Monitoring and Habitat Management for Bobolink/Eastern Meadowlark and Open Country Birds

Annual Report (Year 2)

ESA C-Permit #PT-C-011-13

Lot 29, Concession 8, Township of Montague, Lanark County, Ontario

prepared for

BLUEEARTH ASSET MANAGEMENT INC.

by



ECOLOGICAL SERVICES

Report Author Signature

Dale Kusten

Date 13 July 2015

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1.0 Summary

This report details the 2015 (Year 2) results of bird monitoring at a BlueEarth Asset Management Inc. ('BEAM') property near Smith's Falls, Ontario. This property was approved for GoodLight LP as an *Overall Benefit Area* (OBA) for Bobolink/Eastern Meadowlark under C-Permit #PT-C-011-13 (MNR 2013). The property is also intended to serve as Open Country Breeding Bird Habitat under the terms of a Habitat Restoration and Management Plan for 21.05 hectares submitted by Dillon Consulting Limited (July 2013) as per the condition in the Ministry of Natural Resources (MNR) confirmation letter (dated July 5, 2012).

Accordingly, 3 sets of early morning and evening breeding bird surveys were conducted on June 3rd, June 24th, and July 3rd. As in 2014, there remains a substantial breeding population of Bobolink and Eastern Meadowlark, as well as one other Open Country species (Eastern Kingbird). Barn Swallows were relatively common aerial foragers across the property, with nesting sites available in local farm buildings. No Common Nighthawks or Eastern Whip-poorwills were encountered during the 2015 evening surveys (suitable nesting habitat in the form of open soil patches or exposed bedrock does not occur on the property).

2.0 Site Location and Habitat Description

The OBA site is located on Lot 29, Concession 8, Township of Montague, Lanark County (Kemptville District) approximately 3.5 km north of Smith's Falls on Ferguson-Tetlock Road (See Figure 1). The total size of open land available within the OBA is 31.61 ha, which slightly exceeds the 30.85 ha requirements of the C-Permit. Most of the property is represented by managed hayfields and meadow dominated by cool season pasture grasses and mixed forbs with approximately 7.5 ha of interior grassland habitat present (see Figure 1). The grass to forb species ratio is approximately 70/30, which is considered ideal for grassland bird breeding habitat. There are patches of lowland shrubs (dogwood, willow, spiraea), young regen (black ash, white elm) and wetland grasses and forbs across the west central sections of the property over an area of about 4 ha, where drainage is poor and a viable hay crop could not be maintained. A drainage ditch runs through this area (See Figure 1).

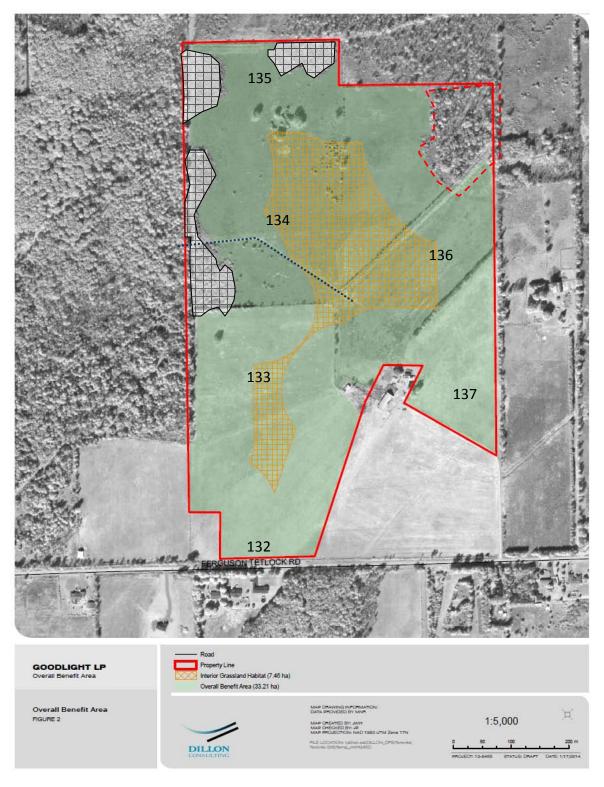


Figure 1. OBA site (Dillon Consulting, Jan. 17, 2014). Woodland in the north east corner is not included as OBA. Numbers identify survey station locations. Hatched areas represent former patchy shrub and tree regen targeted for remedial action in 2014 (brush cutting).

3.0 Survey Results (See Figure 1 and Appendix 1 survey data)

As per the terms outlined in the C-Permit, Ecological Services conducted 3 standardized OBBA point count surveys of the site in order to determine the level of breeding activity by Bobolink, Eastern Meadowlark, and other Open Grassland species. Evening surveys were also conducted in order to determine the presence of Common Nighthawk. The point count survey protocols follow those outlined in the MNR approved documents provided to us by BEAM, specifically:

- GoodLight Open Country Breeding Bird 1 Habitat Restoration Management (Dillon, June 26 2013)
- GoodLight Overall Benefit Area Letter 170114 (Dillon January 17, 2014)

3.1 Common Nighthawk

Common Nighthawks were not encountered in 2015. Habitat conditions across the site are appropriate for aerial foraging, but there are few areas of exposed soil or bedrock available for nesting. This species is considered locally present, but not breeding.

3.2 Bobolink

2015 had a very late spring which likely delayed nesting. Approximately 35 Bobolink were encountered on June 3rd and June 24th, while more than 50 were encountered on July 3rd, representing a considerable increase from the previous year (July 3rd 2014 - 7). Adults of both sexes as well as juveniles were observed in July at 4 of 6 stations (none at Stations 133 and 135), with the greatest abundance occurring within the more productive upland hayfields to the south and east.

3.3 Eastern Meadowlark

Six Eastern Meadowlarks were observed or heard calling from across much of the site during the initial survey on June 3rd, 2015. Individuals were present at 3 of 6 stations (132, 133 and 137),. Similar numbers were encountered during the second survey of June 24th, 2014. A third survey on July 3rd resulted in a reduced number of observations (3 in total).

3.4 Other Grassland Species

As in 2014, Savannah Sparrow was the only obligate open country breeding bird species observed on the property. Much more common were shrubland species such as Eastern Towhee, Common Yellowthroat, Willow Flycatcher, Song Sparrow and Yellow Warbler.

4.0 Habitat Improvement Actions to be undertaken in 2015

Now that much of the successional vegetation on the property has been cleared, there is sufficient area of open grassland present at the BEAM OBA site to meet the requirements of the C-Permit (i.e., 30.85 ha), and there is documented use of the upland meadows by substantial breeding populations of the target species (Bobolink, Eastern Meadowlark). Poorly drained

areas (approx. size 4 ha) along the western portions of the property cannot be transformed into breeding habitat appropriate for these species, but efforts to suppress shrub, tree and weedy forb succession (e.g., brush-hogging) will continue as needed so as to maintain these lowland areas in a state of early succession. Regarding the uplands, annual mowing/mulching of the meadows will be undertaken in late summer/fall 2015 so as to maintain breeding habitat in an optimal state. Timing of all vegetation management actions will be in accordance with the protection of the target species (i.e., cutting will occur outside the breeding season of May – July inclusive). As for the limited presence of Open Country Breeding Bird species, there are no additional recommendations for habitat improvement at this time. Further breeding bird monitoring surveys planned over the next several years may show changes in their abundance that are unrelated to on-site conditions.

5.0 References

- Dillon Consulting. June 26, 2013. GoodLight LP Solar Energy Project OCBB Compensation Lands.

 Electronic submission to Eric Prevost, Renewable Energy Planning Ecologist, MNR

 Peterborough
- Dillon Consulting. January 17, 2104. GoodLight LP Solar Energy Project Endangered Species Act
 Permit #PT-C-011-13: Overall Benefit Area. Electronic submission to Kate Pitt,
 Species at Risk Biologist. MNR Peterborough
- Ecological Services. July 2014. Monitoring and Habitat Management for Bobolink/Eastern

 Meadowlark and Open Country Birds Interim Report (Year 1) ESA C-Permit #PT-C011-13. Prepared for BlueEarth Asset Management Inc.
- MNR. 2013. Issuance of Permit # PT-C-011-13 to 2241656 Ontario Corp. as the general partner of GoodLight LP.

APPENDIX 1. Bird Survey Data

10 Minute Point Count	Proje	ect Name:	Give	Earth		Project #		BARR #+5.	
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^{*} Note: this column gets entered in as incidental species (Point Count radius is 100m)

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* Note: this column gets entered in as incidental species (Point Count radius is 100m)

Comments

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^{*} Note: this column gets entered in as incidental species (Point Count radius is 100m)

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^{*} Note: this column gets entered in as incidental species (Point Count radius is 100m)

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^{*} Note: this column gets entered in as incidental species (Point Count radius is 100m)

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Nind speed. 2 %			Visit #:	1	(2)	(circle)		
Air Temp. 14 °C				ie: 05	30			
Precip.			Observe	rs: C - 4	VOON	13	7	
JTM		_		IA.			-	
2 (10)							-	
Species Name		First 5 Min		<50m	50-100s		Breeding Evidence	Wind Scale 0 Calm
C -= 0	<50m	50-100n	n >100m*	< DOIN	111	17	LVIGOTIGO	1 Smoke drifts 2 Wind felt on face
2021		1	1//		111	1		3 Leaves in motion 4 Sm branches move
DAST'		-	1)	-	11	11		5 Sm trees sway 6 Lrg branches move
M000		7	1/11	-	111	1167		7 Whole frees in motion
AMRO		111	1111		111			8 Twigs break off, hard to welk
BYE		111	+-		4	1		9 Light structural damage
12611	-	-	1		111	-		10 Trees uprooted
WISV		-	1		111			
EAIO					1			
XEWA		_	+	1	-	1		Breeding Evidence
120 120			_	1		-		Codes Observed
EAKL	_	_	-	-	-		1	X - No evidence of breeding
			_	-	-			Possible H - Suitable nesting
		-	-		+		1	habitat S - Singing male
			-	-		-		Probable P - Pair
		-	-	-	+			T - Permanent territor
			-	-	-			D - Courtship or display
		_		-	_			V - Visiting prob nest site
				-	-			A - Agitated behaviou or anxiety calls
				-	-			B - Brood putch/closcal
					_			protuberance N - Nest building or
							-	excavation Confirmed
							-	DD - Distraction
							-	display NU - Used nest or eg
							-	shell FY - Fledged young
								AE - Adults at occupied nest
								FS - Faecal sac CF - Carrying food
							-	NE - Nest containing eggs
								NY - Nest with young

^{*} Note: this column gets entered in as incidental species (Point Count radius is 100m)

Wind speed Z				139 24 J		9	-	
	 %		Visit #:	1		(circle)		
Air Temp. / 4 °	-			ne 5' 4	C	· ·		
Precip.	=		Observe	rs: C - G	0000	15		
UTM				1			_	
	toe	Sar	cond 5 Mir	urtes	Breeding	Wind Scale		
Species Name	<50m	st 5 Minu 50-100m	-	<50m	50-100m	>100m*	Evidence	0 Calm
10VF	1	11			11			1 Smoke drifts 2 Wind felt on face 3 Leaves in motion 4 Sm branches move 5 Sm trees away 6 Lrg branches move 7 Whole frees in motion
WISI			1			1/		
MODE			1		1			
5058		11/1	1		Hit	i	1 3	
WIFL		11			1			8 Twigs break off, hat to walk
AMLO	1	1	HH	1		111/	CF	9 Light structural damage
SWSP		I			1		1	10 Trees uprooted
VEER			1					
DOWD			17		li			
SACR			1					Breeding Evidence Codes
RBGR					1			Observed X - No evidence of
HAWD				1		1		breeding Possible
REVI				1	1/1			H - Sultable nesting
YDSA-						1		S - Singing male
NOFE					*	1-		Probable P - Pair T - Permanent territo
5X5P					1			D - Courtship or
AMCR						1		V - Visiting prob nes
								A - Agitated behavior
								or anxiety calls B - Brood
								protuberance
								N - Nest building or excavation
								DD - Distraction
					-			NU - Used nest or es
						-		shell FY - Fledged young
						-		AE - Adults at occupied nest
	-		-		-			FS - Feecal sac CF - Carrying food
	-				-		-	NE - Nest containing eggs
	-				-		-	NY - Nest with young
					-	-		
				1	1	1		

^{*} Note: this column gets entered in as incidental species (Point Count radius is 100m)

Wind speed: 1			Station: Date:	136 24 Jc	u 19			
Cloud cover:	%		Visit #:	1	6			
. /-	°C			1				
Air Temp. / 1			Start Tin	ne. OC	400	0	-	
Precip.			Observe	rs: Ce	100	m)	-	
JTM			1					
Species Name	The second secon	st 5 Minut	-		cond 5 Mi	or got a second contract of	Breeding	Wind Scale 0 Colm
1.00	<50m	50-100m	>100m*	<50m	50-100m	1	Evidence	1 Smoke drifts 2 Wind felt on face
BOBO		II			1	1	-	3 Leaves in motion 4 Sm branches move
0001	1111	11		111/	+/	1		5 Sm trees sway 6 Lrg branches move
NW BL	11	1						7 Whole trees in motion
NOFF		1	1.1	-			-	8 Twigs break off, har
WISN	_	T	U		-	1		to walk 9 Light structural
MOVO	-	1		-	1/1:	1	-	damage 10 Trees uprooted
FAME		1		1	11	11	-	
COYE	YE /			1	1	1	-	
569/		1		-		-	-	Breeding Evidence
VEER					1	1		Codes Observed
AMKO					1	1		X - No evidence of
			-		-	-		breeding Possible
	-		-	-	-		-	H - Suitable nesting habitat
					-	-	-	S - Singing male Probable
				-	-	-		P - Pair T - Permanent territor
	-		-	-	-	-	-	D - Courtship or display
			-			-		V - Visiting prob nest site
					-	_		A - Agitated behaviou or anxiety calls
						-	-	B - Brood patch/closcal
			-		-	-		protuberance N - Nest building or
	-			1		-		excavation
				-	-		-	Confirmed DD - Distraction
				_	-	-		display NU - Used nest or eg
	_							shell FY - Fledged young
						-	-	AE - Adults at occupied nest
							-	FS - Faecal sac CF - Carrying food
								NE - Nest containing eggs
								NY - Nest with young

^{*} Note: this column gets entered in as incidental species (Point Count radius is 100m)

	Station:	137			BORD			
Wind speed:	Date: 24 Jon / S Visit #: 1 Ø (circle) Start Time 62/					150 30		
Cloud cover: 0 9						NOH,		
Air Temp. 14 °C								
Precip.		rs: C. G	voom		AMROI			
UTM		-		i				EUST. UFFS.HO
O TWI							-	0775,70
Species Name	First 5 Minute		es >100m*	<50m	ond 5 Min 50-100m	vites >100m*	Breeding Evidence	Wind Scale 0 Culm
no 120	15079	30-70011	6	\$ 49 29	30 10011	17 f	Nest	1 Smoke drifts 2 Wind felt on face
EUST	25			4	1	9		3 Leaves in motion 4 Sm branches move 5 Sm trees away
EAME	1			1	1/			6 Lrg branches move 7 Whole trees in
WISIV		11			1	1/		motion 8 Twigs break off, hard
VBSA		1	7		1	1		to walk 9 Light structural
Bown Swallow	11		-	5				damage 10 Trees uprooted
COYE	1			Ĭ				
905P		1						
AMRO						1		Breeding Evidence Codes
		-				-	-	Observed X - No evidence of breeding
		-						Possible H - Sultable nesting
								habitat S - Singing male Probable P - Pair T - Permanent territory
							-	D - Courtship or display
		-						V - Visiting prob nest site
								A - Agitated behavious or anxiety calls B - Brood
								paich/cloacal protuberance
								N - Nest building or excevation
						-		Confirmed DD - Distraction
		-						display NU - Used nest or egg shell
		1						FY - Fiedged young AE - Adults at
								occupied nest FS - Faecal sac
								CF - Carrying food NE - Nest containing
								eggs NY - Nest with young

^{*} Note: this column gets entered in as incidental species (Point Count radius is 100m)

			Station:	140	132		-\	BARR				
Wind speed.	Date: 3	Tons	5									
Cloud cover:	Visit #:											
	% °C		Start Time	060	Li							
1	Observers											
Precip.		-	Observers	5: (G roc	WY LJ	-					
J I IVI												
Species Name		rst 5 Minu		Second 5 Minutes			Breeding	Wind Scale 0 Calm				
	<50m	50-100m	>100m*	<50m	50-100m	>100m*	Evidence	1 Smoke drifts 2 Wind felt on face				
BOBC	4	-			1/	i.		3 Leaves in motion 4 Sm branches move				
JASP	ii.	-			1'	+		5 Sm trees sway 6 Lrg branches move				
6 21	2	1	1		-			7 Whole trees in motion				
EG RWBL		1	11		-	1		If Twigs break off, has to walk				
ANCK		_	11			11		9 Light structural demage 10 Trees uprooted				
W.JA	_	+			1	1	1					
7125 A		i/1	1		_	1						
0000	-	111	-			1						
1 + V/ -			177			7		Breeding Evidence				
- 100/	_		111			1		Codes Observed				
MAN	_		111		11			X - No evidence of breeding				
AMRO	+		111		ш	HH		Possible H - Suitable nesting				
COVE	_		17			11		habitat S - Singing male				
DR/D		_	1			11		Probable P - Pair				
1261						111		T - Permanent terril D - Courtship or				
David Su	1				1	111		display V - Visiting probine site A - Agitated behavior				
(1150					1							
FIRT						i		or anxisty calls B - Brood				
FADE								patch/cloacal protuberance				
								N - Nest building or				
								excavation Confirmed				
								DD - Distraction display				
								NU - Used nest or eg shell				
								FY - Fiedged young AE - Adults at				
								occupied nest FS - Faecal sac				
								CF - Carrying food NE - Nest containing				
								eggs NY - Nest with young				

^{*} Note: this column gets entered in as incidental species (Point Count radius is 100m)