren	30	E	1						
		Spring	ETTI	Tufted Titmouse	20	W	1						
		Spring	AMRO	American Robin	10	N	1						
		Spring	AMGO	American Goldfinch	20	E	1						
30-May-11	E	Spring	CHSP	Chipping Sparrow	10	S	1		715	724	18	4	85%
		Spring	RBWO	Red-bellied Woodpecker	50	SW	1						
		Spring	RBGR	Rose-breasted Grosbeak	30	E	1						
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	BAOR	Baltimore Oriole	30	E	1						
		Spring	RBWO	Red-bellied Woodpecker	90	W	1						
		Spring	WOTH	Wood Thrush	50	W	1						
		Spring	AMRO	American Robin	20	S	1						
		Spring	NOFL	Northern Flicker	40	W	1						
		Spring	BLJA	Blue Jay	30	E	1						
		Spring	HOSP	House Sparrow	40	NW	6						
		Spring	WOTH	Wood Thrush	60	E	1						
		Spring	HOWR	House Wren	40	NE	1						
		Spring	EWPE	Eastern Wood-Pewee	40	NE	1						
		Spring	AMCR	American Crow	100	NW	4						
30-May-11	F	Spring	NOCA	Northern Cardinal	40	NE	1		603	612	16	5	90%
		Spring	WOTH	Wood Thrush	50	SW	1						
		Spring	HOWR	House Wren	50	W	1						
		Spring	MODO	Mourning Dove	30	S	1						
		Spring	FISP	Field Sparrow	60	SW	1						
		Spring	AMCR	American Crow	25	NE	2						
		Spring	RBGR	Rose-breasted Grosbeak	25	NE	1						
		Spring	AMRO	American Robin	40	NE	1						
		Spring	AMRO	American Robin	30	W	1						
		Spring	HOLA	Horned Lark	20	E	1						
		Spring	RHOW	Red-headed Woodpecker	30	W	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
30-May-11	G	Spring	COGR	Common Grackle	20	N	1		730	739	20	5	90%
		Spring	GCFL	Great Crested Flycatcher	50	S	1						
		Spring	AMRO	American Robin	40	W	1						
		Spring	CHSP	Chipping Sparrow	30	W	1						
		Spring	BLJA	Blue Jay	70	E	1						
		Spring	AMGO	American Goldfinch	10	W	3						
		Spring	AMRO	American Robin	50	S	1						
		Spring	MODO	Mourning Dove	10	N	2						
		Spring	KILL	Killdeer	50	NW	1						
		Spring	RBWO	Red-bellied Woodpecker	50	SE	1						
		Spring	WOTH	Wood Thrush	60	NW	1						
		Spring	BLJA	Blue Jay	40	W	1						
		Spring	TUVU	Turkey Vulture	10	E	1						
		Spring	MODO	Mourning Dove	30	NW	1						
		Spring	ETTI	Tufted Titmouse	50	S	1						
		Spring	AMRO	American Robin	20	SE	1						
30-May-11	H	Spring	AMRO	American Robin	30	E	1		744	753	20	2	100%
		Spring	RBGR	Rose-breasted Grosbeak	40	W	1						
		Spring	RWBL	Red-winged Blackbird	50	NW	5						
		Spring	NOCA	Northern Cardinal	15	SE	1						
		Spring	GRCA	Gray Catbird	40	SW	1						
		Spring	ETTI	Tufted Titmouse	40	W	1						
		Spring	CHSP	Chipping Sparrow	30	NE	1						
		Spring	NOCA	Northern Cardinal	50	SW	1						
		Spring	BCCH	Black-capped Chickadee	70	S	1						
		Spring	BAOR	Baltimore Oriole	50	N	1						
		Spring	AMCR	American Crow	80	S	1						
30-May-11	I	Spring	BLJA	Blue Jay	30	E	1		800	809	20	9	85%
		Spring	BHCO	Brown-headed Cowbird	50	W	1						
		Spring	EWPE	Eastern Wood-Pewee	50	N	1						
		Spring	BLJA	Blue Jay	50	SW	1						
		Spring	ETTI	Tufted Titmouse	60	W	1						
		Spring	NOCA	Northern Cardinal	50	S	1						
		Spring	SOSP	Song Sparrow	40	S	1						
		Spring	REVI	Red-eyed Vireo	20	W	1						
		Spring	EAKI	Eastern Kingbird	20	W	1						
		Spring	AMCR	American Crow	60	N	3						
		Spring	CHSP	Chipping Sparrow	50	SW	1						
		Spring	MODO	Mourning Dove	80	S	1						
		Spring	AMRO	American Robin	50	NE	1						
		Spring	AMCR	American Crow	30	W	1						
30-May-11	J	Spring	AMRO	American Robin	30	SE	1		537	546	16	9	85%
		Spring	ETTI	Tufted Titmouse	50	S	1						
		Spring	HOWR	House Wren	30	SW	1						
		Spring	DOWO	Downy Woodpecker	20	W	1						
		Spring	AMRO	American Robin	20	E	1						
		Spring	RBWO	Red-bellied Woodpecker	10	W	1						
		Spring	GRCA	Gray Catbird	10	E	1						
		Spring	AMRO	American Robin	20	N	1						
		Spring	INBU	Indigo Bunting	40	W	1						
		Spring	WOTH	Wood Thrush	30	S	1						
30-May-11	K	Spring	ETTI	Tufted Titmouse	20	NW	1		549	558	16	9	80%
		Spring	HOSP	House Sparrow	20	SE	6						
		Spring	BLJA	Blue Jay	15	SW	1						
		Spring	BHCO	Brown-headed Cowbird	20	SW	2						
		Spring	AMRO	American Robin	30	E	4						
		Spring	MODO	Mourning Dove	30	NW	1						
		Spring	SOSP	Song Sparrow	30	SW	1						
		Spring	BCCH	Black-capped Chickadee	40	S	1						
		Spring	AMRO	American Robin	50	S	1						
		Spring	BAOR	Baltimore Oriole	25	S	1						
		Spring	RBWO	Red-bellied Woodpecker	50	NW	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
18-Aug-11	A	Autumn	NOCA	Northern Cardinal	5	W	1		816	825	21	0	0%
		Autumn	AMRO	American Robin	5	S	1						
		Autumn	INBU	Indigo Bunting	10	E	2						
		Autumn	BLJA	Blue Jay	25	SW	2						
		Autumn	INBU	Indigo Bunting	70	NW	1						
		Autumn	BAOR	Baltimore Oriole	40	E	1						
		Autumn	MODO	Mourning Dove	60	W	2						
18-Aug-11	B	Autumn	AMCR	American Crow	30	W	2		832	841	22	2	0%
		Autumn	WITU	Wild Turkey	80	W	1						
		Autumn	SOSP	Song Sparrow	20	SW	1						
		Autumn	AMRO	American Robin	20	W	1						
		Autumn	AMRO	American Robin	70	E	4						
18-Aug-11	C	Autumn	AMCR	American Crow	100	SE	4		846	855	22	0	0%
		Autumn	NOCA	Northern Cardinal	45	SW	1						
		Autumn	RTHA	Red-tailed Hawk	70	W	1						
		Autumn	RBWO	Red-bellied Woodpecker	30	SE	1						
18-Aug-11	D	Autumn	AMCR	American Crow	30	NW	3		903	912	21	2	0%
		Autumn	AMCR	American Crow	70	NW	1						
		Autumn	EWPE	Eastern Wood-Pewee	20	N	1						
		Autumn	SOSP	Song Sparrow	30	S	1						
		Autumn	FISP	Field Sparrow	30	SW	1						
18-Aug-11	E	Autumn	BLJA	Blue Jay	20	NW	2		800	809	20	0	0%
		Autumn	AMGO	American Goldfinch	5	S	2						
		Autumn	MODO	Mourning Dove	70	N	4						
		Autumn	EUST	European Starling	80	N	2						
		Autumn	MODO	Mourning Dove	30	W	2						
		Autumn	EWPE	Eastern Wood-Pewee	25	NW	1						
		Autumn	MODO	Mourning Dove	40	S	1						
		Autumn	EUST	European Starling	60	S	4						
		Autumn	AMRO	American Robin	30	SE	1						
		Autumn	SOSP	Song Sparrow	20	SW	1						
		Autumn	CHSP	Chipping Sparrow	10	S	1						
18-Aug-11	F	Autumn	EWPE	Eastern Wood-Pewee	40	S	1		632	641	16	0	5%
		Autumn	CHSW	Chimney Swift	5	W	1						
		Autumn	SOSP	Song Sparrow	50	SW	1						
		Autumn	EATO	Eastern Towhee	60	NW	1						
		Autumn	FISP	Field Sparrow	10	NW	1						
		Autumn	SOSP	Song Sparrow	5	W	2						
		Autumn	FISP	Field Sparrow	60	E	1						
		Autumn	NOCA	Northern Cardinal	60	S	1						
		Autumn	YBCU	Yellow-billed Cuckoo	40	W	1						
		Autumn	AMRO	American Robin	70	E	1						
18-Aug-11	G	Autumn	AMCR	American Crow	100	SW	2		745	754	21	0	0%
		Autumn	AMCR	American Crow	90	N	1						
		Autumn	HOSP	House Sparrow	30	NW	3						
		Autumn	INBU	Indigo Bunting	20	NW	1						
18-Aug-11	H	Autumn	GRCA	Gray Catbird	2	N	1		732	741	21	0	0%
		Autumn	CARW	Carolina Wren	40	S	1						
		Autumn	GRCA	Gray Catbird	30	SW	1						
		Autumn	AMGO	American Goldfinch	40	SW	4						
		Autumn	HOWR	House Wren	20	SW	2						
		Autumn	MODO	Mourning Dove	40	SE	1						
		Autumn	NOCA	Northern Cardinal	30	S	1						
		Autumn	CARW	Carolina Wren	60	NW	1						
		Autumn	BHCO	Brown-headed Cowbird	5	S	1						
18-Aug-11	I	Autumn	AMCR	American Crow	90	E	1		715	724	18	0	0%
		Autumn	NOCA	Northern Cardinal	30	NE	1						
		Autumn	NOCA	Northern Cardinal	20	S	1						
		Autumn	DOWO	Downy Woodpecker	30	SW	1						
		Autumn	RBWO	Red-bellied Woodpecker	40	SW	1						
		Autumn	ETTI	Tufted Titmouse	15	W	1						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
18-Aug-11	J	Autumn	BLJA	Blue Jay	20	NW	1		701	710	17	0	0%
		Autumn	AMRO	American Robin	30	N	4						
		Autumn	INBU	Indigo Bunting	20	SE	1						
		Autumn	AMRO	American Robin	25	NW	1						
		Autumn	WBNU	White-breasted Nuthatch	10	E	1						
		Autumn	SOSP	Song Sparrow	25	NE	1						
		Autumn	AMGO	American Goldfinch	30	NW	1						
		Autumn	MODO	Mourning Dove	30	N	3						
		Autumn	REVI	Red-eyed Vireo	10	W	1						
		Autumn	EWPE	Eastern Wood-Pewee	20	E	1						
18-Aug-11	K	Autumn	BLJA	Blue Jay	30	W	2		646	655	16	0	0%
		Autumn	BLJA	Blue Jay	40	SW	1						
		Autumn	HOFI	House Finch	20	W	4						
		Autumn	BLJA	Blue Jay	50	N	1						
		Autumn	BLJA	Blue Jay	40	S	1						
		Autumn	AMRO	American Robin	60	NNE	1						
		Autumn	HOSP	House Sparrow	20	N	2						
1-Sep-11	A	Autumn	NOCA	Northern Cardinal	5	W	1		816	825	21	0	0%
		Autumn	AMRO	American Robin	5	S	1						
		Autumn	INBU	Indigo Bunting	10	E	2						
		Autumn	BLJA	Blue Jay	25	SW	2						
		Autumn	INBU	Indigo Bunting	70	NW	1						
		Autumn	BAOR	Baltimore Oriole	40	E	1						
1-Sep-11	B	Autumn	MODO	Mourning Dove	60	W	2		832	841	22	2	0%
		Autumn	AMCR	American Crow	30	W	2						
		Autumn	WITU	Wild Turkey	80	W	1						
		Autumn	SOSP	Song Sparrow	20	SW	1						
		Autumn	AMRO	American Robin	20	W	1						
1-Sep-11	C	Autumn	AMRO	American Robin	70	E	4		846	855	23	0	0%
		Autumn	AMCR	American Crow	100	SE	4						
		Autumn	NOCA	Northern Cardinal	45	SW	1						
		Autumn	RTHA	Red-tailed Hawk	70	W	1						
1-Sep-11	D	Autumn	RBWO	Red-bellied Woodpecker	30	SE	1		903	912	21	2	0%
		Autumn	AMCR	American Crow	30	NW	3						
		Autumn	AMCR	American Crow	70	NW	1						
		Autumn	EWPE	Eastern Wood-Pewee	20	N	1						
		Autumn	SOSP	Song Sparrow	30	S	1						
1-Sep-11	E	Autumn	FISP	Field Sparrow	30	SW	1		800	809	20	0	0%
		Autumn	BLJA	Blue Jay	20	NW	2						
		Autumn	AMGO	American Goldfinch	5	S	2						
		Autumn	MODO	Mourning Dove	70	NW	4						
		Autumn	EUST	European Starling	80	NW	2						
		Autumn	MODO	Mourning Dove	30	W	2						
		Autumn	EWPE	Eastern Wood-Pewee	25	NW	1						
		Autumn	MODO	Mourning Dove	40	S	1						
		Autumn	EUST	European Starling	60	S	4						
		Autumn	AMRO	American Robin	30	SE	1						
		Autumn	SOSP	Song Sparrow	20	SW	1						
1-Sep-11	F	Autumn	CHSP	Chipping Sparrow	10	S	1		632	641	17	0	5%
		Autumn	EWPE	Eastern Wood-Pewee	40	S	1						
		Autumn	CHSW	Chimney Swift	5	W	1						
		Autumn	SOSP	Song Sparrow	50	SW	1						
		Autumn	EATO	Eastern Towhee	60	NW	1						
		Autumn	FISP	Field Sparrow	10	NW	1						
		Autumn	SOSP	Song Sparrow	5	W	2						
		Autumn	FISP	Field Sparrow	60	E	1						
		Autumn	NOCA	Northern Cardinal	60	S	1						
		Autumn	YBCU	Yellow-billed Cuckoo	40	W	1						
1-Sep-11	G	Autumn	AMRO	American Robin	70	E	1		745	754	21	0	0%
		Autumn	AMCR	American Crow	90	N	1						
		Autumn	AMCR	American Crow	100	SW	2						
		Autumn	HOSP	House Sparrow	30	NW	3						
		Autumn	INBU	Indigo Bunting	20	NW	1						

Date	Point	Season	Species		Estimated Distance (m)	Direction (Bearing)	Flyover # in Flock	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name					Start	Stop	Temp (C)	Wind	Cloud
1-Sep-11	H	Autumn	GRCA	Gray Catbird	20	N	1		732	741	20	0	0%
		Autumn	CARW	Carolina Wren	40	S	1						
		Autumn	GRCA	Gray Catbird	30	SW	1						
		Autumn	AMGO	American Goldfinch	40	SW	4						
		Autumn	HOWR	House Wren	20	SW	2						
		Autumn	MODO	Mourning Dove	40	SE	1						
		Autumn	NOCA	Northern Cardinal	30	S	1						
		Autumn	CARW	Carolina Wren	60	NW	1						
		Autumn	BHCO	Brown-headed Cowbird	5	S	1						
1-Sep-11	I	Autumn	AMCR	American Crow	90	E	1		715	724	19	0	0%
		Autumn	NOCA	Northern Cardinal	30	NE	1						
		Autumn	NOCA	Northern Cardinal	20	S	1						
		Autumn	NOCA	Northern Cardinal	40	SE	1						
		Autumn	DOWO	Downy Woodpecker	30	SW	1						
		Autumn	RBWO	Red-bellied Woodpecker	40	SW	1						
		Autumn	ETTI	Tufted Titmouse	15	W	1						
1-Sep-11	J	Autumn	BLJA	Blue Jay	20	NW	1		701	710	18	0	0%
		Autumn	AMRO	American Robin	30	NW	4						
		Autumn	INBU	Indigo Bunting	20	SE	1						
		Autumn	AMRO	American Robin	25	NW	1						
		Autumn	WBNU	White-breasted Nuthatch	10	E	1						
		Autumn	SOSP	Song Sparrow	25	NE	1						
		Autumn	AMGO	American Goldfinch	30	NW	1						
		Autumn	MODO	Mourning Dove	30	N	3						
		Autumn	REVI	Red-eyed Vireo	10	W	1						
		Autumn	EWPE	Eastern Wood-Pewee	20	E	1						
1-Sep-11	K	Autumn	BLJA	Blue Jay	30	W	2		646	655	16	0	0%
		Autumn	BLJA	Blue Jay	40	SW	1						
		Autumn	HOFI	House Finch	20	W	4						
		Autumn	BLJA	Blue Jay	50	N	1						
		Autumn	BLJA	Blue Jay	40	S	1						
		Autumn	AMRO	American Robin	60	NNE	1						
		Autumn	HOSP	House Sparrow	20	N	2						
6-Sep-11	A	Autumn	ROPI	Rock Pigeon	70	NW	1		753	802	13	2	100%
6-Sep-11	B	Autumn	RBWO	Red-bellied Woodpecker	60	N	1		740	749	12	7	100%
		Autumn	BLJA	Blue Jay	50	E	1						
		Autumn	NOCA	Northern Cardinal	20	NW	1						
6-Sep-11	C	Autumn	-	-					727	736	12	7	100%
6-Sep-11	D	Autumn	EWPE	Eastern Wood-Pewee	20	W	1		714	723	13	10	100%
		Autumn	AMCR	American Crow	120	S	8						
		Autumn	AMRO	American Robin	10	N	1						
6-Sep-11	E	Autumn	BLJA	Blue Jay	20	N	2		814	823	13	7	100%
		Autumn	BLJA	Blue Jay	30	S	1						
		Autumn	HOSP	House Sparrow	40	SW	4						
		Autumn	TUVU	Turkey Vulture	30	SW	1						
6-Sep-11	F	Autumn	AMRO	American Robin	30	NE	2		658	707	13	7	100%
		Autumn	AMCR	American Crow	60	SW	3						
		Autumn	BLJA	Blue Jay	50	W	2						
		Autumn	BLJA	Blue Jay	60	N	1						
		Autumn	MODO	Mourning Dove	10	NW	1						
6-Sep-11	G	Autumn	TUVU	Turkey Vulture	120	W	3		830	839	12	10	95%
6-Sep-11	H	Autumn	MODO	Mourning Dove	30	N	1		843	852	14	2	100%
		Autumn	MODO	Mourning Dove	10	NW	3						
		Autumn	TUVU	Turkey Vulture	50	N	2						
		Autumn	AMGO	American Goldfinch	5	N	5						
6-Sep-11	I	Autumn	MODO	Mourning Dove	60	W	1		858	907	14	7	100%
		Autumn	MODO	Mourning Dove	50	E	1						
6-Sep-11	J	Autumn	BLJA	Blue Jay	70	E	1		917	926	14	7	100%
		Autumn	RWBL	Red-winged Blackbird	70	S	5						
		Autumn	BRNS	Barn Swallow	70	S	7						
		Autumn	MODO	Mourning Dove	70	N	1						
6-Sep-11	K	Autumn	-	-					935	944	15	2	100%

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
12-Sep-11	A	Autumn	AMCR	American Crow	70	WNW	1		819	828	17	0	0%
		Autumn	BLJA	Blue Jay	70	WNW	1						
		Autumn	ETTI	Tufted Titmouse	5	NW	3						
		Autumn	WBNU	White-breasted Nuthatch	20	N	1						
		Autumn	BLJA	Blue Jay	20	SW	1						
		Autumn	BCCH	Black-capped Chickadee	10	W	4						
		Autumn	RBWO	Red-bellied Woodpecker	80	S	1						
		Autumn	NOFL	Northern Flicker	40	N	1						
		Autumn	CEDW	Cedar Waxwing	20	SW	9						
		Autumn	HOWR	House Wren	10	N	2						
		Autumn	DOWO	Downy Woodpecker	20	W	1						
		Autumn	AMCR	American Crow	30	E	4						
		Autumn	AMGO	American Goldfinch	20	W	3						
		Autumn	RTHA	Red-tailed Hawk	50	W	1	Perched					
12-Sep-11	B	Autumn	BLJA	Blue Jay	30	S	1		804	813	17	2	0%
		Autumn	AMCR	American Crow	80	NE	3						
		Autumn	BLJA	Blue Jay	60	W	1						
		Autumn	NOCA	Northern Cardinal	20	S	1						
		Autumn	EAPH	Eastern Phoebe	10	W	1						
12-Sep-11	C	Autumn	EWPE	Eastern Wood-Pewee	50	S	1		751	800	16	0	0%
		Autumn	AMCR	American Crow	90	SE	1						
		Autumn	ETTI	Tufted Titmouse	50	SSW	1						
		Autumn	TUVU	Turkey Vulture	120	NNW	1						
		Autumn	BOBO	Bobolink	30	NW	2						
		Autumn	WBNU	White-breasted Nuthatch	40	W	1						
		Autumn	AMCR	American Crow	100	NW	3						
12-Sep-11	D	Autumn	BLJA	Blue Jay	20	NW	2		737	746	16	0	0%
		Autumn	EWPE	Eastern Wood-Pewee	40	NW	1						
		Autumn	AMCR	American Crow	15	S	1						
		Autumn	EUST	European Starling	10	S	4						
		Autumn	EUST	European Starling	20	N	6						
		Autumn	EUST	European Starling	40	E	32						
		Autumn	AMCR	American Crow	50	E	5						
12-Sep-11	E	Autumn	MODO	Mourning Dove	40	S	1		843	852	19	7	5%
		Autumn	BLJA	Blue Jay	40	NE	2						
		Autumn	AMRO	American Robin	20	NE	1						
		Autumn	AMGO	American Goldfinch	10	W	2						
		Autumn	MODO	Mourning Dove	60	NE	1						
		Autumn	DOWO	Downy Woodpecker	50	NE	1						
		Autumn	RHWO	Red-headed Woodpecker	30	NE	3						
		Autumn	EUST	European Starling	40	NW	4						
12-Sep-11	F	Autumn	HOSP	House Sparrow	30	NE	2		1012	1021	21	0	5%
		Autumn	BLJA	Blue Jay	40	W	3						
		Autumn	EWPE	Eastern Wood-Pewee	60	W	1						
		Autumn	WBNU	White-breasted Nuthatch	30	NW	2						
		Autumn	EABL	Eastern Bluebird	30	NW	1						
		Autumn	CEDW	Cedar Waxwing	30	NW	10						
12-Sep-11	G	Autumn	BCCH	Black-capped Chickadee	40	W	1		857	906	19	2	5%
		Autumn	PIWO	Pileated Woodpecker	30	S	1						
		Autumn	NOCA	Northern Cardinal	20	NW	1						
		Autumn	WBNU	White-breasted Nuthatch	10	S	2						
		Autumn	AMCR	American Crow	70	NW	1						
		Autumn	BLJA	Blue Jay	40	NW	1						
		Autumn	DOWO	Downy Woodpecker	50	E	1						
		Autumn	RBWO	Red-bellied Woodpecker	30	E	1						
		Autumn	AMCR	American Crow	60	E	3						
		Autumn	ETTI	Tufted Titmouse	30	E	2						
		Autumn	AMGO	American Goldfinch	50	E	2						
		Autumn	RWBL	Red-winged Blackbird	80	E	4						
		Autumn	AMRO	American Robin	40	E	2						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
12-Sep-11	H	Autumn	MODO	Mourning Dove	5	N	2		909	918	19	2	5%
		Autumn	MODO	Mourning Dove	50	N	1						
		Autumn	WAVI	Warbling Vireo	60	NW	1						
		Autumn	BLJA	Blue Jay	60	SE	2						
		Autumn	GRCA	Gray Catbird	5	W	2						
		Autumn	AMRO	American Robin	5	E	2						
		Autumn	RHWO	Red-headed Woodpecker	5	E	1						
12-Sep-11	I	Autumn	AMGO	American Goldfinch	5	W	2		922	931	20	2	5%
		Autumn	AMRO	American Robin	40	S	12						
		Autumn	BLJA	Blue Jay	20	NE	1						
		Autumn	ETTI	Tufted Titmouse	10	N	2						
		Autumn	REVI	Red-eyed Vireo	40	WSW	1						
		Autumn	EWPE	Eastern Wood-Pewee	50	NW	1						
		Autumn	NAWA	Nashville Warbler	10	N	1						
		Autumn	AMRO	American Robin	10	N	3						
		Autumn	RBWO	Red-bellied Woodpecker	20	E	2						
		Autumn	MODO	Mourning Dove	60	S	4						
12-Sep-11	J	Autumn	NOFL	Northern Flicker	50	SE	1		939	948	20	0	5%
		Autumn	TUVU	Turkey Vulture	30	W	3						
		Autumn	AMRO	American Robin	10	W	2						
		Autumn	HOSP	House Sparrow	20	N	2						
		Autumn	MODO	Mourning Dove	30	N	2						
		Autumn	MODO	Mourning Dove	100	N	2						
		Autumn	BLJA	Blue Jay	40	N	1						
		Autumn	AMGO	American Goldfinch	10	N	2						
		Autumn	KILL	Killdeer	20	W	2						
12-Sep-11	K	Autumn	AMKE	American Kestrel	30	N	1		953	1002	19	2	10%
		Autumn	MODO	Mourning Dove	50	S	3						
		Autumn	AMGO	American Goldfinch	30	S	6						
		Autumn	BLJA	Blue Jay	10	W	2						
19-Sep-11	A	Autumn	AMRO	American Robin	20	N	2		848	857	14	0	100%
		Autumn	AMCR	American Crow	100	SW	3						
		Autumn	RBWO	Red-bellied Woodpecker	20	N	2						
		Autumn	DOWO	Downy Woodpecker	10	N	1						
		Autumn	DOWO	Downy Woodpecker	15	S	1						
		Autumn	RBWO	Red-bellied Woodpecker	40	WSW	1						
		Autumn	NOFL	Northern Flicker	5	N	1						
		Autumn	COYE	Common Yellowthroat	5	N	1						
19-Sep-11	B	Autumn	WBNU	White-breasted Nuthatch	30	E	2		903		14	0	100%
		Autumn	BLJA	Blue Jay	20	W	1						
		Autumn	AMRO	American Robin	40	W	1						
		Autumn	RBWO	Red-bellied Woodpecker	10	E	1						
		Autumn	WBNU	White-breasted Nuthatch	40	SW	1						
		Autumn	AMRO	American Robin	20	E	1						
		Autumn	EWPE	Eastern Wood-Pewee	50	NE	1						
		Autumn	GCTH	Gray-cheeked Thrush	5	NE	1						
19-Sep-11	C	Autumn	ETTI	Tufted Titmouse	20	NE	2		919	928	14	0	100%
		Autumn	BLJA	Blue Jay	90	NW	2						
		Autumn	WBNU	White-breasted Nuthatch	20	SE	2						
		Autumn	AMCR	American Crow	120	NNW	2						
		Autumn	ETTI	Tufted Titmouse	10	SE	3						
19-Sep-11	D	Autumn	RBWO	Red-bellied Woodpecker	80	NE	1		933	942	14	0	100%
		Autumn	AMCR	American Crow	100	ENE	2	Excessive noise, road work in progress.					

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
19-Sep-11	E	Autumn	AMRO	American Robin	20	E	2		829	838	13	0	100%
		Autumn	BLJA	Blue Jay	40	W	1						
		Autumn	DOWO	Downy Woodpecker	30	W	1						
		Autumn	BLJA	Blue Jay	20	E	1						
		Autumn	DOWO	Downy Woodpecker	30	N	1						
		Autumn	AMGO	American Goldfinch	15	S	2						
		Autumn	BLJA	Blue Jay	10	S	1						
		Autumn	MODO	Mourning Dove	110	W	5						
		Autumn	RBWO	Red-bellied Woodpecker	30	S	1						
		Autumn	BLJA	Blue Jay	30	N	4						
		Autumn	WBNU	White-breasted Nuthatch	40	SW	1						
		Autumn	AMGO	American Goldfinch	25	SW	3						
		Autumn	RHWO	Red-headed Woodpecker	15	NW	1						
		Autumn	MODO	Mourning Dove	10	E	2						
		Autumn	EUST	European Starling	30	SW	3						
19-Sep-11	F	Autumn	BLJA	Blue Jay	20	NW	4		948	957	14		100%
		Autumn	BLJA	Blue Jay	60	NE	2						
		Autumn	AMRO	American Robin	60	NE	1						
		Autumn	DOWO	Downy Woodpecker	30	NW	1						
		Autumn	AMCR	American Crow	30	S	1						
19-Sep-11	G	Autumn	BLJA	Blue Jay	100	SW	1		816	825	13	0	100%
		Autumn	AMCR	American Crow	100	E	4						
		Autumn	MODO	Mourning Dove	20	E	1						
		Autumn	EABL	Eastern Bluebird	60	E	1						
		Autumn	BLJA	Blue Jay	100	NNW	1						
		Autumn	BLJA	Blue Jay	40	S	1						
		Autumn	AMRO	American Robin	30	W	1						
		Autumn	COGR	Common Grackle	20	N	1						
19-Sep-11	H	Autumn	AMRO	American Robin	40	W	2		801	810	13	0	100%
		Autumn	EUST	European Starling	30	SE	5						
		Autumn	MODO	Mourning Dove	10	S	4						
		Autumn	WAVI	Warbling Vireo	30	W	1						
		Autumn	RBWO	Red-bellied Woodpecker	50	W	1						
		Autumn	ETTI	Tufted Titmouse	80	W	1						
		Autumn	MODO	Mourning Dove	15	S	1						
19-Sep-11	I	Autumn	NOCA	Northern Cardinal	5	E	1		747	756	13	0	100%
		Autumn	AMRO	American Robin	30	SW	3						
		Autumn	DOWO	Downy Woodpecker	10	S	1						
		Autumn	WAVI	Warbling Vireo	30	E	1						
		Autumn	RHWO	Red-headed Woodpecker	20	N	1						
		Autumn	EUST	European Starling	10	E	1						
19-Sep-11	J	Autumn	AMRO	American Robin	20	W	1		1022	1034	15	0	100%
		Autumn	REVI	Red-eyed Vireo	20	SW	1						
		Autumn	BLJA	Blue Jay	40	NW	1						
		Autumn	BLJA	Blue Jay	50	NNE	1						
19-Sep-11	K	Autumn	BLJA	Blue Jay	10	NW	3		1008	1017	15	0	100%
		Autumn	DOWO	Downy Woodpecker	30	W	1						
		Autumn	EUST	European Starling	50	ESE	12						
27-Sep-11	A	Autumn	BLJA	Blue Jay	15	S	4		804	813	11	2	100%
		Autumn	RBWO	Red-bellied Woodpecker	30	SW	2						
		Autumn	WBNU	White-breasted Nuthatch	5	S	1						
		Autumn	ETTI	Tufted Titmouse	5	W	1						
		Autumn	AMGO	American Goldfinch	10	W	4						
		Autumn	RBWO	Red-bellied Woodpecker	25	NE	1						
		Autumn	BCCH	Black-capped Chickadee	5	W	4						
		Autumn	COYE	Common Yellowthroat	5	NE	1						
		Autumn	GBHE	Great Blue Heron	30	NE	1	Fly By					

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
27-Sep-11	B	Autumn	AMCR	American Crow	80	ENE	4		749	758	11	2	100%
		Autumn	WBNU	White-breasted Nuthatch	20	NE	2						
		Autumn	RWBL	Red-winged Blackbird	30	WSW	36						
		Autumn	BLJA	Blue Jay	60	ENE	1						
		Autumn	AMCR	American Crow	50	S	1						
		Autumn	BLJA	Blue Jay	80	SE	3						
		Autumn	AMGO	American Goldfinch	30	SW	1						
		Autumn	RBWO	Red-bellied Woodpecker	20	N	1						
		Autumn	AMCR	American Crow	30	WSW	2						
		Autumn	BLJA	Blue Jay	50	WSW	1						
27-Sep-11	C	Autumn	BLJA	Blue Jay	40	SW	1		734	743	10	10	100%
		Autumn	RBWO	Red-bellied Woodpecker	20	ESE	1						
		Autumn	AMRO	American Robin	30	S	1						
		Autumn	RBGR	Rose-breasted Grosbeak	20	ESE	1						
		Autumn	NOFL	Northern Flicker	40	SSW	2						
		Autumn	WBNU	White-breasted Nuthatch	25	S	2						
		Autumn	AMCR	American Crow	110	E	2						
27-Sep-11	D	Autumn	AMCR	American Crow	100	W	2		722	731	0	0	0%
		Autumn	REVI	Red-eyed Vireo	10	W	1						
		Autumn	CAGO	Canada Goose	100	NE	8						
		Autumn	AMCR	American Crow	100	E	3						
		Autumn	NOFL	Northern Flicker	30	E	1						
27-Sep-11	E	Autumn	AMCR	American Crow	50	E	3		829	838	13	7	100%
		Autumn	RBWO	Red-bellied Woodpecker	40	SW	1						
		Autumn	AMRO	American Robin	60	E	1						
		Autumn	AMGO	American Goldfinch	30	W	3						
		Autumn	HOSP	House Sparrow	5	N	1						
		Autumn	WBNU	White-breasted Nuthatch	10	N	1						
		Autumn	BLJA	Blue Jay	50	NE	1						
		Autumn	MODO	Mourning Dove	90	W	4						
		Autumn	BLJA	Blue Jay	60	S	1						
		Autumn	BLJA	Blue Jay	40	S	3						
		Autumn	KILL	Killdeer	10	S	1						
		Autumn	NOCA	Northern Cardinal	10	E	1						
27-Sep-11	F	Autumn	BLJA	Blue Jay	40	NW	2		1005	1014	17	10	10%
27-Sep-11	G	Autumn	RBWO	Red-bellied Woodpecker	30	NW	1		845	854	15	2	95%
		Autumn	BLJA	Blue Jay	20	W	7						
		Autumn	MODO	Mourning Dove	100	E	2						
		Autumn	WBNU	White-breasted Nuthatch	30	NW	1						
		Autumn	WBNU	White-breasted Nuthatch	20	S	1						
		Autumn	EABL	Eastern Bluebird	10	S	2						
		Autumn	AMCR	American Crow	100	SE	1						
		Autumn	AMRO	American Robin	90	SW	2						
27-Sep-11	H	Autumn	EABL	Eastern Bluebird	20	E	2		859	908	15	2	85%
		Autumn	EABL	Eastern Bluebird	30	N	1						
		Autumn	BLJA	Blue Jay	20	SW	2						
		Autumn	MODO	Mourning Dove	5	E	1						
		Autumn	EABL	Eastern Bluebird	5	W	4						
		Autumn	CEDW	Cedar Waxwing	5	W	3						
27-Sep-11	I	Autumn	MODO	Mourning Dove	70	S	7		913	922	16	2	90%
		Autumn	AMRO	American Robin	70	S	4						
		Autumn	BLJA	Blue Jay	30	SW	1						
		Autumn	EUST	European Starling	80	S	8						
27-Sep-11	J	Autumn	AMRO	American Robin	40	N	3		931	940	16	2	50%
		Autumn	MODO	Mourning Dove	20	N	1						
		Autumn	NOFL	Northern Flicker	15	NW	2						
		Autumn	WBNU	White-breasted Nuthatch	5	W	2						
		Autumn	AMRO	American Robin	40	SE	1						
		Autumn	BLJA	Blue Jay	40	N	2						
27-Sep-11	K	Autumn	BLJA	Blue Jay	10	W	1		946	955	16	2	40%
		Autumn	AMRO	American Robin	5	W	1						
		Autumn	AMCR	American Crow	70	E	3						
		Autumn	HOSP	House Sparrow	30	NW	7						

Date	Point	Season	Species		Estimated Distance (m)	Direction (Bearing)	Flyover # in Flock	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name					Start	Stop	Temp (C)	Wind	Cloud
3-Oct-11	A	Autumn	RTHA	Red-tailed Hawk	60	E	1	Light Drizzle	936	945	12	2	100%
		Autumn	BLJA	Blue Jay	20	S	1						
		Autumn	BLJA	Blue Jay	80	WNW	3						
		Autumn	YRWA	Yellow-rumped Warbler	15	W	1						
		Autumn	AMCR	American Crow	50	E	2						
		Autumn	BLJA	Blue Jay	30	N	1						
		Autumn	RBWO	Red-bellied Woodpecker	40	W	1						
3-Oct-11	B	Autumn	BLJA	Blue Jay	20	NW	1		948	957	12	0	100%
		Autumn	WBNU	White-breasted Nuthatch	30	E	2						
		Autumn	RBWO	Red-bellied Woodpecker	40	N	1						
		Autumn	RBWO	Red-bellied Woodpecker	60	SSE	2						
		Autumn	ETTI	Tufted Titmouse	40	NW	1						
		Autumn	RWBL	Red-winged Blackbird	50	WSW	3						
3-Oct-11	C	Autumn	AMCR	American Crow	80	W	7		1000	1009	13	2	100%
		Autumn	NOFL	Northern Flicker	20	ESE	1						
		Autumn	BCCH	Black-capped Chickadee	60	S	1						
		Autumn	BLJA	Blue Jay	70	S	1						
		Autumn	RBWO	Red-bellied Woodpecker	30	W	1						
		Autumn	NOFL	Northern Flicker	40	W	1						
3-Oct-11	D	Autumn	BLJA	Blue Jay	40	E	2	Light Drizzle	1012	1021	14	0	100%
		Autumn	CAGO	Canada Goose	90	S	6						
		Autumn	MODO	Mourning Dove	30	S	1						
		Autumn	YRWA	Yellow-rumped Warbler	5	E	2						
		Autumn	RCKI	Ruby-crowned Kinglet	5	E	1						
		Autumn	ETTI	Tufted Titmouse	5	E	1						
		Autumn	RBWO	Red-bellied Woodpecker	20	S	1						
		Autumn	WBNU	White-breasted Nuthatch	20	N	1						
Autumn	BLJA	Blue Jay	100	N	1								
3-Oct-11	E	Autumn	BLJA	Blue Jay	30	S	1		919	928	14	2	100%
		Autumn	RBWO	Red-bellied Woodpecker	50	SW	1						
		Autumn	AMCR	American Crow	110	SE	2						
		Autumn	RHWO	Red-headed Woodpecker	30	W	2						
		Autumn	AMRO	American Robin	20	E	1						
		Autumn	BLJA	Blue Jay	40	N	1						
		Autumn	RBWO	Red-bellied Woodpecker	30	N	1						
		Autumn	EABL	Eastern Bluebird	60	W	2						
3-Oct-11	F	Autumn	NOFL	Northern Flicker	60	NW	1		740	749	13	0	95%
		Autumn	BLJA	Blue Jay	40	NW	1						
		Autumn	BLJA	Blue Jay	90	ESE	1						
		Autumn	FISP	Field Sparrow	10	E	1						
3-Oct-11	G	Autumn	BLJA	Blue Jay	10	S	1		909	918	14	0	100%
		Autumn	NOCA	Northern Cardinal	60	NW	1						
		Autumn	AMRO	American Robin	40	N NW	1						
		Autumn	AMGO	American Goldfinch	5	S	3						
		Autumn	AMCR	American Crow	100	NW	2						
		Autumn	SOSP	Song Sparrow	60	N	1						
		Autumn	SWTH	Swainson's Thrush	5	E	1						
3-Oct-11	H	Autumn	RBWO	Red-bellied Woodpecker	40	SE	1		855	904	14	0	100%
		Autumn	EABL	Eastern Bluebird	60	N	2						
		Autumn	RBWO	Red-bellied Woodpecker	50	W	1						
		Autumn	CHSW	Chimney Swift	20	S	3						
		Autumn	BLJA	Blue Jay	60	NW	1						
		Autumn	AMRO	American Robin	70	S	3						
		Autumn	HOSP	House Sparrow	40	E	4						
		Autumn	NOFL	Northern Flicker	50	SE	1						
		Autumn	HAWO	Hairy Woodpecker	40	S	1						
		Autumn	BLJA	Blue Jay	70	E	1						
		Autumn	MODO	Mourning Dove	10	NW	3						
		Autumn	NOCA	Northern Cardinal	30	E	2						
3-Oct-11	I	Autumn	AMRO	American Robin	70	N	1		842	851	14	0	100%
		Autumn	RBWO	Red-bellied Woodpecker	20	SSW	1						
		Autumn	AMRO	American Robin	30	SW	2						
		Autumn	EUST	European Starling	60	N	6						

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
3-Oct-11	J	Autumn	MODO	Mourning Dove	100	N	4		823	832	14	0	100%
		Autumn	MODO	Mourning Dove	30	N	2						
		Autumn	BLJA	Blue Jay	40	N	1						
		Autumn	NOCA	Northern Cardinal	30	W	1						
		Autumn	AMRO	American Robin	40	N	2						
		Autumn	BLJA	Blue Jay	60	S	1						
3-Oct-11	K	Autumn	MODO	Mourning Dove	100	S	2	Light Drizzle	759	808	12	0	95%
		Autumn	BLJA	Blue Jay	60	NNW	1						
		Autumn	RBWO	Red-bellied Woodpecker	10	W	2						
		Autumn	BLJA	Blue Jay	30	W	1						
		Autumn	NOFL	Northern Flicker	50	SW	1						
		Autumn	BLJA	Blue Jay	80	NNW	2						
		Autumn	AMRO	American Robin	40	N	1						
		Autumn	AMGO	American Goldfinch	30	E	1						
		Autumn	RWBL	Red-winged Blackbird	90	ENE	4						
10-Oct-11	A	Autumn	EABL	Eastern Bluebird	30	S	3	P	1000	1009	21	0	50%
		Autumn	BLJA	Blue Jay	30	W	3	F/G					
		Autumn	RBWO	Red-bellied Woodpecker	20	NE	2	Perched, Calling					
		Autumn	EUST	European Starling	30	N	5	F					
		Autumn	MYWA	Yellow-rumped Warbler	10	W	2	Feeding					
		Autumn	AMGO	American Goldfinch	10	S	2	In Flight					
		Autumn	BLJA	Blue Jay	25	W	2	Perched					
10-Oct-11	B	Autumn	BLJA	Blue Jay	40	NE	11	Calling	1013	1022	21	2	70%
		Autumn	RBWO	Red-bellied Woodpecker	30	E	1	Calling, Perched					
		Autumn	RBWO	Red-bellied Woodpecker	20	NW	1	Calling, Perched					
		Autumn	BLJA	Blue Jay	50	N	1	Calling					
		Autumn	BLJA	Blue Jay	50	W	1	Flying					
		Autumn	RWBL	Red-winged Blackbird	60	W	1	Flying					
		Autumn	AMCR	American Crow	40	E	4	Flying					
		Autumn	NOFL	Northern Flicker	30	E	2	Flying					
		Autumn	COGR	Common Grackle	10	NE	1	Flying					
		Autumn	PIWO	Pileated Woodpecker	60	SE	1	Calling					
10-Oct-11	C	Autumn	EAME	Eastern Meadowlark	90	W	1	Perched	1025	1034	22	0	75%
		Autumn	BLJA	Blue Jay	80	E	2	Calling					
		Autumn	RBWO	Red-bellied Woodpecker	40	E	2	Perched					
		Autumn	WBNU	White-breasted Nuthatch	50	SW	1	Feeding, Calling					
		Autumn	ETTI	Tufted Titmouse	40	E	2	Feeding, Calling					
		Autumn	AMCR	American Crow	70	E	4	Flying, Calling					
		Autumn	AMCR	American Crow	90	ENE	3	Flying, Calling					
10-Oct-11	D	Autumn	AMCR	American Crow	70	NNW	3	Calling	745	754	14	2	35%
		Autumn	SOSP	Song Sparrow	40	SE	1	Flying					
		Autumn	AMCR	American Crow	10	SW	2	Flying, Calling					
		Autumn	CAGO	Canada Goose	80	S	3	Flying, Calling					
		Autumn	BLJA	Blue Jay	70	N	2	Flying, Calling					
		Autumn	CAGO	Canada Goose	110	S	21	Flying, Calling					
		Autumn	NOCA	Northern Cardinal	50	N	2	Perched, Singing					
10-Oct-11	E	Autumn	RWBL	Red-winged Blackbird	30	E	1000	Flying	943	952	21	0	50%
		Autumn	RWBL	Red-winged Blackbird	30	NW	500	Flying					
		Autumn	BLJA	Blue Jay	30	W	2	Perched, Calling					
		Autumn	AMCR	American Crow	80	SW	2	Flying					
		Autumn	COGR	Common Grackle	30	E	6	Flying					
		Autumn	KILL	Killdeer	50	SE	5	Flying					
		Autumn	SOSP	Song Sparrow	10	SW	1	Perched					
		Autumn	RBWO	Red-bellied Woodpecker	20	S	1	Perched					
		Autumn	BLJA	Blue Jay	30	S	2	Flying, Calling					
		Autumn	RHWO	Red-headed Woodpecker	30	NE	2	Feeding					
		Autumn	EUST	European Starling	40	S	800	Flying, Perched					
		Autumn	RWBL	Red-winged Blackbird	40	S	1200	Flying					
		Autumn	COGR	Common Grackle	40	S	80	Flying					
		Autumn	BHCO	Brown-headed Cowbird	40	S	10	Flying					
		Autumn	RWBL	Red-winged Blackbird	20	S	4	Flying					
		Autumn	MODO	Mourning Dove	90	N	1	Perched					

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
10-Oct-11	F	Autumn	AMCR	American Crow	5	E	2	Perched	807	816	15	0	40%
		Autumn	AMCR	American Crow	100	SW	4	Calling					
		Autumn	AMGO	American Goldfinch	20	W	2	Flying					
		Autumn	AMRO	American Robin	20	SW	1	Perched, Calling					
		Autumn	RBWO	Red-bellied Woodpecker	40	S	1	Perched, Calling					
		Autumn	BLJA	Blue Jay	50	W	1	Calling					
		Autumn	SAVS	Savannah Sparrow	40	SE	1	Perched, Feeding					
		Autumn	HOLA	Horned Lark	30	E	2	Flying					
10-Oct-11	G	Autumn	AMCR	American Crow	80	S	2	Calling	928	937	18	0	20%
		Autumn	RWBL	Red-winged Blackbird	70	E	950	Flying					
		Autumn	COGR	Common Grackle	70	E	20	Flying					
		Autumn	MODO	Mourning Dove	70	W	2	Flying					
		Autumn	RWBL	Red-winged Blackbird	70	W	700	Flying					
		Autumn	COGR	Common Grackle	100	NE	3	Flying					
		Autumn	MALL	Mallard	90	E	2	Flying					
		Autumn	RBWO	Red-bellied Woodpecker	40	S	1	Flying					
10-Oct-11	H	Autumn	AMRO	American Robin	30	W	4	Perched, Calling	914	923	18	0	
		Autumn	ETTI	Tufted Titmouse	20	W	3	Feeding					
		Autumn	YBSA	Yellow-bellied Sapsucker	10	W	1	Feeding					
		Autumn	AMRO	American Robin	15	SE	6	Perched, Calling					
		Autumn	AMRO	American Robin	40	NW	2	Perched, Calling					
		Autumn	EUST	European Starling	50	W	7	Flying					
		Autumn	AMRO	American Robin	40	S	3	Perched, Calling					
		Autumn	CEDW	Cedar Waxwing	30	W	4	Flying					
10-Oct-11	I	Autumn	NOFL	Northern Flicker	60	W	1	Calling	902	911	17	0	30%
		Autumn	NOCA	Northern Cardinal	5	SSE	1	Flying					
		Autumn	KILL	Killdeer	10	W	1	Flying					
		Autumn	AMRO	American Robin	30	SW	5	Perched, Calling					
		Autumn	RWBL	Red-winged Blackbird	70	S	1	Flying					
		Autumn	AMRO	American Robin	40	W	4	Perched, Calling					
		Autumn	BLJA	Blue Jay	20	SW	1	Perched, Calling					
		Autumn	BLJA	Blue Jay	10	W	3	Perched, Calling					
		Autumn	EUST	European Starling	100	N	3	Flying					
		Autumn	BLJA	Blue Jay	40	N	1	Perched, Calling					
		Autumn	ETTI	Tufted Titmouse	80	W	1	Feeding					
		Autumn	EABL	Eastern Bluebird	40	E	6	Flying					
10-Oct-11	J	Autumn	EAPH	Eastern Phoebe	20	S	1	Flycatching	1043	1052	16	0	40%
		Autumn	WBNU	White-breasted Nuthatch	30	N	2	Feeding					
		Autumn	MODO	Mourning Dove	10	N	1	Perched					
		Autumn	COGR	Common Grackle	70	S	2	Flying					
		Autumn	HETH	Hermit Thrush	40	E	1	Feeding					
		Autumn	RBWO	Red-bellied Woodpecker	40	N	1	Feeding					
		Autumn	AMRO	American Robin	40	SSW	2	Perched, Calling					
		Autumn	AMRO	American Robin	30	W	1	Perched, Calling					
		Autumn	RBWO	Red-bellied Woodpecker	30	W	1	Feeding					
		Autumn	MODO	Mourning Dove	10	N	2	Perched					
		Autumn	EABL	Eastern Bluebird	60	N	3	Flying, Calling					
		Autumn	AMGO	American Goldfinch	50	N	6	Flying, Calling					
10-Oct-11	K	Autumn	BLJA	Blue Jay	50	N	2	Flying	827	836	16	0	45%
		Autumn	BLJA	Blue Jay	50	NW	1	Calling					
		Autumn	ETTI	Tufted Titmouse	40	N	2	Feeding					
		Autumn	SOSP	Song Sparrow	50	NE	1	Singing					
		Autumn	NOFL	Northern Flicker	50	E	1	Calling					
		Autumn	SBDO	Short-billed Dowitcher	60	NE	2	Flying					
		Autumn	RBWO	Red-bellied Woodpecker	30	N	1	Feeding					
		Autumn	ETTI	Tufted Titmouse	100	E	1	Feeding					
		Autumn	BLJA	Blue Jay	100	ESE	2	Calling					
		Autumn	NOFL	Northern Flicker	30	N	1	Flying					
		Autumn	COGR	Common Grackle	20	N	1	Flying					
		Autumn	KILL	Killdeer	50	S	2	Flying, Calling					
		Autumn	HOFI	House Finch	20	W	2	Flying					

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
10-Oct-11	Between F &	Autumn	RTHA	Red-tailed Hawk				41 11' 24.3" 82 55' 06.4" Perched on Wire at the side of the road Corner of TR80 and CR46	803	0	20	0	45%
20-Oct-11	A	Autumn	BCCH	Black-capped Chickadee	30	NE	1	Feeding	930	939	10	2	100%
20-Oct-11	B	Autumn	AMCR	American Crow	30	W	2	Perched	942	951	10	10	100%
		Autumn	RBWO	Red-bellied Woodpecker	20	N	1	Feeding					
		Autumn	BLJA	Blue Jay	10	W	2	Calling,Flying					
20-Oct-11	C	Autumn	BLJA	Blue Jay	40	S	1	Calling	956	1005	11	2	100%
20-Oct-11	D	Autumn	No Observations						1008	1017	11	2	100%
20-Oct-11	E	Autumn	AMRO	American Robin	10	N	2	Flying/Perched	916	925	10	0	100%
		Autumn	BLJA	Blue Jay	50	W	3	Calling/Flying					
		Autumn	AMRO	American Robin	20	W	1	Calling/Perched					
		Autumn	AMCR	American Crow	30	SE	1	Calling/Flying					
		Autumn	COGR	Common Grackle	20	E	1	Perched					
20-Oct-11	E	Autumn	BLJA	Blue Jay	10	E	2	Perched	1024	1033	11	7	100%
		Autumn	BLJA	Blue Jay	20	W	1	Perched					
20-Oct-11	G	Autumn	No Observations						903	912	10	2	100%
20-Oct-11	H	Autumn	No Observations						849	858	10	2	100%
20-Oct-11	I	Autumn	No Observations						836	845	10	2	100%
20-Oct-11	J	Autumn	NOCA	Northern Cardinal	15	W	1	Perched	819	828	10	7	100%
		Autumn	MODO	Mourning Dove	90	N	1	Perched					
20-Oct-11	K	Autumn	No Observations						804	813	10	0	100%
24-Oct-11	A	Autumn	AMCR	American Crow	40	S	3	Calling	808	817	11	2	100%
		Autumn	RBWO	Red-bellied Woodpecker	15	SE	1	Perched					
		Autumn	RBWO	Red-bellied Woodpecker	30	W	1	Calling					
		Autumn	RWBL	Red-winged Blackbird	80	NW	220	Flying					
		Autumn	BLJA	Blue Jay	40	W	2	Flying					
		Autumn	MYWA	Yellow-rumped Warbler	20	NW	2	Calling					
		Autumn	WTSP	White-throated Sparrow	10	NE	2	Calling					
		Autumn	WCSP	White-crowned Sparrow	25	SW	2	Singing					
24-Oct-11	B	Autumn	RBWO	Red-bellied Woodpecker	20	SW	1	Perched	1001		12	2	100%
		Autumn	BLJA	Blue Jay	40	W	2	Flying					
		Autumn	RWBL	Red-winged Blackbird	70	NE	75	Flying					
		Autumn	COGR	Common Grackle	70	NE	10	Flying					
		Autumn	DOWO	Downy Woodpecker	10	S	1	Feeding					
24-Oct-11	C	Autumn	AMRO	American Robin	20	SE	1	Perched	948	958	12	0	100%
		Autumn	RBWO	Red-bellied Woodpecker	40	SW	1	Feeding					
		Autumn	BLJA	Blue Jay	30	NW	2	Flying					
		Autumn	BCCH	Black-capped Chickadee	10	S	3	Feeding					
		Autumn	ETTI	Tufted Titmouse	10	S	2	Feeding					
		Autumn	WBNU	White-breasted Nuthatch	10	S	2	Feeding					
		Autumn	AMCR	American Crow	100	W	4	Flying					
		Autumn	WIWR	Winter Wren	20	SE	1	Flying					
24-Oct-11	D	Autumn	TUVU	Turkey Vulture	5	W	1	Soaring	1014	1023	11	7	100%
		Autumn	RWBL	Red-winged Blackbird	70	N	70	Feeding					
		Autumn	GCKI	Golden-crowned Kinglet	10	W	2	Feeding					
		Autumn	TRES	Tree Swallow	70	N	120	Feeding, Flying					
24-Oct-11	E	Autumn	RHWO	Red-headed Woodpecker	40	NW	2	Calling	823	832	10	0	100%
		Autumn	HOSP	House Sparrow	30	NW	8	Flying					
		Autumn	BLJA	Blue Jay	40	S	1	Calling					
		Autumn	BLJA	Blue Jay	20	N	2	Calling					
		Autumn	COGR	Common Grackle	20	N	2	Flying					
		Autumn	AMRO	American Robin	40	W	3	Calling					
		Autumn	RHWO	Red-headed Woodpecker	5	E	1	Feeding					
24-Oct-11	F	Autumn	BLJA	Blue Jay	100	ENE	2	Calling	1030	1039	13	0	90%
		Autumn	BLJA	Blue Jay	50	W	3	Calling					
24-Oct-11	G	Autumn	BLJA	Blue Jay	90	SW	1	Calling	836	845	10	2	100%
		Autumn	RWBL	Red-winged Blackbird	40	E	22	Flying					
		Autumn	AMCR	American Crow	10	S	1	Perched					
		Autumn	AMCR	American Crow	110	N	2	Flying					

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
24-Oct-11	H	Autumn	AMRO	American Robin	10	W	6	Perched	849	858	10	2	100%
		Autumn	AMRO	American Robin	40	S	4	Perched, Calling					
		Autumn	NOCA	Northern Cardinal	10	E	1	Perched					
		Autumn	RBWO	Red-bellied Woodpecker	30	N	1	Feeding					
		Autumn	BLJA	Blue Jay	50	N	1	Calling					
		Autumn	BLJA	Blue Jay	5	E	1	Calling					
		Autumn	TRES	Tree Swallow	35	NW	330	Flying/Feeding					
		Autumn	MYWA	Yellow-rumped Warbler	10	W	2	Perched					
		Autumn	CEDW	Cedar Waxwing	10	W	8	Feeding					
24-Oct-11	I	Autumn	MYWA	Yellow-rumped Warbler	30	N	3	Feeding	903	912	11	2	100%
		Autumn	RWBL	Red-winged Blackbird	5	W	5	Flying					
		Autumn	BLJA	Blue Jay	60	E	1	Calling					
24-Oct-11	J	Autumn	RHWO	Red-headed Woodpecker	20	E	1	Feeding	917	926	12	0	100%
		Autumn	MODO	Mourning Dove	80	N	2	Perched					
		Autumn	BLJA	Blue Jay	10	NW	2	Flying					
		Autumn	NOCA	Northern Cardinal	20	SE	1	Perched					
		Autumn	AMRO	American Robin	30	S	1	Flying					
		Autumn	RBWO	Red-bellied Woodpecker	70	W	2	Feeding					
		Autumn	AMCR	American Crow	80	SW	3	Flying					
24-Oct-11	K	Autumn	RBWO	Red-bellied Woodpecker	30	W	1	Feeding	931	940	12	2	100%
		Autumn	BLJA	Blue Jay	20	NW	2	Calling					
		Autumn	AMRO	American Robin	30	N	2	Perched					
		Autumn	AMCR	American Crow	100	N	4	Flying					
		Autumn	MODO	Mourning Dove	80	S	2	Perched					
		Autumn	SOSP	Song Sparrow	20	ENE	1	Flying					
		Autumn	AMRO	American Robin	20	SW	1	Flying					
		Autumn	DOWO	Downy Woodpecker	20	W	1	Feeding					
3-Nov-11	A	Autumn	EABL	Eastern Bluebird	80	W	3	Calling	854	903	14	2	100%
		Autumn	MYWA	Yellow-rumped Warbler	30	W	1	Feeding					
		Autumn	RWBL	Red-winged Blackbird	50	W	200	Flying					
		Autumn	COGR	Common Grackle	50	W	50	Flying					
		Autumn	RBWO	Red-bellied Woodpecker	60	SE	1	Calling					
		Autumn	BLJA	Blue Jay	90	NW	1	Calling					
		Autumn	EUST	European Starling	10	W	2	Flying					
		Autumn	COGR	Common Grackle	20	SW	1	Flying					
		Autumn	ETTI	Tufted Titmouse	70	S	1	Calling					
		Autumn	AMGO	American Goldfinch	10	W	1	Flying					
		Autumn	BLJA	Blue Jay	60	NE	2	Calling					
3-Nov-11	B	Autumn	AMRO	American Robin	40	S	2	Calling	842	851	14	5	95%
		Autumn	AMCR	American Crow	60	NE	5	Calling					
		Autumn	ETTI	Tufted Titmouse	20	NE	1	Calling					
		Autumn	RBWO	Red-bellied Woodpecker	10	SE	1	Calling					
		Autumn	COGR	Common Grackle	30	E	1	Flying					
3-Nov-11	C	Autumn	AMCR	American Crow	100	S	6	Calling	827	836	14	0	95%
		Autumn	WBNU	White-breasted Nuthatch	30	SSW	1	Calling					
		Autumn	RWBL	Red-winged Blackbird	50	W	8	Flying					
		Autumn	RWBL	Red-winged Blackbird	100	W	250	Flying					
		Autumn	COGR	Common Grackle	100	W	30	Flying					
		Autumn	NOCA	Northern Cardinal	10	S	1	Flying					
		Autumn	AMCR	American Crow	60	SE	1	Calling					
		Autumn	AMGO	American Goldfinch	10	N	1	Calling					
		Autumn	RWBL	Red-winged Blackbird	70	W	1200	Flying					
		Autumn	COGR	Common Grackle	70	W	50	Flying					
		Autumn	BHCO	Brown-headed Cowbird	70	W	20	Flying					
3-Nov-11	D	Autumn	AMCR	American Crow	100	SE	3	Calling	814	823	9	5	80%
		Autumn	AMGO	American Goldfinch	20	S	4	Flying					
		Autumn	COGR	Common Grackle	10	SW	1	Flying					
3-Nov-11	E	Autumn	RWBL	Red-winged Blackbird	5	E	200	Perched	912	921	16	0	100%
		Autumn	HOSP	House Sparrow	5	W	17	Perched					
		Autumn	COGR	Common Grackle	10	N	2	Flying					
		Autumn	BLJA	Blue Jay	40	NE	2	Calling					
		Autumn	AMGO	American Goldfinch	30	NW	4	Flying					
		Autumn	BLJA	Blue Jay	20	W	1	Calling					

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
3-Nov-11	F	Autumn	AMCR	American Crow	100	NW	1	Calling	754	803	16	2	50%
		Autumn	NOCA	Northern Cardinal	15	N	1	Calling					
		Autumn	RWBL	Red-winged Blackbird	40	S	60	Flying					
		Autumn	COGR	Common Grackle	10	S	3	Flying, Calling					
3-Nov-11	G	Autumn	AMRO	American Robin	20	S	1	Calling	926	935	16	0	100%
		Autumn	AMCR	American Crow	10	S	1	Flying					
		Autumn	RBWO	Red-bellied Woodpecker	20	NW	1	Flying					
3-Nov-11	H	Autumn	DOWO	Downy Woodpecker	10	SW	1	Calling	940	949	17	0	70%
		Autumn	RBWO	Red-bellied Woodpecker	30	W	1	Calling					
		Autumn	BCCH	Black-capped Chickadee	10	W	1	Feeding					
		Autumn	ETTI	Tufted Titmouse	40	S	1	Calling					
		Autumn	HOFI	House Finch	30	S	3	Perched					
		Autumn	RWBL	Red-winged Blackbird	5	S	140	Flying					
		Autumn	BLJA	Blue Jay	20	S	1	Calling					
		Autumn	EUST	European Starling	10	S	20	Flying					
		Autumn	HAWO	Hairy Woodpecker	5	E	1	Perched					
3-Nov-11	I	Autumn	EABL	Eastern Bluebird	90	N	8	Perched	954	1003	17	0	80%
3-Nov-11	J	Autumn	WBNU	White-breasted Nuthatch	20	E	1	Feeding, Calling	1008	1017	18	0	75%
		Autumn	BLJA	Blue Jay	40	NE	2	Calling					
		Autumn	RBWO	Red-bellied Woodpecker	40	S	1	Feeding, Calling					
		Autumn	RWBL	Red-winged Blackbird	70	N	75	Flying					
		Autumn	AMCR	American Crow	90	SW	4	Calling					
		Autumn	COGR	Common Grackle	70	N	12	Flying					
3-Nov-11	K	Autumn	RBWO	Red-bellied Woodpecker	20	WSW	1	Perched	1023	1032	19	0	90%
		Autumn	BLJA	Blue Jay	40	WNW	2	Calling					
		Autumn	SOSP	Song Sparrow	50	E	1	Singing					
		Autumn	AMRO	American Robin	20	N	5	Calling					
		Autumn	EABL	Eastern Bluebird	60	SE	3	Flying					
		Autumn	MODO	Mourning Dove	100	S	4	Perched					
10-Nov-11	A	Autumn	RWBL	Red-winged Blackbird	40	NW	30	Flying	808	817	4	5	70%
10-Nov-11	B	Autumn	RTHA	Red-tailed Hawk	70	E	1	Flapping/Gliding	755	804	4	2	85%
10-Nov-11	C	Autumn	RWBL	Red-winged Blackbird	80	W	650	Flying	742	751	4	0	90%
		Autumn	RBWO	Red-bellied Woodpecker	60	SW	1	Calling					
		Autumn	RWBL	Red-winged Blackbird	40	W	700	Flying					
10-Nov-11	D	Autumn	BLJA	Blue Jay	20	N	1	Flying	730	739	4	5	50%
		Autumn	WBNU	White-breasted Nuthatch	20	N	1	Feeding					
		Autumn	DOWO	Downy Woodpecker	10	N	1	Feeding					
		Autumn	MYWA	Yellow-rumped Warbler	20	N	1	Feeding					
		Autumn	ETTI	Tufted Titmouse	30	W	2	On Roadside					
10-Nov-11	E	Autumn	BLJA	Blue Jay	10	W	1	Flying	826	835	5	2	50%
		Autumn	HOFI	House Finch	15	W	6	Flying					
		Autumn	BLJA	Blue Jay	40	NE	5	Calling					
		Autumn	AMCR	American Crow	40	NE	7	Calling					
		Autumn	RHWO	Red-headed Woodpecker	30	NE	1	Perched					
		Autumn	HOSP	House Sparrow	20	W	3	Flying					
		Autumn	RWBL	Red-winged Blackbird	30	N	30	Flying					
		Autumn	WBNU	White-breasted Nuthatch	20	E	1	Feeding					
		Autumn	RTHA	Red-tailed Hawk	40	S	1	Calling					
		Autumn	RTHA	Red-tailed Hawk	30	W	1	Flying					
10-Nov-11	F	Autumn	RTHA	Red-tailed Hawk	90	N	1	Feeding	726	725	4	0	60%
		Autumn	COGR	Common Grackle	5	W	2	Flying					
		Autumn	WBNU	White-breasted Nuthatch	30	WNW	2	Feeding					
		Autumn	NOCA	Northern Cardinal	10	NW	1	Perched					
		Autumn	RWBL	Red-winged Blackbird	20	E	120	Flying					
		Autumn	AMRO	American Robin	5	NW	1	Perched					
10-Nov-11	G	Autumn	No Observations						840	849	5	2	60%
10-Nov-11	H	Autumn	WBNU	White-breasted Nuthatch	30	S	1	Feeding	853	902	6	2	60%
		Autumn	RBWO	Red-bellied Woodpecker	20	WSW	1	Perched					
		Autumn	NOCA	Northern Cardinal	10	S	2	Calling					
		Autumn	BLJA	Blue Jay	50	W	1	Calling					
		Autumn	HOSP	House Sparrow	40	S	1	Perched					

Date	Point	Season	Species		Estimated	Direction	Flyover #	Behavior/notes	Survey Time		Survey Weather Conditions		
			Code	Name	Distance (m)	(Bearing)	in Flock		Start	Stop	Temp (C)	Wind	Cloud
10-Nov-11	I	Autumn	EABL	Eastern Bluebird	40	SE	2	Calling	907	916	7	2	80%
		Autumn	BLJA	Blue Jay	30	S	1	Flying					
		Autumn	BLJA	Blue Jay	40	W	2	Calling					
		Autumn	WBNU	White-breasted Nuthatch	20	W	1	Calling					
		Autumn	AMRO	American Robin	30	N	2	Calling					
10-Nov-11	J	Autumn	RWBL	Red-winged Blackbird	50	E	125	Flying	925	934	7	2	80%
		Autumn	WBNU	White-breasted Nuthatch	30	S	1	Calling					
		Autumn	RWBL	Red-winged Blackbird	30	N	75	Flying					
10-Nov-11	K	Autumn	BLJA	Blue Jay	10	W	1	Flying	700	709	3	0	60%
		Autumn	COGR	Common Grackle	5	E	20	Flying					
		Autumn	EUST	European Starling	15	S	4	Perched					
		Autumn	RWBL	Red-winged Blackbird	30	N	18	Flying					
		Autumn	AMRO	American Robin	50	NW	2	Calling					
		Autumn	AMRO	American Robin	20	W	3	Calling					
		Autumn	RWBL	Red-winged Blackbird	70	S	350	Flying					
		Autumn	MODO	Mourning Dove	60	NE	1	Calling					
		Autumn	COGR	Common Grackle	70	S	20	Flying					
		Autumn	WBNU	White-breasted Nuthatch	5	SW	1	Feeding					
15-Nov-11	A	Autumn	AMGO	American Goldfinch	10	W	4	Flying	731	740	9	0	0%
		Autumn	NOCA	Northern Cardinal	10	N	1	Perched					
		Autumn	DOWO	Downy Woodpecker	5	N	1	Calling					
		Autumn	ETTI	Tufted Titmouse	15	E	3	Feeding					
		Autumn	WBNU	White-breasted Nuthatch	20	E	2	Calling					
		Autumn	RBWO	Red-bellied Woodpecker	20	E	1	Feeding					
		Autumn	DEJU	Dark-eyed Junco	25	E	2	Feeding					
15-Nov-11	C	Autumn	AMRO	American Robin	40	NE	2	Calling	757	806	9	0	0%
		Autumn	HOLA	Horned Lark	40	N	4	Feeding					
		Autumn	RBWO	Red-bellied Woodpecker	50	SE	1	Calling					
		Autumn	NOFL	Northern Flicker	30	W	1	Calling					
		Autumn	BLJA	Blue Jay	30	W	2	Flying					
15-Nov-11	D	Autumn	BCCH	Black-capped Chickadee	10	S	2	Feeding	810	819	9	0	0%
		Autumn	WBNU	White-breasted Nuthatch	10	N	1	Feeding					
		Autumn	EABL	Eastern Bluebird	40	S	2	Perched					
		Autumn	BLJA	Blue Jay	20	W	2	Calling					
		Autumn	DEJU	Dark-eyed Junco	40	N	5	Feeding					
15-Nov-11	E	Autumn	BLJA	Blue Jay	30	E	1	Calling	716	725	9	0	10%
		Autumn	RHWO	Red-headed Woodpecker	50	NW	3	Calling					
		Autumn	AMCR	American Crow	60	N	5	Flying					
		Autumn	NOHA	Northern Harrier	100	S	1	Flying					
		Autumn	KILL	Killdeer	100	S	1	Calling					
15-Nov-11	F	Autumn	HOLA	Horned Lark	40	S	6	Flying	826	835	10	0	5%
		Autumn	BLJA	Blue Jay	10	NW	3	Perched					
		Autumn	KILL	Killdeer	20	S	1	Calling					
		Autumn	RWBL	Red-winged Blackbird	5	E	80	Flying					
		Autumn	COGR	Common Grackle	5	E	12	Flying					
15-Nov-11	G	Autumn	No Observations						703	712	9	0	5%
15-Nov-11	H	Autumn	EABL	Eastern Bluebird	40	N	3	Perched	928	937	11	0	0%
		Autumn	RBWO	Red-bellied Woodpecker	10	SE	1	Calling					
		Autumn	AMRO	American Robin	30	S	3	Calling					
		Autumn	CEDW	Cedar Waxwing	10	W	7	Feeding					
15-Nov-11	I	Autumn	BLJA	Blue Jay	40	SW	2	Calling	915	924	11	0	0%
		Autumn	AMRO	American Robin	10	N	1	Perched					
		Autumn	EUST	European Starling	100	S	9	Perched					
15-Nov-11	J	Autumn	RTHA	Red-tailed Hawk	30	NE	2	Flying	858	907	11	0	0%
		Autumn	RBWO	Red-bellied Woodpecker	20	SE	1	Calling					
		Autumn	BLJA	Blue Jay	40	N	1	Perched					
		Autumn	WTSP	White-throated Sparrow	30	E	3	Feeding					
15-Nov-11	K	Autumn	AMRO	American Robin	30	N	2	Calling	844	853	11	2	5%
		Autumn	BLJA	Blue Jay	40	N	1	Flying					
		Autumn	DOWO	Downy Woodpecker	5	W	1	Feeding					
		Autumn	AMCR	American Crow	40	N	7	Flying					

APPENDIX B

Photographs from Passerine Migration Survey Points

Passerine Migration, Republic Wind Farm, Seneca County, Ohio

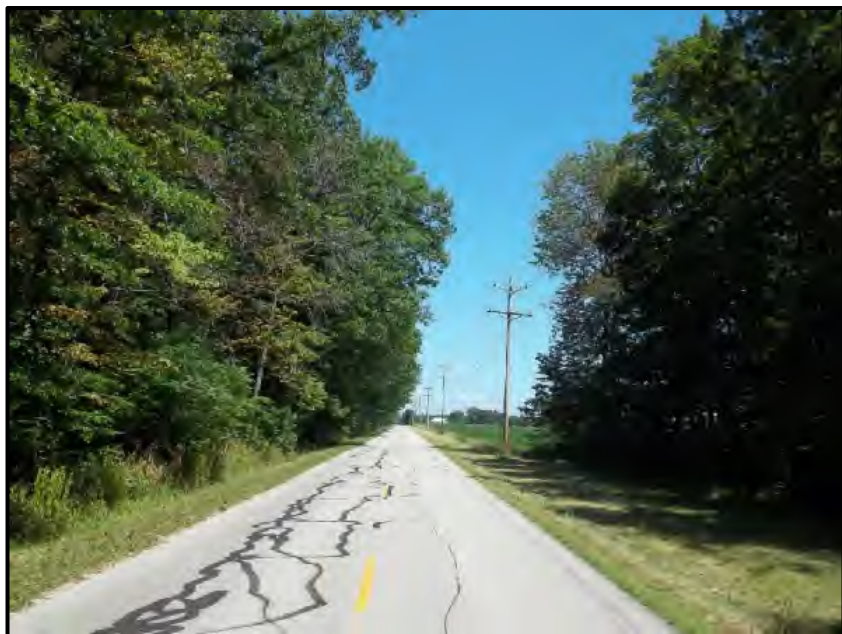


Photo 1. Point A, facing east.



Photo 2. Point A, facing west.

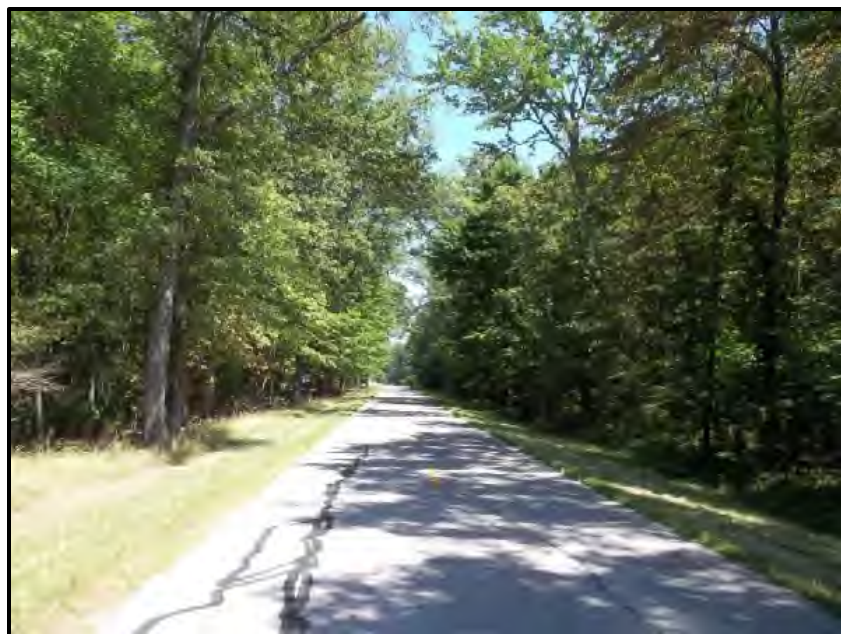


Photo 3. Point B, facing east.



Photo 4. Point B, facing west.

Passerine Migration, Republic Wind Farm, Seneca County, Ohio



Photo 5. Point C, facing east.

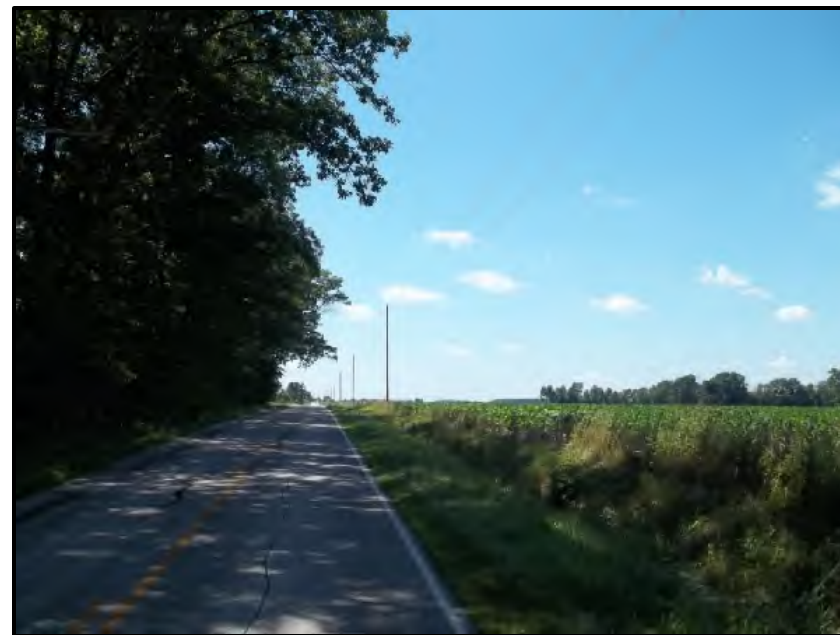


Photo 6. Point C, facing west.



Photo 7. Point D, facing north.



Photo 8. Point D, facing west.

Passerine Migration, Republic Wind Farm, Seneca County, Ohio



Photo 9. Point E, facing east.



Photo 10. Point E, facing west.



Photo 11. Point F, facing north.



Photo 12. Point F, facing west.

Passerine Migration, Republic Wind Farm, Seneca County, Ohio



Photo 13. Point G, facing east.



Photo 14. Point G, facing west.



Photo 15. Point H, facing north.

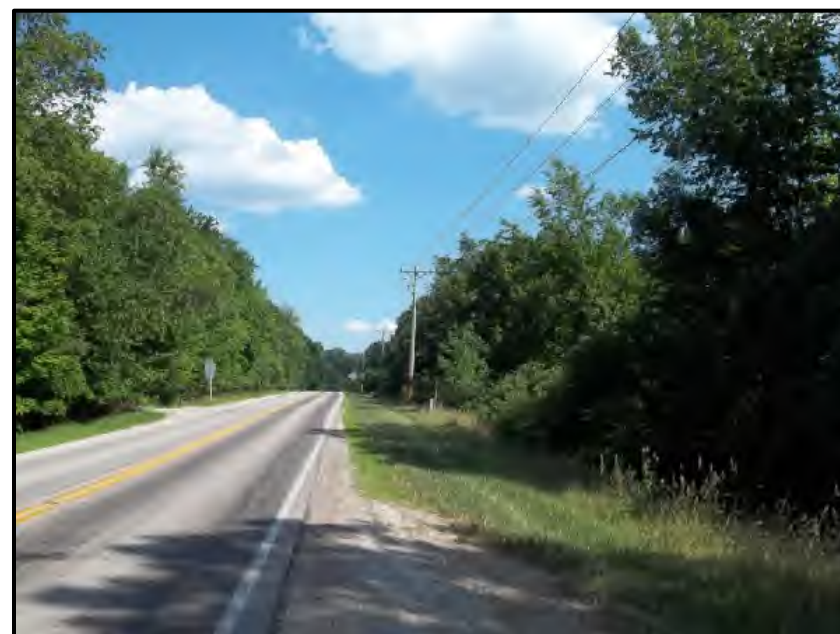


Photo 16. Point H, facing south.

Passerine Migration, Republic Wind Farm, Seneca County, Ohio



Photo 17. Point I, facing north.



Photo 18. Point I, facing south.



Photo 19. Point J, facing north.



Photo 20. Point J, facing south.

Passerine Migration, Republic Wind Farm, Seneca County, Ohio



Photo 21. Point K, facing north.



Photo 22. Point K, facing south.

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

2/2/2018 1:48:20 PM

in

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

Summary: Application Exhibit J Appendix E - Part 2 of 12 electronically filed by Teresa Orahod on behalf of Sally W. Bloomfield