

Forest Birds at Risk in the Norfolk Sand Plain region in southwestern Ontario

Final Report on the 2011/ 2012 Field Program

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This report contains a summary of the results of the two-year Forest Birds at Risk in the Norfolk Sand Plain (FBAR –NSP) project. It contains sensitive information on species at risk locations and is not for general distribution. For further information contact Jody Allair, at jallair@birdscanada.org, or Audrey Heagy, at aheagy@birdscanada.org.

Project Funding

In 2010-11, Bird Studies Canada (BSC) applied to Environment Canada's Habitat Stewardship Program (HSP) and the Ontario Ministry of Natural Resources' Species at Risk Stewardship Fund (SARSF) for support for a two-year project targeting five at-risk bird species breeding in forest habitats in the Norfolk Sand Plain region in southwestern Ontario. On 3 June 2011, BSC was notified that project funding was being provided by the HSP program over a two-year period. On 14 June 2011, BSC was notified that funding provided by SARSF was not available for this project other than for Whip-poor-will survey work in this region. In 2012, BSC also applied for and received funding to hire three students through the NSERC Industrial Undergraduate Student Research Award for a 16-week Species at Risk Intern positions.

Survey Effort

In 2011, BSC biologists conducted breeding season field surveys at 37 sites within the eastern Norfolk Sand Plain region (all in Norfolk County, Table 1). Thirty-two of these sites and 35 new sites were visited in 2012, giving a total of 67 sites visited in 2012 (in Norfolk and Elgin Counties, Table 2), and 72 sites visited over the two-year period.

In 2012, effort was made to speak with all site owners. Eleven private and three public landowners were contacted either in person or by phone, and contact information (name, property line, phone number, mailing address, etc), was given for BSC records. Landowners welcomed BSC to survey their properties and most received a letter from BSC at the end of the 2012 field season, detailing who surveyed their property and what was found. A fact sheet discussing the targeted birds and some habitat management guides was also included with the letter. In addition to Environment Canada, we will be submitting all of our site data to the Ministry of Natural Resources – Natural Heritage Information Centre.

The target sites were forest tracts that encompassed known and potential breeding habitat for

one or more of the five target species at risk: Acadian Flycatcher (ACFL), Cerulean Warbler (CERW), Hooded Warbler (HOWA), Louisiana Waterthrush (LOWA), and Prothonotary Warbler (PROW). Canada Warblers and Red-headed Woodpeckers were also recorded when encountered, but not extensively monitored. In addition, some nocturnal roadside surveys were conducted in this region to detect calling Eastern Whip-poor-wills (EWPW) and BSC project staff carried out some EWPW spot-mapping in conjunction with a collaborative research project to deploy geo-locator tracking devices on territorial adult EWPWs.

In 2011, Targeted Forest Birds at Risk fieldwork commenced on 29 April and continued through to 11 August. Survey effort totalled 429 person-hours spread over 153 site visits (Table 1). EWPW survey work was focused on the peak calling period around the full moon on 15 June.

Table 1: 2011 Forest Birds at Risk Survey Effort by Site

Site ID	Site Name (Site complex)	Land Ownership	Visits (#)	Time (hours)	Effort (person-hours)
HN1b	Backus Woods North Tract	ENGO	13	42	62.5
HN1c	Backus Woods South Tract	ENGO	12	16.5	19.5
HN3b	Big Creek - south of Delhi	Private	1	0.75	0.75
HN3c	Big Creek Valley Schafer Road South Croton	Private	1	2.9	2.9
HN4a	Harris Harris Floyd Tract (Cultus Woods)	Conservation Authority	1	1.2	1.2
HN4d	Burwell Tract (Cultus Woods)	Conservation Authority	3	4	4
HN5a	Hepburn Tract (Deer Creek Valley)	Conservation Authority	3	6	11
HN5z	Deer Creek Valley	Multiple	1	2	2
HN7z	Monroe Landon's Woods	ENGO	1	2.9	2.9
HN12d	St. Williams Forest – Southwest	Provincial Government	4	12.5	12.5
HN12e	St. Williams Forest – Southeast	Provincial Government	6	24	28
HN12f	St. Williams Forest – Northwest	Provincial Government	8	25.75	34.25
HN12g	St. Williams Forest – Northeast	Provincial Government	6	22	28.75
HN14z	Spooky Hollow	ENGO	11	24.75	34.25
HN161z	Turkey Point SW Bluff & Ravines	Provincial Government	9	14.85	25.05
HN17a	McKay-Kyte-Laforge Tract (Ungers Corners)	Conservation Authority	1	1.9	1.9
HN17b	Vandervyere-Lipsit-Penner (Ungers Corners)	Conservation Authority	1	1.75	1.75
HN19b	Jackson Tract (Venison Creek)	Conservation Authority	7	8.25	10.25
HN21b	Hanson Earl Danylevitch Tracts (Walsh Forest NE)	Conservation Authority	1	4	8
HN27a	South Walsingham Wilson Tract	Conservation Authority	2	2.3	2.3
HN27b	South Walsingham Bridgeman	Private	1	1	1
HN27c	South Walsingham Coppens Tract	Conservation Authority	11	15.25	22.75
HN27d	South Walsingham Armstrong Tract	Conservation Authority	11	23.6	28
HN27g	South Walsingham Rowanwood	ENGO	12	15.5	21.5
HN31z	Fishers Glen	Conservation Authority	1	3	3
HN37a	Courtland Swamp Abbott-Townsend Tract NW	Conservation Authority	1	2.75	2.75
HN37b	Courtland Swamp Abbott-Townsend Tract SW	Conservation Authority	1	1.5	1.5

HN52a	Pinegrove Forest Trout Creek	Regional Government	5	12.6	18.1
HN81a	Arthur Langford	ENGO	6	10	21.5
HN98a	County Forest C-7, Bills Corners	Regional Government	1	2.5	2.5
HN112 b	Forestville Creek South Coast Gardens Property	Private	1	0.5	0.5
HN21a	Swick-King Tracts (Walsh Forest SE)	Conservation Authority	1	2	2
HN27j	South Walsingham Pterophylla	Private	1	1	1
HN96a	South Walsingham Lake Erie Farms	ENGO	1	1.75	1.75
HN101 b	Weeden & Conklin	ENGO	1	2.2	2.2
HN112c	Forestville Creek Ravine west of South Coast Gardens Property	Private	1	1.5	1.5
HN113 a	South Walsingham Miles Property	ENGO	1	2	4

In 2012, targeted Forest Birds at Risk fieldwork commenced on 12 April 2012 and continued through to 6 August. Survey effort totalled 665 person-hours spread 260 site visits (Table 2). EWPW survey work was focused on the peak calling period around the full moon on xx June 2012.

Table 2: 2012 Forest Birds at Risk Survey Effort by Site

Site ID	Site Name (Site complex)	Land Ownership	Visits (#)	Time (hours)	Effort (person-hours)
HN1b	Backus Woods North Tract	ENGO	21	28.25	61.75
HN1c	Backus Woods South Tract	ENGO	17	22.7	51.2
HN112 b	South Coast Gardens Property	Gregor Beck and Kevin Kavanagh	1	0.5	0.5
HN112c	Ravine west of South Coast Gardens Property	Private	8	5.75	15.75
HN113a	Miles Property (NCC Office Ravine)	ENGO	1	0.5	1.5
HN115a	Devos-Myke	ENGO	1	0.75	1.5
HN12d	St.Williams Forest - Southwest	Provincial Government	7	7.75	10.25
HN12e	St.Williams Forest - Southeast	Provincial Government	6	14	26.5
HN12f	St.Williams Forest - Northwest	Provincial Government	6	9.25	11.25
HN12g	St.Williams Forest - Northeast	Provincial Government	16	33	54.75
HN13z	Anderson Tract south of Ringland Tract	Conservation Authority	1	1.5	1.5
HN14z	Spooky Hollow	Multiple	6	12.5	22
HN161z	Turkey Point SW Bluff & Ravines	Provincial Government	6	7.52	10.44
HN19b	Jackson Tract	Conservation Authority	4	3.92	8.17
HN21b	Hanson Earl Danylevitch Tract-Walsh Forest	Conservation Authority	6	9.5	21
HN21c	Smith Tract-Walsh Forest	Conservation Authority	3	2.25	5.25
HN21a	Swick-King Tract-Walsh Forest SE	Conservation Authority	6	3.25	7.5
HN27a	South Walsingham-Wilson Tract	Conservation Authority	7	9.2	17.7
HN27c	South Walsingham-Coppens Tract	Conservation Authority	21	22.66	48.77
HN27d	South Walsingham-Armstrong Tract	Conservation Authority	6	6.5	13.75
HN27g	South Walsingham-Rowanwood	Non Government Organization	6	10.75	25.75

HN27j	South Walsingham-Pterophylla	Private	5	2.5	5
HN3c	Big Creek Valley Schafer Road South Croton	Private	1	1.5	1.5
HN31z	Fishers Glen	Conservation Authority	3	2.5	5
HN4a	Harris Harris Floyd Tract (Cultus Woods)	Conservation Authority	1	0.5	1.5
HN4d	Burwell Tract (Cultus Woods)	Conservation Authority	4	5.75	14.25
HN4 z	Cultus Woods	Multiple	1	1	2
HN24z	SW of Cultus	Private	1	0.5	1
HN5a	Hepburn Tract (Deer Creek Valley)	Conservation Authority	5	5.75	10.5
HN5z	Deer Creek Valley	Multiple	3	2.5	5
HN52a	Trout Creek	Regional Government	3	4.9	9.3
HN81a	Arthur Langford	Long Point Basin Land Trust	6	9.5	11.5
HN41a	South East of Bill's Corners	Private	1	0.5	1
HN7z	Monroe Landon's Woods	ENGO	2	3.5	3.5
HN90a	Buchner Mason Tract	LPRCA and Private	1	1.25	1.25
HN96a	Lake Erie Farms	ENGO	2	0.5	1
HN26a	Harvey Tract	Conservation Authority	1	0.5	1
HN26e	DeSylva Tract	Conservation Authority	1	0.5	1
HN19a	Dedecker Tract	ENGO	3	2.5	5.5
HN5b	Woolley Tract	ENGO	1	1	2
HN27h	South Walsingham-Ferguson Property	ENGO	1	1	2
HN2z	Barbetti Woods	Private	1	0.5	1.5
HN114a	Jackson Gunn	Long Point Basin Land Trust	6	3	6.5
HN37a	Abbott-Townsend Tract	Conservation Authority	3	2.83	3.83
HN37z	Courtland/Middleton Wetlands	Conservation Authority	1	0.25	0.75
EL14z	Passmore Farm-Silver Creek	Leonne Passmore	4	3.75	8.5
EL14b	Silver Creek-VanOverloop	Carl VanOverloop	2	6.75	23.25
EL14c	Silver Creek-Lindsay	Alvan Lindsay	2	0.95	3.3
EL14d	Silver Creek-Morin	Roger Morin?	1	0.75	3
EL20z	Hawk Cliff	Mark Brown and Cheryl Berengrad	2	4	11.5
EL22z	Little Creek	Private	2	2.5	5
EL49z	Bossuyt-Fick	Bossuyt & Fick and others	3	5.5	12.5
EL27z	Pitter Wagner/Flintoft Property (Rush Cr)	Kim and Wendy Flintoft and Pitter Wagner	4	5	12.75
EL26b	Sparta Line	Private	2	2	5
EL45b	Rugienis Tract	Conservation Authority & MNR	2	1	2.5
EL45z	Elliott Rd Ravine	Owen and Sandra Carson	5	6	14
EL46z	Talbot Line Ravine	Private	5	7.75	19
EL6b	Howey Line	Private	1	0.75	2.25
EL7z	Coyle Rd	Private	1	0.25	0.75
EL50b	Laaper's Property	Private	1	0.75	2.25
EL50a	Dennis Property	Doug Dennis	3	4.25	10.5
EL23z	Port Burwell Provincial Park	Provincial Government	1	0.5	1
EL15z	Springwater CA	Private	1	2	4
EL29z	James Road	Private	2	1.25	3

EL43a	Calton Swamp-SE	Provincial Government	1	1	2
EL43b	Calton Swamp WMA - Stewart Swamp	Catfish Creek Conservation Authority	1	0.5	1.5
EL28z	Grigg-South Otter	Larry Grigg, Vance Shutt, John Nezezon	1	1	3

Survey Results

The results of the 2011 and 2012 Forest Birds at Risk fieldwork are summarized in Table 3 and 4, respectively. Survey results for each of the 2011 sites are presented in Table 6, and 2012 sites in Table 7. Results of the 2011 EWPW surveys are presented in Tables 10 and 11, and 2012 surveys in Tables x and y.

Acadian Flycatcher

Of the 18 males documented in 2011, four were observed only once and appear to have been transient individuals. At one of our sites one of the males was paired with two females. One or more nests were found for all known pairs. Only one instance of nest parasitism by Brown-headed Cowbirds was observed during the study period, but the nest was abandoned before hatching. This is somewhat surprising as 13.5% (18 of 133) of ACFL nests reported to the Ontario Nest Record Scheme as of 2008 had been parasitized. In 2012, thirteen pairs were observed nesting in both Norfolk and Elgin counties. Seven males appeared to remain single throughout the breeding season. One female built a nest and laid infertile eggs after a male did not return from the previous year. This female laid three eggs in the nest, then built a new nest on top of those eggs and laid two more eggs before abandoning the nest.

Cerulean Warbler

Although small groups of singing male CERWs were present throughout the summer of 2011 at two sites (Backus Woods North and St Williams Conservation Reserve Northeast), only one female was confirmed and no nests were found. In 2012, thirteen males and at least two females were observed in Norfolk County within five sites (Backus Woods North, St. Williams Conservation Reserve Northeast, Abbott-Townsend Tract, Earl Danylevitch and Swick-King). One nesting tree was located in St. Williams, however the nest was predated before it was discovered. One male was heard singing 19 July, much later than other males, but did not appear to be on territory.

Hooded Warbler

HOWAs are a relatively common forest bird in the eastern Norfolk Sand Plain region and have been intensively studied in the past. Consequently, less directed effort was put into nest searching, monitoring, and determining the number of territorial males and pairing rates, for this species in 2011, and even less in 2012, relative to the other target species. The numbers presented in Tables 3 to 7 represent minimum counts and under-estimate the actual population size at these sites. Thirty-nine pairs, 32 single males, and 29 nests were detected in 2011, and 29 pairs, 39 single males, and 22 nests were found in 2012. Forty-one young HOWAs fledged in

2011, and 40 in 2012. Over the two-year period, 25% of all nests were parasitized by Brown-headed Cowbirds.

Louisiana Waterthrush

2011 was the first concerted effort to determine pairing rates and locate and monitor nests for LOWAs in this region. Some of the single males were detected only sporadically and appeared to have very large territories. Only one Brown-headed Cowbird egg was found in the seven nests located in 2011 and none were found in the eight nests found in 2012. Although three nests failed in 2011, the number of young fledged per female was highest of the study species, and second highest in 2012. In conjunction with the field surveys, a colour banding program was also initiated in 2011, and continued in 2012, to learn about site fidelity and return rates for this species. A total of five males, four females and nine young were banded in 2011, and four males, three females, and 21 young were banded in 2012. In 2012, a colour banded female returned to her 2011 nest site in Backus North, and was confirmed to be nesting with one of her 2011 silver banded chicks. Six other pairs of LOWAs either had confirmed breeding (after finding a family group) or probable breeding (after finding a pair in suitable nesting habitat late in the season) in 2012. Following the 2011 breeding season, habitat data and photos were collected at the seven LOWA nests; this was not continued in 2012.

Prothonotary Warbler

In 2011, PROWs were reported at the traditional Backus Woods North site. One pair nested successfully in a nest box. A second unpaired male was also reported by Jon McCracken. In 2012, three pairs nested in Backus North in the nest boxes provided. A fourth female also nested, and was assumed to be mating with the male from the third pair. One of these pairs also had a double brood, using the same box as her first. In 2012, all five nests in Backus fledged, giving a total of 25 fledglings, and the highest number of young fledged per female of the study species.

Other SAR

Canada Warbler pairs were found at two Norfolk sites in 2011. In 2012, five males were observed in three sites (two in Elgin and one in Norfolk), but no females were found, although no extensive surveying was done to find females or nests. One Red-headed Woodpecker pair successfully fledged young in Jackson Gunn Forest in 2012.

Table 3. Summary of the results of the 2011 field surveys for forest birds at risk at 37 sites in the eastern Norfolk Sand Plain region.

Species	# Sites	Males	Females	Nests	Host Young Fledged	Cowbird Young Fledged	Nest Parasitism Rate
Acadian Flycatcher	12	18	12	18	15	0	0%
Canada Warbler	2	2	2	0			
Cerulean Warbler	6	16	1	0			
Hooded Warbler	20	71	41	29	41	3	24%

Louisiana Waterthrush	11	13	7	7	16	1	14%
Prothonotary Warbler	1	2	1	1	5	0	0%

Table 4. Summary of the results of the 2012 field surveys for forest birds at risk at 61 sites in the Norfolk Sand Plain region.

Species	# Sites	Males	Females	Nests	Host Young Fledged	Cowbird Young Fledged	Nest Parasitism Rate
Acadian Flycatcher	17	20	13	16	15	0	6.25%
Canada Warbler	3	5	0	0			
Cerulean Warbler	5	13	2	0			
Hooded Warbler	30	63	31	22	40	2	27%
Louisiana Waterthrush	17	24	17	8	31	0	0%
Prothonotary Warbler	1	3	4	5	25	0	0%

Table 5. Summary of the results of the total nests and young found in 2011 and 2012.

Species	Total Nests	Total Host Young	Total Cowbird Young	Total Nest Parasitism Rate
Acadian Flycatcher	34	30	0	2.94%
Canada Warbler	0			
Cerulean Warbler	0			
Hooded Warbler	52	81	5	25%
Louisiana Waterthrush	15	47	1	6.67%
Prothonotary Warbler	6	30	0	0%

Table 6. Forest birds at risk found during 2011 field survey in the eastern Norfolk Sand Plain region by site.

Site ID	Site Name	ACFL			LOWA			CERW		HOWA			PROW		CAWA	
		P	S	N	P	S	N	M	F	P	S	N	P	S	P	S
HN1b	Backus Woods North Tract	1	0	2	1	0	1	6	1	5	2	5	1	1		
HN1c	Backus Woods South Tract	1	0	1	1	1	1			1	0	1				
HN3c	Schafer Road South Croton				0	1	0									
HN4a	Harris Harris Floyd Tract									1		1				
HN4d	Burwell Tract	0	1	0												
HN5a	Hepburn Tract	2	0	3	0	1					3					
HN5z	Deer Creek Valley	0	1	0												
HN12d	St.Williams Forest – SW									4	1	4				
HN12e	St.Williams Forest – SE	0	1	0						4	3+1 F	4				
HN12f	St.Williams Forest – NW									4	3+1 F	3				
HN12g	St.Williams Forest – NE	0	1	0				6	0	4	2	4				

Site ID	Site Name	ACFL			LOWA			CERW		HOWA			PROW		CAWA	
		P	S	N	P	S	N	M	F	P	S	N	P	S	P	S
HN14z	Spooky Hollow	1+2F	0	4						7	0	5			1	
HN161z	Turkey Point SW Bluff & Ravines				1	0	2									
HN17a	McKay-Kyte-Laforge Tract									2	2	0				
HN17b	Vandervyere-Lipsit-Penner									0	1	0				
HN19b	Jackson Tract				1	0	0	1	0	1	2	0				
HN21b	Hanson Earl Danylevitch							1	0							
HN27a	Wilson Tract				0	1	0			0	2					
HN27b	Bridgeman									1						
HN27c	Coppens Tract	1	1	1	1	0	1			1		1				
HN27d	Armstrong Tract	1	1	1	1	1	1	1	0	1	4	1				
HN27g	Rowanwood	2	0	4												
HN31z	Fishers Glen									1					1	
HN37a	Abbott-Townsend Tract NW									1						
HN37b	Abbott-Townsend Tract SW							1	0							
HN52a	Trout Creek	0	1	0	1	0	1									
HN81a	Arthur Langford	2	0	2												
HN98a	County Forest C-7										6					
HN101b	Weeden & Conklin									0	1	0				
HN112c	Forestville Creek Ravine				0	1	0									
HN113a	Miles Property									1	0	0				

Notes: ACFL= Acadian Flycatcher, LOWA = Louisiana Waterthrush, CERW = Cerulean Warbler, HOWA = Hooded Warbler, PROW = Prothonotary Warbler, CAWA = Canada Warbler. P = Number of pairs, S = Single (unpaired individuals), N = number of nests found, M = males, F = females.

Table 7. Forest birds at risk found during 2012 field survey in Norfolk Sand Plain region by site.

Site ID	Site Name	ACFL			LOWA			CERW		HOWA			PROW		CAWA	
		P	S	N	P	S	N	M	F	P	S	N	P	S	P	S
HN1b	Backus Woods North Tract	1	0	1	1	1	1	3	1	4	1	6	4			
HN1c	Backus Woods South Tract	1	0	2	2	0	1			2	1	1				
HN112b	South Coast Gardens Property															
HN112c	Ravine west of South Coast Gardens Property				1	0	1									
HN113a	Miles Property (NCC Office Ravine)															
HN115a	Devos-Myke															
HN12d	St.Williams Forest - SW	1	0	1						1	0	1				
HN12e	St.Williams Forest - SE									2	3	1				
HN12f	St.Williams Forest - NW		1							2	0	1				
HN12g	St.Williams Forest - NE		1					6	1	1	0	1				
HN13z	Anderson Tract south of Ringland Tract															
HN14z	Spooky Hollow	1	0	1						5	1	5				3
HN161z	Turkey Point SW Bluff & Ravines				1		1									
HN19b	Jackson Tract										2					
HN21b	Hanson Earl Danylevitch Tracts (Walsh Forest NE)							1	0	3	3	1				
HN21c	Smith Tract (Walsh)									2	0	0				
HN21a	Swick-King Tracts (Walsh Forest SE)							1	0	1	0	1				
HN27a	Wilson Tract				1	0	1			0	1	0				
HN27c	South Walsingham Coppens Tract	1	0	1	2	0	1			0	3	0				

Site ID	Site Name	ACFL			LOWA			CERW		HOWA			PROW		CAWA	
		P	S	N	P	S	N	M	F	P	S	N	P	S	P	S
HN27d	South Walsingham Armstrong Tract	0	1	0	1	0	0			0	2	0				
HN27g	South Walsingham Rowanwood	1	1	2						1	0	1				
HN27j	South Walsingham Pterophylla									1	0	1				
HN3c	Big Creek Valley Schafer Rd South Croton				2											
HN31z	Fishers Glen									2	0	1				
HN4a	Harris Harris Floyd Tract (Cultus Woods)															
HN4d	Burwell Tract (Cultus Woods)	1	0	1							1					
HN4 z	Cultus Woods										1					
HN24z	SW of Cultus															
HN5a	Hepburn Tract (Deer Creek Valley)		1			1					2					
HN5z	Deer Creek Valley									0	1	0				
HN52a	Trout Creek					1										
HN81a	Arthur Langford	2	1	3												
HN41a	South East of Bill's Corners										3					
HN7z	Monroe Landon's Woods															
HN90a	Buchner Mason Tract															
HN96a	Lake Erie Farms									0	2	0				
HN26a	Harvey Tract															
HN26e	DeSylva Tract															
HN19a	Dedecker Tract									1	0	1				
HN5b	Woolley Tract									1	1	0				
HN27h	South Walsingham Ferguson Property															
HN2z	Barbetti Woods															
HN114a	Jackson Gunn															
HN37a	Abbott-Townsend Tract							1			2					
HN37z	Courtland/Middleton Wetlands															
EL14z	Passmore Farm-Silver Creek				1	0	1				2					1
EL14b	Silver Creek-VanOverloop	1		1	2	2					3					
EL14c	Silver Creek-Lindsay				1											
EL14d	Silver Creek-Morin															
EL20z	Hawk Cliff															
EL22z	Little Creek															
EL49z	Bossuyt-Fick	0	1	0												
EL27z	Pitter Wagner/ Flintoft Property (Rush Cr.)	1	0	1	1						1					1
EL26b	Sparta Line				0	1	0									
EL45b	Rugienis Tract				1	0	1									
EL45z	Elliott Rd Ravine	1	0	1												
EL46z	Talbot Line Ravine	1	0	1	0	1	0									
EL6b	Howey Line															
EL7z	Coyle Rd															
EL50b	Laaper's Property															
EL50a	Dennis Property															
EL23z	Port Burwell Provincial Park															
EL15z	Springwater CA										1					
EL29z	James Road										1					
EL43a	Calton Swamp-SE															
EL43b	Calton Swamp WMA - Stewart Swamp															
EL28z	Grigg-South Otter										1					

Notes: ACFL= Acadian Flycatcher, LOWA = Louisiana Waterthrush, CERW = Cerulean Warbler, HOWA = Hooded Warbler, PROW = Prothonotary Warbler, CAWA = Canada Warbler. P = Number of pairs, S = Single (unpaired individuals), N = number of nests found, M = males, F = females.

Over the last two years, a total of 72 sites within the Norfolk Sand Plain region (Norfolk and Elgin Counties) with known or potential habitat for the target species have been surveyed. Thirty-two sites (all in Norfolk County) were visited at least once in both years, and 35 sites were visited only in 2012. Of the 16 sites where ACFLs were found in 2011, 11 were also occupied in 2012 and five were not occupied in 2012. ACFLs were found at seven additional sites in 2012, including two sites that were surveyed extensively in 2011, and five newly surveyed sites. LOWAs were found in 11 sites in 2011, of which 10 were also occupied in 2012 and one which was not used again. LOWAs were found at an additional seven sites in 2012, which were all newly surveyed sites.

In 2012, 13 historic sites in Elgin County and 12 historic sites in Norfolk for ACFL and LOWA were surveyed with no target species detected. Two historic sites for LOWA in Elgin County were surveyed, and revealed a new site for ACFLs in 2012. In addition, five Norfolk sites with potential habitat and no previous reports of ACFL or LOWA were visited, but no target species were detected.

Habitat inventories done for each ACFL and LOWA nest have shown significant patterns in nesting preference. Emphasis was placed on these two species over the other target species as habitat inventories were done for the nests found by these species only. No nests were found for CAWAs or CERWs, PROWs only nested in maple sloughs at the Backus North site, and a large amount of information about the nesting preferences of HOWAs is already known. Tables 8 and 9 show the percentages of 6 habitat categories: type of forest; distance from nest to forest edge; forest habitat; nest site; presence of water directly under the nest; and canopy cover.

Results over the last two years show that an ACFL will more often choose a nesting location in a mixed, closed canopy, swamp forest. Eastern Hemlock was used as a nest site in 78% of all cases in 2011 and 67% in 2012. Building a nest directly above water only occurred in 33% and 38% of all ACFL nests in 2011 and 2012, respectively. Understory was not commonly found at the nest sites used by ACFLs or LOWAs. LOWAs almost always prefer mixed, closed canopy forests, and almost always build their nest directly over water. In 2011, a strong preference for nesting in a ravine versus nesting in a swamp was not detected, however 75% of all nests were built in ravines in 2012, perhaps due to the lack of precipitation and standing water during the 2012 season. No pattern in nest site was detected as nest sites depends on the forest habitat chosen. Nest sites occurring in ravine habitat were exclusively found in banks, and stumps or root tip ups were predominantly used in swamps

Tables 8 & 9. Habitat Nesting Preferences of Acadian Flycatchers and Louisiana Waterthrushes nests found during 2011 & 2012.

Table 8

ACADIAN FLYCATCHER				
		2011	2012	2011 & 2012
Forest Type	Deciduous	16%	0%	9%
	Coniferous	28%	0%	15%
	Mixed	56%	100%	76%
Distance from Forest Edge	<50m	5%	6%	6%
	>50 and <100m	0%	6%	3%
	>100 and <500m	95%	88%	91%
	>500m	0%	0%	0%
Habitat	Ravine	22%	44%	32%
	Swamp	78%	50%	68%
Nest Site	Eastern Hemlock	78%	67%	71%
	Black Gum	11%	6%	9%
	American Beech	6%	13%	6%
	Blue Beech	0%	6%	3%
	Sugar Maple	0%	6%	3%
	Hazelnut	0%	6%	3%
	Witch Hazel	0%	6%	3%
	Yellow Birch	6%	0%	3%
Water under nest?	Yes	33%	38%	35%
	No	67%	62%	65%
Canopy	Open	6%	19%	12%
	Closed	94%	81%	88%

Table 9

LOUISIANA WATERTHRUSH				
		2011	2012	2011 & 2012
Forest Type	Deciduous	14%	0%	7%
	Coniferous	0%	0%	0%
	Mixed	86%	100%	93%
Distance from Forest Edge	<50m	14%	13%	13%
	>50 and <100m	0%	29%	13%
	>100 and <500m	75%	71%	73%
	>500m	0%	0%	0%
Habitat	Ravine	57%	75%	67%
	Swamp	43%	25%	33%
Nest Site	Bank	57%	75%	67%
	Root Tip Up	29%	0%	20%
	Stump	14%	25%	13%
Water under nest?	Yes	100%	100%	100%
	No	0%	0%	0%
Canopy	Open	0%	N/A	N/A
	Closed	100%	N/A	N/A

Eighteen ACFL nests were monitored in 2011. One nest was built less than 50m from the edge of the forest, but the outcome was unknown. All other nests were built between 100m and 500m from the forest edge, including six successful nests and 12 failed nests. Seven LOWA nests were located in 2011, of which four nests were successful and three failed. Of the four successful, three nests were located between 100m-500m from the forest edge, and one was found less than 50m. All failed nests were located 100m-500m from the forest edge. In 2012, 16 ACFL nests were found. 50% of the nests succeeded. One successful nest was placed 50m-100m from the forest edge, and one of the failed nests was located less than 50m from the edge. The remaining nests were all located between 100m and 500m away from the edge of the forest. Eight LOWA nests were found in 2012, of which five succeeded and three failed in fledging. Of the successful nests, two were located between 100m and 500m from the forest edge, two were found 50m-100m from the edge, and one was found less than 50m from the edge. All failed nests were located between 100m and 500m away from the forest edge.

Of the 50 ACFL and LOWA nests found between 2011 and 2012, 23 nests succeeded, one had an unknown outcome, and 26 failed. Only five nests were built as far as 500m into the forest, and in only one instance (a LOWA nest in 2012) did it succeed. In total 86% of all nests found in 2011 and 2012 were built between 100m and 500m from the forest edge, of which 18 nests succeeded and 25 nests failed. 6% of all nests were found 50m-100m, and 8% were located less than 50m from the edge. All nests located between 50m and 100m succeeded. Two nests found less than 50m from the edge succeeded, one nest failed and one had an unknown outcome. From this information, it is difficult to detect where a nest will succeed more often, however these results shows that ACFLs and LOWAs prefer to build their nests within 100m-500m from the edge of a forest.

Eastern Whip-poor-will

At least eight EWPWs were heard calling during the two nocturnal roadside surveys (Table 10). At least 23 EWPWs were detected during five nocturnal surveys done on foot on the Long Point peninsula.

In 2011, BSC staff captured and banded 12 adult male EWPWs and deployed a total of 10 geolocators. All of these birds had territories in or adjacent to the St Williams Conservation Reserve (St Williams Forest and Turkey Point site complexes), which supports a total population of at least 40 calling birds.

Table 10. Norfolk Roadside Eastern Whip-poor-will Surveys 2011.

Route	Survey Date	Stop Spacing (meters)	Stop Duration (minutes)	# of stops	# of stops with 0 EWPW	# of stops with 1 EWPW	# of stops with 2 EWPW	# of stops with 3 EWPW	# of stops with 4 EWPW	# of stops with 5 EWPW	Minimum # of EWPW	# of Repeats
South Walsingham	15 June	1000	6	9	8	1	0	0	0	0	1	0
St Williams Forest	13 June	~1000	6	8	3	2	2	1	0	0	7	2
TOTAL	13-15 June			17	11	3	2	1	0	0	8	2

Table 11. Long Point Eastern Whip-poor-will Walking Surveys 2011.

Route	Survey Date	Stop Spacing (meters)	Stop Duration (minutes)	# of stops	# of stops with 0 EWPW	# of stops with 1 EWPW	# of stops with 2 EWPW	# of stops with 3 EWPW	# of stops with 4 EWPW	# of stops with 5 EWPW	Minimum # of EWPW	# of Repeats
428 - Tamarack Slough	22 June	400	6	4	2	1	0	0	1	0	5	0
429 - Squires Ridge	19 June	400	6	6	6	0	0	0	0	0	0	0
430 - Courtright Ridge	18 June	400	6	5	5	0	0	0	0	0	0	0
431 - Gravelly Bay Road	17 June	400	6	3	1	0	2	0	0	0	4	0
432 - South Shore	15 June	400	6	9	2	2	3	2	0	0	14	0
TOTAL	15-22 June			27	16	3	5	2	1	0	23	0

Louisiana Waterthrush Point Counts

In 2012, point counts were completed during LOWA surveys to determine the presence of breeding birds. During a seven minute point count survey, a recorded LOWA broadcast was played for a total of three minutes, in which the observers would record the time, habitat, and if there was, or was not, a response from a LOWA. Fifty-nine point counts were conducted at 29 sites in Norfolk and Elgin counties between 19 April and 18 May. Playback of LOWA songs and chips received a response from one or more LOWAs on six point counts at five different sites and spontaneous singing or chipping was heard 22 times at seven sites. At three of the sites where playback was used with no response, two LOWA family groups and one chipping bird (age and sex unknown) were discovered on subsequent visits for ACFL surveys on 11, 17, and 18 June. An unbanded pair of adults was also found in Backus South on 19 July without the aid of playback for detection. The two other pairs in Backus this season, and their nestlings, had been colour or silver-banded.

Table xx - Louisiana Waterthrush Point Count Success Summary

Sites with Spontaneous LOWA Song or Chipping	Sites with LOWA Response to Playback	Sites with no Response to Playback but LOWA Discovered on Subsequent Visits
Silver Creek – North of Vienna Line	Silver Creek – Lindsay Property	Carson Line Ravine – Talbot Line (Chipping bird)
Silver Creek – VanOverloop Property (3 birds)	Rugienis Tract	Armstrong Tract (Family Group)
Silver Creek – Passmore Property	Backus South	Rush Creek (Family Group)
Sparta Line	Backus North	
Turkey Point Ravine	Kavanagh/Beck Ravine	
Coppens (3 occasions)		
Wilson (2 occasions)		

Louisiana Waterthrush Songmeter Monitoring

Three of the sites (Armstrong Tract, Jackson Tract and Trout Creek) were recorded for less than 10 days due to perceived lack of LOWA presence, and the recorders were moved to Coppens Tract, a second Backus South location, and Wilson Tract. LOWAs were later discovered at two of these sites. Rather than conduct point counts, the entire data set for the sites with no perceived LOWAs was scanned for song or chip data. On 17 June, a LOWA family group was discovered in Armstrong Tract and LOWA chipping was heard on 30 April in the recordings from the song meter. Due to the date of the chipping, the lack of singing and subsequent presence, the recording may be from a migratory male, rather than territorial. In the Trout Creek recordings, a singing male was heard on 2 May. This male was not present or did not respond to playback during a site visit a day earlier.

For the remaining sites, 10 minute point counts were conducted 30 minutes after sunrise and

each hour after for four point counts each day. This was later changed to every other day due to time constraints. During each point count, any LOWA song or chip was recorded as was the number of LOWAs present.

Table X: Summary of Louisiana Waterthrush Song Meter Data

Site	Number of Point Counts	Number of Point Counts with LOWA Present	LOWA Present (%)
Turkey Point	154	92	59.74
Wilson Tract	97	72	74.23
Coppens Tract	56	31	55.36
Backus South West	68	6	8.82
Backus South East	68	19	27.94
Total	443	220	49.66

The data show that the song meters captured LOWA vocalizations about half the time, but the sample size is very small, with only five song meters. Three date ranges were created across the bird's breeding period (25 April to 2 June) to examine any trends in vocalization rates during the breeding period. One site, Coppens Tract, had a significant drop off in vocalization between the first two periods and the last period.