

# Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011



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### **Pelee Island Bird Observatory (PIBO)**

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The Pelee Island Bird Observatory (PIBO) was established in 2003 and incorporated as a non-profit charitable organization in 2006. PIBO's mandate includes a commitment to long-term migration monitoring research on Pelee Island; long-term studies of Pelee's breeding bird communities, including endangered, threatened and species of concern; serving as an educational centre for the public, school groups and the local community; and promoting the importance of Pelee Island's unique natural heritage.

PIBO Board – Graeme Gibson, the Elder (Chair), Ramsay Cook (Treasurer), Elizabeth Agnew, Wayne Grady, Paul Vasey.

Advisory Board – Margaret Atwood, Ian Davidson, Matthew Mann Gibson, Dr. David Hussell, Penny Kavanagh, Philip Slayton, Dr. Bridget Stutchbury.



*American Redstart*

## Executive Summary

In 2006 the Pelee Island Bird Observatory launched a long-term population monitoring program on Pelee Island, Essex County, Ontario, in order to study and conserve the island's nesting bird communities. Since its inception the Breeding Birds of Pelee Island project has employed a range of field methods designed to collect information on the status of nesting birds at multiple sites on Pelee, and to create baseline inventories for ongoing studies. The results have produced an accurate picture of breeding birdlife on the island and a framework for monitoring changes resulting from current and long range habitat-restoration projects at the sites. Long-term studies will also examine changes brought about by a variety of other influences ranging from natural succession to global climate change. This report presents the results from breeding bird surveys conducted on Pelee Island from 2009 – 2011. Details from the first three years of the study have been summarized previously.

From 2009 – 2011 a total of 550 field-hours was logged over three summers by twelve observers covering an area of approximately 1000 hectares, or twenty-five percent of the island's surface area. Almost 175 hours were spent setting up the study sites and 375 hours were devoted to the surveys. During this time, 226 five-minute point-count surveys were conducted at one-hundred-and-thirteen locations, and 103 Breeding Bird Census (BBC) surveys were carried out on ten BBC plots. With the exception of annual marsh bird surveys, the monitoring effort focused on landbird populations.

The point-count surveys served to generate a snapshot of breeding bird abundance and diversity across a wide range of distinct island landscapes, from active soybean fields to mature climax forest. Alternately, the BBC work produced detailed data about the composition of breeding bird communities within study areas of uniform habitat. Although these methods provided the basis for most of the information contained in this summary, a variety of other monitoring schemes were used including annual marsh bird monitoring surveys, Species at Risk transects, incidental observations, and records obtained in June and August during PIBO's migration monitoring coverage season.

Breeding evidence was recorded from 2009 – 2011 for eighty-six species listed in this document as confirmed, probable, or possible nesters, including nine national and provincial Species at Risk. Of this total, sixty-nine Neotropical migrant species and twenty-one Residents and/or Temperate migrants were detected. Based on 226 five-minute point-count surveys (19 hours), the following five species were the most common breeders recorded, in order of abundance: Red-winged Blackbird, Common Grackle, American Robin, Brown-headed Cowbird, and Yellow Warbler. In 2009 and 2010, the results from intensive summer surveys at ten Breeding Bird Census plots (325 hours) produced the following top five species: Red-winged Blackbird, Yellow Warbler, Common Grackle, American Robin, and House Wren.

In addition to a number of other priority species, the Pelee Island Bird Observatory is committed to research and education programs that benefit neotropical migrants that nest on the island, as well as neotropical passage migrants that stopover in the spring and autumn. More than sixty 'neotropicals' breed on Pelee and 199 long-distance migrants have been recorded at Fish Point Provincial Nature Reserve during PIBO's spring and fall migration monitoring coverage seasons. PIBO's core research program – migration monitoring – is concerned almost exclusively with collecting data on long-term population trends of neotropical migrants. In this respect, and while also producing valuable information about neotropicals that call Pelee home during the summer months, PIBO is also working closely with land stewards to develop restoration projects that benefit long-distance migrants through the creation of critical stopover habitat.

The Breeding Birds of Pelee Island project has relied on the ongoing support and enthusiasm of numerous Pelee Island land stewards including the Essex Region Conservation Authority, Nature Conservancy of Canada, Ontario Parks – Ontario Ministry of Natural Resources, Ontario Nature, and the Pelee Island Winery. Although the study involves many participants, more than fifty percent of the point-count sites and six of the ten BBC plots are on Nature Conservancy of Canada property. Funding for the research was generously provided by the United States Fish & Wildlife Service's Neotropical Migratory Bird Conservation Act Program.

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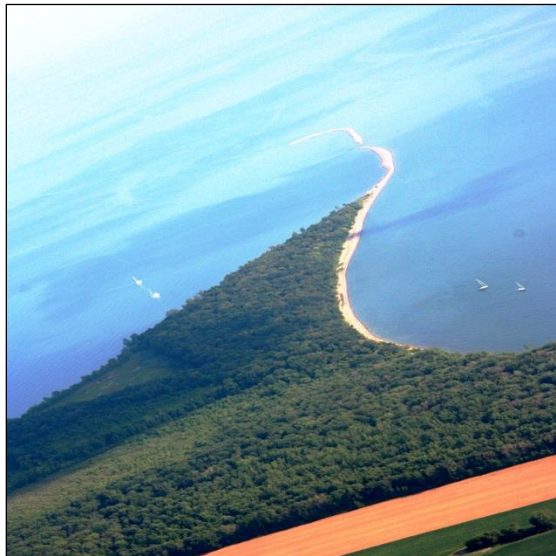
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## **1.0 INTRODUCTION**

“Distributions and abundances of many populations have changed markedly over a relatively brief period of time, and it is to be expected that the future will bring continued changes that we cannot anticipate at present. Having proper baseline information is thus a matter of essential importance”

John Terborgh – Where Have All The Birds Gone?

Pelee Island is home to a significant and varied group of breeding birds that nest within the narrow confines of Southwestern Ontario's Carolinian Zone. The island – an oasis of green in the lower Great Lakes region – provides nesting habitat for at least one hundred species, including many birds with limited ranges in Canada. At least ten Species at Risk have historically nested on Pelee including the endangered King Rail, Piping Plover, and Acadian Flycatcher, and many Species of Concern currently occupy territories – Least Bittern, Bald Eagle, Prothonotary Warbler, and Eastern Yellow-breasted Chat, among others. The island's small chat colony represents upwards of one-third of the provincial population (Cadman 2007).



*Fish Point, Pelee Island*

In recognition of the island's unique nesting bird communities, the Pelee Island Bird Observatory (PIBO), in cooperation with the Essex Region Conservation Authority (ERCA), the Nature Conservancy of Canada (NCC), Ontario Nature (ON), Ontario Parks/Ontario Ministry of Natural Resources (OP), and the Pelee island Winery (PIW), initiated a wide range of long-term field studies on the island in 2006. In keeping with PIBO's mandate, the goal of the project was to generate data on the current status of the breeding bird communities on Pelee, with an emphasis on national and provincial Species at Risk (SARs), and to establish permanent survey points for ongoing research designed to monitor changes over time.

Comprehensive point count surveys were conducted in 2009 – 2011 following the study protocol of the Atlas of the Breeding Birds of Ontario (Cadman et al. 2007), and 103 Breeding Bird Census (BBC) surveys were carried out at ten BBC study plots. Additional monitoring activities included Species at Risk transects, marsh bird monitoring, incidental observations, along with data on breeding birds collected during PIBO's migration monitoring studies. In all, twelve participants contributed approximately 550 person-hours to the 2009 – 2011

effort and surveyed more than 1000 hectares. During this time, PIBO staff documented eighty-six species designated in this report as *at least* possible breeders. Of this total, sixty-nine Neotropical migrant species and twenty-one Residents and/or Temperate migrants were detected. Based on 226 five-minute point-count surveys (19 hours), the following five species were the most common breeders recorded, in order of abundance: Red-winged Blackbird, Common Grackle, American Robin, Brown-headed Cowbird, and Yellow Warbler. In 2009 and 2010, the results from intensive summer surveys at ten Breeding Bird Census plots (325 hours) produced the following top five species: Red-winged Blackbird, Yellow Warbler, Common Grackle, American Robin, and House Wren. Nine Species at Risk were recorded including Least Bittern (Threatened), Bald Eagle (Special Concern), Prothonotary Warbler (Endangered), Eastern Yellow-breasted Chat (Special Concern).

## **2.0 OBJECTIVES**

In 2006 the Pelee Island Bird Observatory launched a long-term population monitoring program on Pelee Island, Essex County, Ontario, in order to study and conserve the island's nesting bird communities. Since its inception the Breeding Birds of Pelee Island project has employed a range of field methods designed to collect information on the status of nesting birds at multiple sites on Pelee, and to create baseline inventories for ongoing studies. The results have produced an accurate picture of breeding birdlife on the island and a framework for monitoring changes resulting from current and long range habitat-restoration projects at the sites. Long-term studies will also examine changes brought about by a variety of other influences ranging from natural succession to global climate change. This report presents the results from breeding bird surveys conducted on Pelee Island from 2009 – 2011. Details from the first three years of the study have been summarized previously.

The 2009 – 2011 surveys have generated valuable information about the current status of the breeding bird communities at many significant sites on Pelee Island, and on the status of a number of Species at Risk. These inventories will serve as a useful reference for similar studies in the future designed to monitor changes over time.



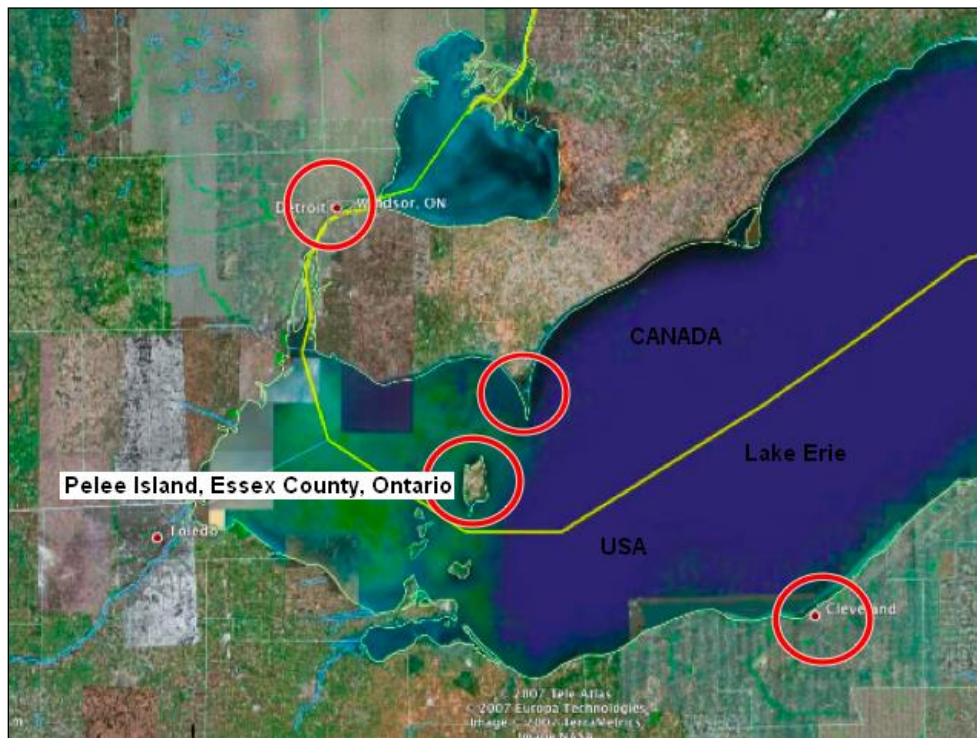
With the completion of an accurate inventory and a template for future monitoring, the study will now track anthropogenic changes brought about by multiple influences ranging from site-specific habitat restoration projects to long-term climate change. The project has also produced detailed data on the status of seven national and provincial Species at Risk that currently nest on Pelee including Least Bittern, Bald Eagle, Chimney Swift, Prothonotary Warbler, and Eastern Yellow-breasted Chat, among others, as well as detailed findings on the breeding status on Pelee of eighty-six species.

## **3.0 LOCATION**

### **Pelee Island**

Situated in the western third of Lake Erie, Pelee Island, Essex County, Ontario (Lat 41.8 N – Long 82.62 W) is recognized as an Important Bird Area (IBA) by the Canadian partners of Birdlife International – Bird Studies Canada and Nature Canada. IBA's are described as truly outstanding sites of significance for birds both nationally and internationally. The island is nationally significant for its unique breeding bird communities and globally important as a stopover site for migratory birds.





*Pelee Island, Essex County, Ontario*

Habitat: deciduous woods (temperate), alvar woodland and savannah, freshwater marsh, costal sand dunes, abandoned and fallow farmland/disturbed ground, agricultural land

Land-use: Tourism/recreation, urban, industrial, transport, research & conservation

The Pelee Island IBA site summary (Bird Studies Canada website - <http://bsc-eoc.org/iba/site.jsp?siteID=ON013>) continues:

Pelee Island is the largest island in the western Lake Erie archipelago. It has an average frost-free period of 195 days, longer than any other part of Ontario and most of Ohio. This climate allows for a growing season equivalent to that of West Virginia, which results in a mix of plant communities that are found nowhere else in Canada or in any of the adjacent U.S. states. Large areas of Chinquapin Oak alvar-savannah (a vegetation community of global significance) are located in many of the remaining natural areas. Other vegetative communities, such as the deciduous forests and marshes at Lighthouse Point and Fish Point Provincial Nature Reserves also support significant natural communities, with over 50 rare plant species being present. In addition to rare plants, numerous rare animals are also present including: the nationally endangered Lake Erie Water Snake and Blue Racer, nationally threatened Eastern Fox Snake, nationally vulnerable Smallmouth Salamander, and Grey Fox.

Pelee Island supports one of the largest concentrations of nesting Yellow-breasted Chats (nationally vulnerable) in eastern Canada. At least 10 to 20 nesting pairs are present on an annual basis [1986 data]. This estimate would represent about one-third of the eastern Canada population. Pelee Island also supports large concentrations of songbirds during both the spring and fall migrations, especially in the Fish Point and Lighthouse Point Nature Reserves. In addition to the more abundant species such as warblers and sparrows, several threatened species, such as Henslows Sparrow (near threatened globally, nationally endangered), Prothonotary Warbler (nationally endangered), and Hooded Warblers (nationally threatened) are present. Both Prothonotary Warblers and Hooded Warblers have nested on the island but not in large numbers and not on a regular basis.

## **4.0 METHODS**



Since 2004 the observatory has established and surveyed 120 permanent point-count sites and ten Breeding Bird Census (BBC) plots on properties under the stewardship of NCC, Ontario Parks, Ontario Nature, the Essex Region Conservation Authority, and private landowners (Gibson 2006) (Gibson 2008). PIBO staff and volunteers have also conducted annual marsh bird surveys, Species at Risk transect surveys, and a variety of other field studies. Results from the BBPI project have been actively shared with a network of government ministries and conservation organizations, including breeding evidence for nine federal and provincial Species at Risk.

These same methods were adopted in 2009 – 2011. First and foremost was the completion of more than one-hundred Breeding Bird Census surveys on ten BBC study plots, which included 350 hours of fieldwork, along with 226 five-minute point-count surveys at ninety-three sites. Additional activities included annual marsh bird monitoring surveys, Species at Risk transects, incidental observations, and records obtained in late-May, June, and August, during PIBO's migration monitoring coverage season.

## **4.1 Breeding Bird Census**

### **Description**

The Breeding Bird Census – established in 1914 by the U.S. Bureau of Biological Surveys – is a habitat-based survey that produces an accurate snapshot of the number of males holding territories within a study plot of uniform habitat. Multiple surveys every two to three years enable researchers to effectively measure changes in the diversity, distribution and abundance of breeding birds. The ten BBC plots on Pelee Island range in habitat structure from woodland alvar and savannah to an actively farmed soybean field. Two plots were surveyed in 2009 and the other eight in 2010. Each plot was visited an average of ten times during the breeding season for between 1.5 – 4 hours starting one-half hour before sunrise. Bird activity from these visits was transferred onto separate species maps – all robin activity, for instance, was transposed onto a map for that species. When the data recorded from ten visits is transferred onto individual species maps, distinct focal points emerge that define territorial boundaries, thus providing an accurate count of the number of species and individual males occupying the study area.

PIBO's decision to use the BBC methodology reflects the observatory's commitment to comprehensive long-term monitoring. Although the organization will continue to conduct a wide range of additional summer surveys, the BBC program will remain PIBO's core breeding bird program.

The following summary of the methodology is posted on the USGS website:

The location of each plot and the habitat studied within the plot are at the discretion of the project organizers, although they must meet certain requirements established by the program. Most plots are located at sites that are relatively free from disturbance such as parks, nature reserves, and wildlife refuges. The size and dimensions of the study plot are also at the discretion of the organizers.

At the initiation of each study plot, quantitative data are collected to describe the species composition and vegetative structure of the community. Standard methodologies are followed so the data are comparable between plots (James and Shugart 1970). Subsequent changes in the structure and composition of the vegetative community are frequently described in subjective narratives, although some plots will repeat the quantitative surveys at periodic intervals.

The BBC employs the spot-mapping methodology to estimate population densities for each avian species present in the study plots (Robbins 1970). This methodology maps the locations of all singing males and pairs present in the plot on different days during the breeding season. When these locations are combined for the entire season, each territory can be identified with considerable accuracy. A minimum of eight visits are normally required each breeding season to accurately map the territories of all species. These visits should be spaced throughout the season, including censuses during spring for species breeding early in the year.

**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
**Pelee Island Bird Observatory**

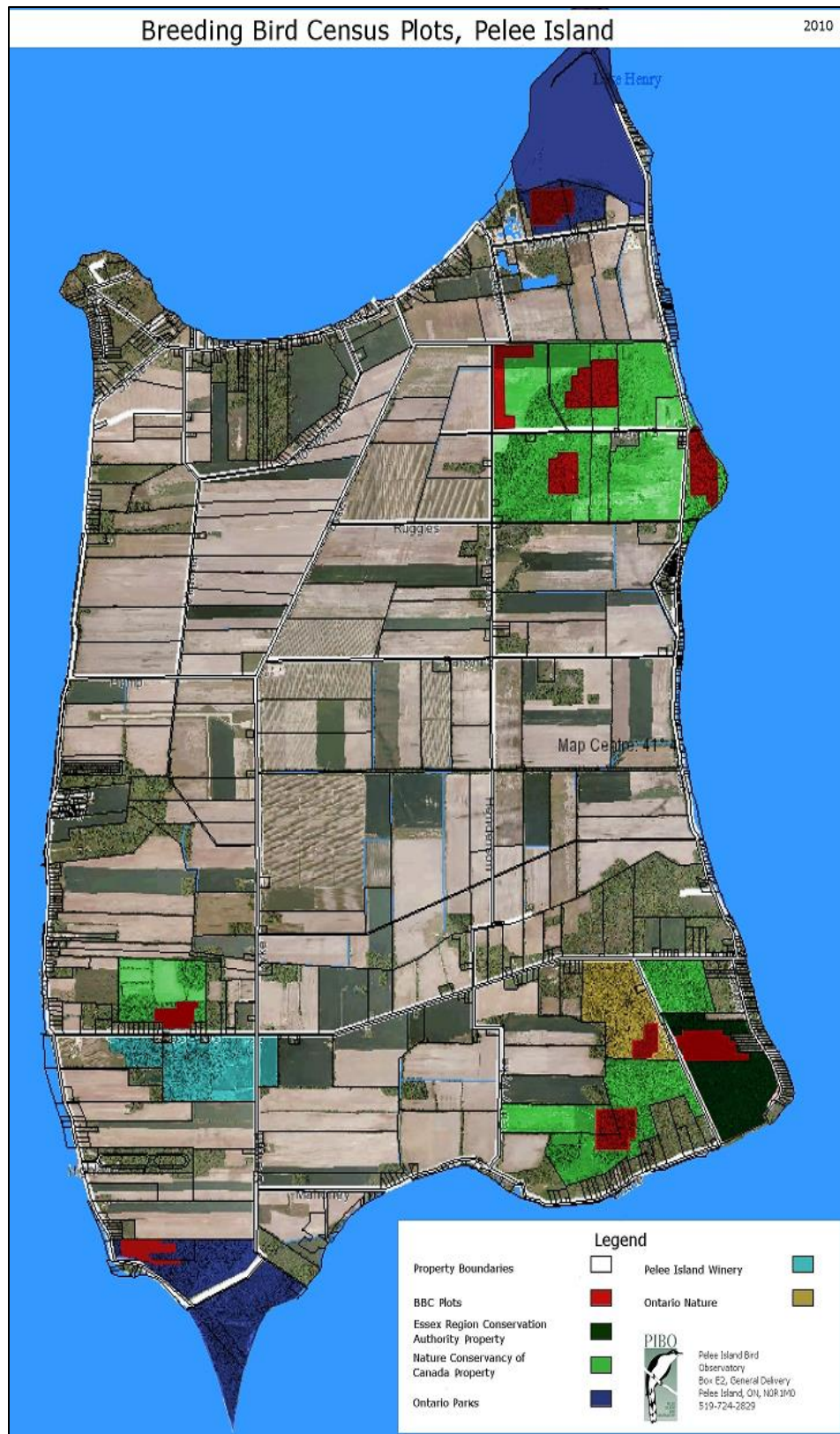
This long-term project will document the number of species and breeding territories currently found in specific Carolinian vegetation communities, and will show how breeding bird abundance, diversity and distribution, change over time due to succession and other human/non-human influences. PIBO's BBC surveys will gather valuable data in the near-term as well including detailed information about species at risk, the response of breeding communities to habitat conservation and restoration projects, and many other key findings.



*Barn Swallows*

**Map 1 – Breeding Bird Census plots – Pelee Island**

**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
**Pelee Island Bird Observatory**



**Table 1 – Description of ten Breeding Bird Census (BBC) plots including habitat-**

**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
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**type, land-steward, location, and size**

<b>Code</b>	<b>Name</b>	<b>Habitat</b>	<b>Steward</b>	<b>Location</b>	<b>Size (ha)</b>
BBC01	Browns Road North	Alvar Woodland	NCC	Browns Road	13.75
BBC02	Browns Road South	Alvar Savannah/Shrub Thicket	NCC	Browns Road	10
BBC03	Browns Road Field	Soybean Field	NCC	Browns Road	11
BBC04	Middle Point Woods	Lowland Forest	NCC	East Shore Road	8.75
BBC05	Stone Road Alvar 2	Alvar Woodland	NCC	Stone Road	10
BBC06	Red Cedar North	Alvar Woodland	NCC	East-West Road	9.25
BBC07	Lighthouse Point	Alvar Savannah/Shrub Thicket	OP	Harris-Garno Road	9.5
BBC08	Fish Point	Maple Swamp	OP	McCormick Road	9.75
BBC09	Stone Road Alvar 1	Open Alvar	ON	Stone Road	6.5
BBC10	Stone Road Alvar 3	Open Alvar	ERCA	Stone Road	14.5
					<b>Av. 10.3</b>
NCC	Nature Conservancy of Canada				
OP	Ontario Parks/Ontario Ministry of Natural Resources				
ON	Ontario Nature				
ERCA	Essex Region Conservation Authority				

**Table 2 – Habitat descriptions for ten Breeding Bird Census plots on Pelee Island**

<b>Location</b>	<b>Plant Community</b>
Brown's Road North	- alvar woodland: hackberry, white ash, blue ash, chinquapin oak, hawthorn, red oak, sugar maple; canopy 76%, 13-17m high
Brown's Road South	- alvar savannah/ shrub thicket: hackberry, black walnut, chinquapin oak, white ash, red ash, red elm, hawthorn, red cedar, blue ash; canopy 53%, 8-12 m high
Brown's Road Field	- soya bean field: actively farmed field; canopy 0%
Middle Point Woods	- n/a
Stone Road Alvar 2	- alvar savannah: hackberry, hawthorn, white ash, sugar maple, blue ash, black walnut, chinquapin oak, red elm; canopy 69%, 12-20m high
Red Cedar North	- alvar woodland: red cedar, chinquapin oak, ironwood, white ash, blue ash, shagbark hickory, hackberry; canopy 71%, 15-20m high
Lighthouse Pt.	- savannah alvar/shrub thicket: hackberry with hop tree, blue ash, hawthorn and white mulberry. Half-open savannah; canopy 46%, 6-10m high
Fish Point	- maple swamp: red and silver maple with occasional cottonwood, black ash, white elm, hackberry, pin oak, willow; canopy 91%, 20-25m high
Stone Road 1	- brushed alvar for restoration, only occasional tree saplings; shrubs: downy dogwood and sumac species, prairie and dog roses, riverbank grape, choke cherry; canopy 5%, 2-6m high
Stone Road 3 ON	- open alvar with scattered shrubs and occasional trees: downy dogwood, prickly ash, fragrant sumac, staghorn sumac, smooth rose, riverbank grape; canopy 4%, 4-11m high





*Breeding Bird Census plot – Florian Diamante Conservation Area*

## 4.2 Point-count Surveys

### Description

Since 2006 the observatory has set-up and surveyed 120 point-count sites on Pelee as part of the Breeding Birds of Pelee Island project. Each site has been sampled twice in the last five years, which includes two visits each year in early and late June, for a total of 480 five-minute counts (40 hours).

Data on the diversity, distribution and abundance of breeding birds was collected in 2009 – 2011 at ninety-three of the 120 point-count sites following the study protocol of the Atlas of the Breeding Birds of Ontario (Cadman et al. 2007). The sites are located on conservation properties under the stewardship of the Essex Region Conservation Authority, the Nature Conservancy of Canada, Ontario Nature, Ontario Parks/Ontario Ministry of Natural Resources, and the Pelee Island Winery. The individual points are divided into sixteen plots based on land ownership rather than similarities in habitat, and often a number of different habitats can be found at the same study site.

The results from the 2009 -2011 point-counts are presented for each plot based on landownership and can be found under the relevant headings in the sections for each steward (Ontario Nature, Nature Conservancy of Canada, etc.). Combined results for all the point-counts are presented in Section 5.50.

The following map shows the location of all 120 point count sites, including twenty-seven points not surveyed in 2009 – 2011. The second map identifies the names and locations of sixteen study sites that contain the point-counts. These sites range in size from 37 – 142 hectares and contain from three to thirteen point counts within each plot.

Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011  
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*Point count site – Richard and Beryl Ivey Conservation Area*



*Point count site – Florian Diamante Conservation Area*



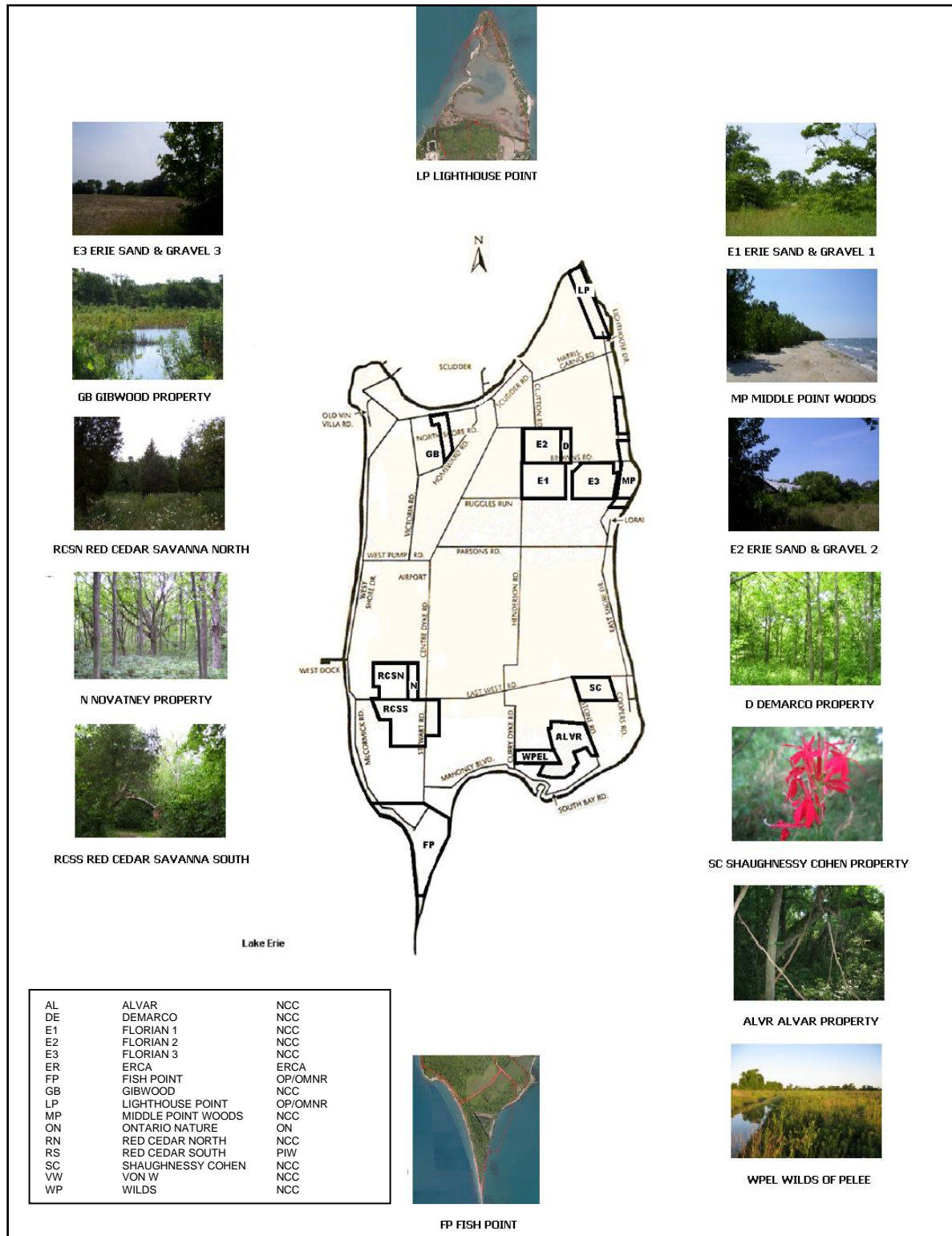
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Map 2 – Point count sites – Pelee Island



**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
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**Map 3 – Point count site properties**



**Table 3 – Point count property names, location, and stewardship**

CODE	SITE NAME	LOCATION	STEWARD
AL	ALVAR	Stone Rd.	Nature Conservancy of Canada
<b>DE</b>	<b>DEMARCO</b>	Brown's Rd.	Nature Conservancy of Canada
<b>E1</b>	<b>ERIE SAND &amp; GRAVEL</b>	Brown's Rd.	Nature Conservancy of Canada
<b>E2</b>	<b>ERIE SAND &amp; GRAVEL</b>	Brown's Rd.	Nature Conservancy of Canada
<b>E3</b>	<b>ERIE SAND &amp; GRAVEL</b>	Brown's Rd.	Nature Conservancy of Canada
<b>ER</b>	<b>ERCA</b>	Stone Rd.	Essex Region Conservation Authority
<b>FP</b>	<b>FISH POINT</b>	McCormick Rd.	Ministry of Natural Resources
<b>GB</b>	<b>GIBWOOD</b>	North Shore Rd.	Nature Conservancy of Canada
<b>LP</b>	<b>LIGHTHOUSE POINT</b>	Lighthouse Dr.	Ministry of Natural Resources
<b>MP</b>	<b>MIDDLE POINT WOODS</b>	East Shore Rd.	Nature Conservancy of Canada
<b>ON</b>	<b>ONTARIO NATURE</b>	Stone Rd.	Ontario Nature
RN	RED CEDAR SAVANNA NORTH	East-West Rd.	Nature Conservancy of Canada
RS	RED CEDAR SAVANNA SOUTH	East-West Rd.	Pelee Island Winery
<b>SC</b>	<b>SHAUGHNESSY COHEN</b>	Stone Rd.	Nature Conservancy of Canada
VW	VON W	East-West Rd.	Nature Conservancy of Canada
WP	WILDS OF PEELE	Curry Rd.	Nature Conservancy of Canada
TOTAL	16 SITES		

Bold – surveyed in 2009 - 2011

### 4.3 SAR Transects

#### Species at Risk

In addition to many other research objectives, the intensive breeding bird studies carried out in 2009 - 2011 generated important data on the nesting status of multiple Species at Risk (SAR). These inventories will assist in guiding recovery strategies for at least five SAR on Pelee including Least Bittern, Bald Eagle, Chimney Swift, Prothonotary Warbler, and Eastern Yellow-breasted Chat.

PIBO conducted standardized surveys from 2009 – 2011 on properties under the stewardship of Ontario Parks, the Nature Conservancy of Canada, Ontario Nature, and the Essex Region Conservation Authority, and the Pelee Island Winery – an area comprising approximately 1000 hectares. A variety of monitoring methods were used to detect the presence or absence of SAR including the Breeding Bird Census survey, transect surveys using playback tapes, and the Marsh Bird Monitoring Program.

### 4.4 Marsh Bird Monitoring Program (MBMP)

#### Marsh Bird Monitoring 2009

The wetland complex at Lighthouse Point – Lake Henry – was surveyed this summer for the third consecutive year. While breeding bird diversity is generally low due to exotic *phragmites* and *carp spp.*, the site provides important nesting habitat for a variety of marsh birds including the ‘threatened’ Least Bittern.

#### Marsh Bird Monitoring 2010

The wetland complex at Lighthouse Point – Lake Henry – was surveyed each summer from 2009 - 2011. While breeding bird diversity is generally low due to exotic *phragmites* and *carp spp.*, the site provides important nesting habitat for a variety of marsh birds including the 'Threatened' Least Bittern. This long-term study – part of Bird Studies Canada's Marsh Bird Monitoring Program – generates valuable information about the changes taking place in the breeding bird communities of Ontario's wetlands.



*Eastern Kingbird*

#### 4.5 Incidental Observations



## 5.0 RESULTS

### 5.1 Essex Region Conservation Authority

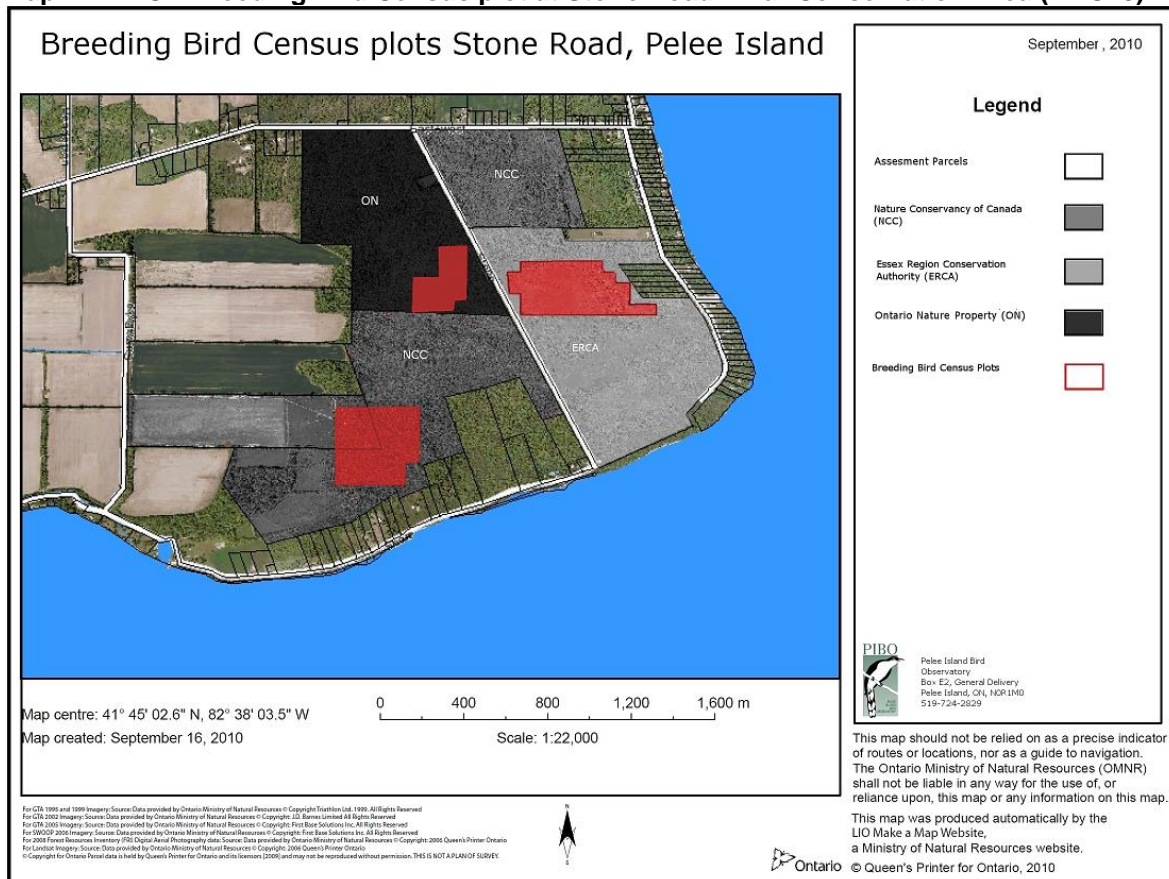
#### 5.11 ERCA Breeding Bird Census

One Breeding Bird Census plot was set-up on Essex Region Conservation Authority's Stone Road Alvar property in 2009 and surveyed in 2010. The site (BBC10 – Stone Road Alvar 3) is 14.5 hectares and is described as: brushed alvar with occasional tree saplings and shrubs, canopy 5%, 2-6 m high. The site was visited ten times during the period May 29<sup>th</sup> – July 2<sup>nd</sup> (28 hours).

In all, eighteen species and 75.5 territories were identified at the site, for a total of 219 territories/40 hectares (100 acres). The top five most common nesters were, in order of abundance: Red-winged Blackbird, Yellow Warbler, Common Grackle, Northern Cardinal, and Field Sparrow.

SAR: Yellow-breasted Chat

Map 4 – ERCA Breeding Bird Census plot at Stone Road Alvar Conservation Area (BBC10)



**Table 4 – Results from ERCA Stone Road Alvar 3 BBC survey**

<b>Stone Road Alvar 3</b>		<b>BBC10</b>
Landowner: Essex Region Conservation Authority		
Location: Ontario, Essex County, Pelee Island		
Continuity: Established in 2010		
Habitat description: Brushed Alvar, occasional tree saplings and shrubs: downy dogwood and sumac species, prairie and dog roses, riverbank grape, choke cherry; canopy 5%, 2-6m high		
Size: 14.5 hectares		
Year: 2010		
Weather: Mean start temperature 18 C		
Coverage: 28 hours; 10 vis.		
Dates: May 29, 31, June 1, 2, 3, 10, 14, 19, 26, July 2		
Species	Territories	
Red-winged Blackbird	27	
Yellow Warbler	24	
Common Grackle	5.5	
Northern Cardinal	3.5	
Field Sparrow	3	
Indigo Bunting	2.5	
American Robin	2	
American Woodcock	2	
Black-capped Chickadee	1.5	
Cedar Waxwing	1	
Downy Woodpecker	1	
Eastern Towhee	1	
Gray Catbird	1	
Mourning Dove	1	
Willow Flycatcher	1	
Yellow-breasted Chat	1	
Yellow-billed Cuckoo	1	
American Goldfinch	0.5	
Territories	79.5	
Per 40 hectares	219	
Species	18	

## 5.12 ERCA Point Counts

A total of ten point-count sites were set-up on ERCA's Stone Road Alvar conservation property and surveyed in 2009, and again in 2011. Results from both years are presented below. A total of twenty-

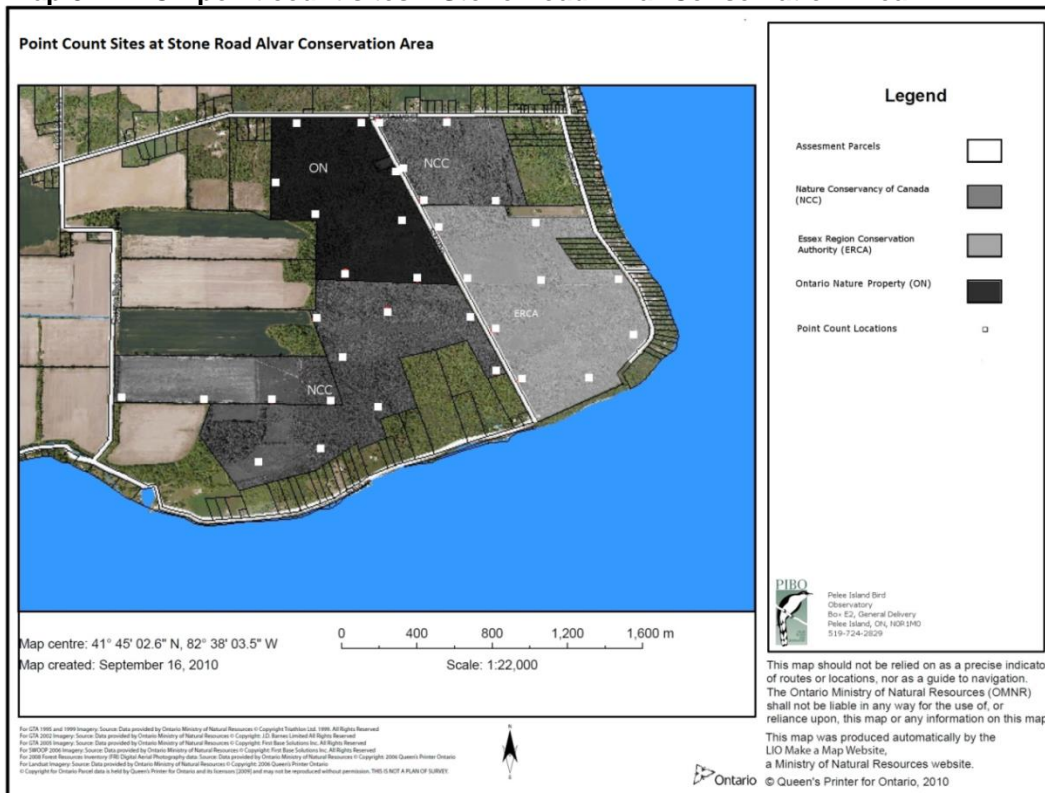


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five and twenty-nine species were noted each year, respectively, including the following top five species for each season, in order of abundance, 2009: Common Grackle, Red-winged Blackbird, Mourning Dove, Yellow Warbler, American Robin, 2011: Red-winged Blackbird, Common Grackle, Yellow Warbler, Mourning Dove, American Robin.

Although not recorded during the point-count surveys, at least two possible Yellow-breasted Chat territories were identified at the site in 2011.

**Map 5 – ERCA point count sites – Stone Road Alvar Conservation Area**



**Table 5 – Results from ERCA Stone Road Alvar point count surveys, 2009**

ERCA Stone Road Alvar Conservation Property Essex Region Conservation Authority										2009 52 ha
Species/Point #	ER1	ER2	ER3	ER4	ER5	ER6	ER7	ER8	ER9	ER10
Turkey Vulture						F		F		S
Mourning Dove	S	S	S	FS		S	S	S		F
Yellow-billed Cuckoo				F						
Yellow-shafted Flicker		S								
Willow Flycatcher			FS							
Eastern Kingbird					S	F				
Red-eyed Vireo									F	F
Purple Martin		F		F		F	F	F		S
Tree Swallow			F		S	F	F	F		F
Barn Swallow				F			F			

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Black-capped Chickadee	F	S								F
House Wren		FS								
Blue-gray Gnatcatcher									FS	
American Robin	F	S				S	FS	S	S	
Cedar Waxwing		F				S	S	FS	S	S
Yellow Warbler	S	F	S			FS		FS		
Common Yellowthroat						S				
Northern Cardinal		S						S		S
Indigo Bunting	F		S							
Eastern Towhee	S		S							
Brown-headed Cowbird		S								
Red-winged Blackbird	FS	FS	FS	FS	FS	FS	FS	FS	FS	
Common Grackle	FS	S	FS	S	FS	FS	F	FS	FS	FS
Baltimore Oriole	S	FS								
American Goldfinch	F									
<b>Total species - 1st visit</b>	<b>7</b>	<b>6</b>	<b>4</b>	<b>5</b>	<b>3</b>	<b>9</b>	<b>5</b>	<b>8</b>	<b>4</b>	<b>5</b>
<b>2nd visit</b>	<b>6</b>	<b>10</b>	<b>7</b>	<b>3</b>	<b>5</b>	<b>6</b>	<b>4</b>	<b>7</b>	<b>5</b>	<b>6</b>
<b>Combined visits</b>	<b>10</b>	<b>13</b>	<b>8</b>	<b>6</b>	<b>4</b>	<b>10</b>	<b>8</b>	<b>10</b>	<b>6</b>	<b>10</b>
<b>Total species</b>										<b>25</b>
F - detected during first 5-minute point count										
S - detected during second 5-minute point count										

**Table 6 – Results from ERCA Stone Road Alvar surveys, 2011**

<b>ERCA</b>											<b>2011</b>
<b>Stone Road Alvar Conservation Property</b>											
<b>Essex Region Conservation Authority</b>											<b>52 ha</b>
<b>Plot</b>	<b>ER1</b>	<b>ER2</b>	<b>ER3</b>	<b>ER4</b>	<b>ER5</b>	<b>ER6</b>	<b>ER7</b>	<b>ER8</b>	<b>ER9</b>	<b>ER10</b>	
Ring-necked Pheasant	FS		S	F					F		
Wild Turkey			F								
Mourning Dove	FS		FS	FS	F		F		FS	F	
Yellow-billed Cuckoo											S
Red-bellied Woodpecker		F									S
Downy Woodpecker		F	F					F	F		
Great Crested Flycatcher									F		
Eastern Kingbird						F		S			
Red-eyed Vireo											S
Purple Martin							FS	FS			
Tree Swallow			S	S	FS		FS	S		F	
Barn Swallow					S		FS	S			
Black-capped Chickadee									F		
House Wren											F
American Robin	F	F	F		FS		F	FS		F	
Wood Thrush											F

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Cedar Waxwing	S					FS			S	
Yellow Warbler	FS	FS	FS	F	FS	FS	F	FS	FS	
Common Yellowthroat									F	
Northern Cardinal		F			F		S	S		S
Indigo Bunting	S				S		F			
Eastern Towhee										S
Field Sparrow			F							FS
Brown-headed Cowbird	F	F				F		F		F
Red-winged Blackbird	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS
Common Grackle	S	FS	S	F	FS	S	FS		S	S
Baltimore Oriole		S		S	F				F	
Orchard Oriole									F	
American Goldfinch									S	
<b>Total species - 1st visit</b>	<b>6</b>	<b>8</b>	<b>7</b>	<b>5</b>	<b>8</b>	<b>5</b>	<b>9</b>	<b>6</b>	<b>10</b>	<b>8</b>
<b>2nd visit</b>	<b>7</b>	<b>4</b>	<b>6</b>	<b>4</b>	<b>7</b>	<b>4</b>	<b>6</b>	<b>8</b>	<b>6</b>	<b>8</b>
<b>Combined visits</b>	<b>9</b>	<b>9</b>	<b>10</b>	<b>7</b>	<b>10</b>	<b>6</b>	<b>10</b>	<b>10</b>	<b>13</b>	<b>14</b>
<b>Total species</b>										<b>29</b>
<b>2009</b>										<b>25</b>
F - detected during first 5-minute point count										
S - detected during second 5-minute point count										

## 5.13 ERCA Transects

## 5.14 ERCA Incidental Observations

# 5.2 Nature Conservancy of Canada

## 5.21 NCC Breeding Bird Census

Six Breeding Bird Census (BBC) plots were set-up and surveyed on Pelee Island in 2009 and 2010 on properties under the stewardship of the Nature Conservancy of Canada. More than 250 field-hours were compiled over two summers by nine participants including fifty-nine morning surveys conducted from June 1<sup>st</sup> to July 5<sup>th</sup>, 2010. These studies are part of NCC's Western Lake Erie Islands Natural Area Conservation Plan, and a central part of the Pelee Island Bird Observatory's Birds of Pelee Island Project.

Two PIBO staff and seven volunteers set-up three plots in 2009 (including vegetation analysis) and partially surveyed one site at the Florian Diamante Conservation Area. An additional three plots were established in 2010 and all six sites were surveyed. Forty-two hours were spent setting-up in 2009 and sixteen hours were devoted to the partial survey. In 2010 it required forty hours to set-up three additional plots and approximately 180 hours to survey all six sites.

Data was collected on the distribution, diversity, and abundance of a wide range of species holding territories on at least one of the sites, as well as additional species classified as visitors. In addition to many Carolinian species with limited breeding ranges in Canada, five Species at Risk were recorded, including two species on territory,

**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
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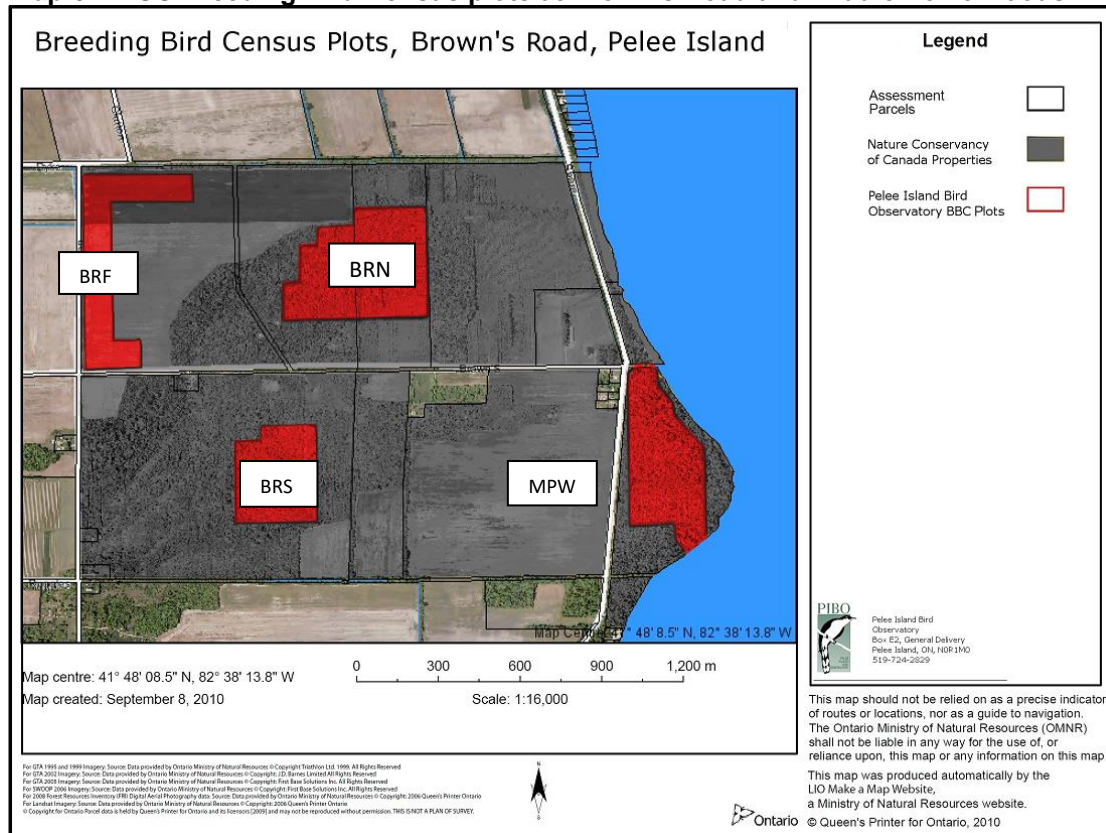
along with four species of regional concern. In all, the surveys produced a wealth of information about the breeding birds at a number of significant NCC conservation properties. This research will help guide current and future habitat restoration initiatives designed to enhance native alvar habitat on Pelee, and follow-up surveys will provide important feedback about changes in the avifaunal communities associated with these projects.

Three plots are located at NCC's Florian Diamante conservation property: Brown's Road Field (BRF), Brown's Road North (BRN), and Brown's Road South (BRS), along with one additional plot in the vicinity at Middle Point Woods (MPW) (Map 1). The fifth plot is situated in the southwest section of NCC's Stone Road Alvar (SRA) property (Map 3), and the sixth is located at the Richard and Beryl Ivey site on East-West Road: Red Cedar North (RSN) (Map 4). The sites range in size from 6.25 – 13.75 hectares.

**Table 7 – NCC Breeding Bird Census plots on Pelee Island**

Code	Name	Habitat	ID	Location	Size (ha)	Species	Territories	Terr./40 ha
BBC01	Browns Road North	Alvar Woodland	BRN	Browns Road	13.75	23	67.5	196
BBC02	Browns Road South	Alvar Savannah/Shrub Thicket	BRS	Browns Road	10	23	110.5	442
BBC03	Browns Road Field	Soybean Field	BRF	Browns Road	11	4	7.5	27
BBC04	Middle Point Woods	Lowland Forest	MPW	East Shore Road	8.75	18	111	507
BBC05	Stone Road Alvar 2	Alvar Woodland	SR2	Stone Road	10	33	148	592
BBC06	Red Cedar North	Alvar Woodland	RCN	East-West Road	9.25	18	86	372

**Map 6 – NCC Breeding Bird Census plots at Brown's Road and Middle Point Woods**



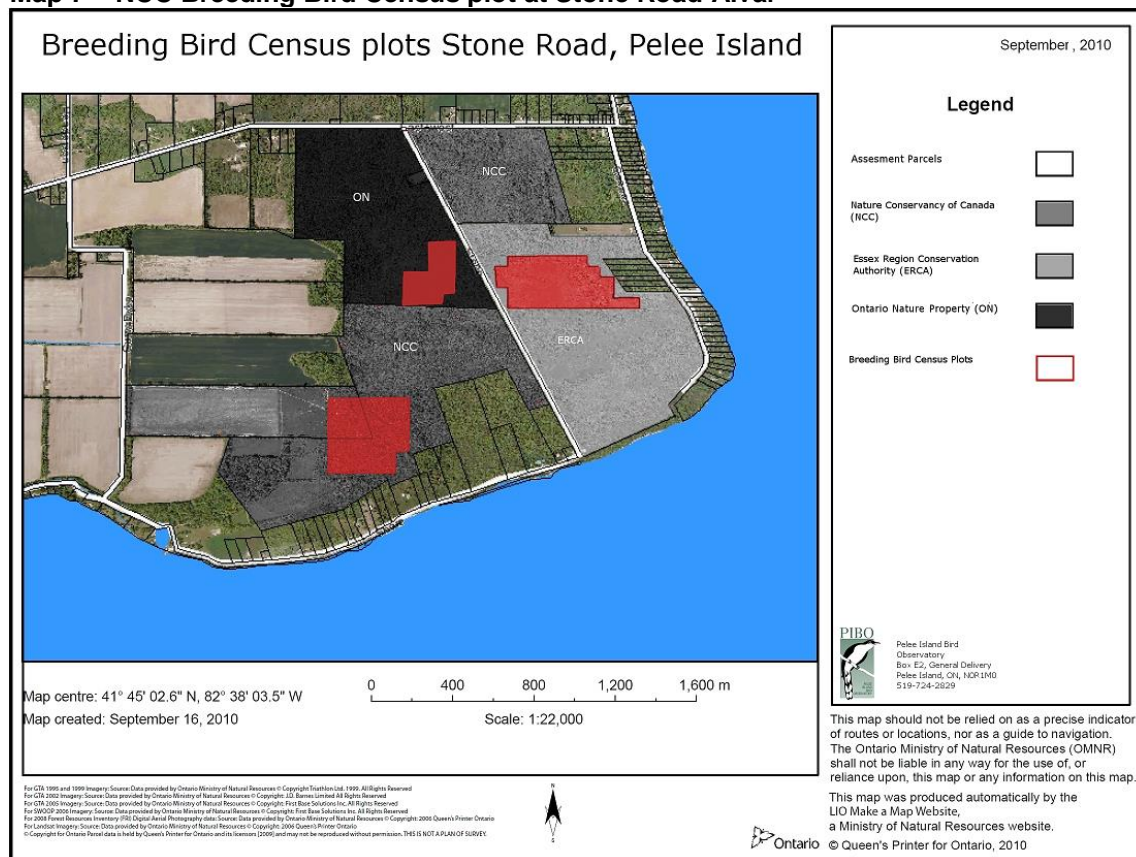


**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
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**NCC Breeding Bird Census plot – Florian Diamante Conservation Area (BBC02)**

**Map 7 – NCC Breeding Bird Census plot at Stone Road Alvar**

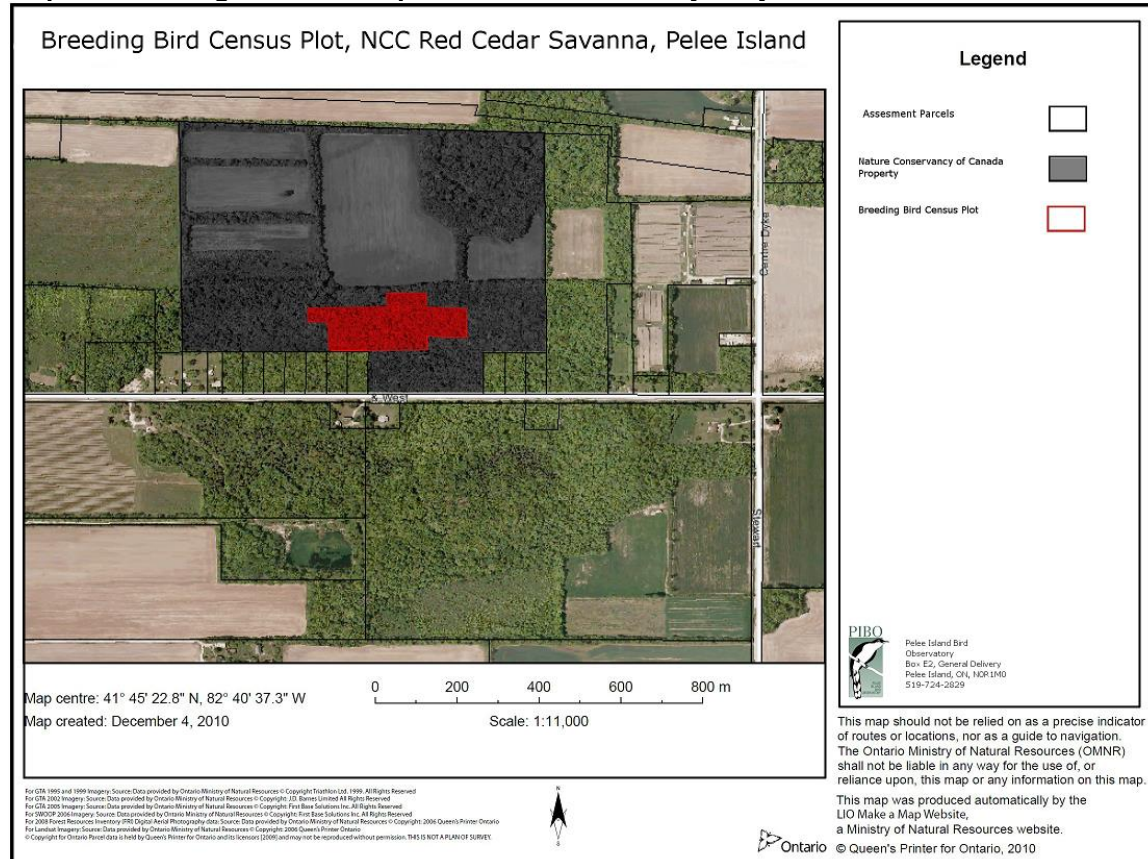


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**NCC Breeding Bird Census plot - Stone Road Alvar Conservation Area (BBC05)**

**Map 8 – Breeding Bird census plot at Richard and Beryl Ivey Conservation Area**





**Table 8 – Results from NCC Florian Diamante Conservation Area BBC01**

<b>BROWN'S ROAD NORTH</b>		<b>BBC01</b>
Landowner: Nature Conservancy of Canada		
Location: Ontario, Essex County, Pelee Island		
Continuity: Established in 2010		
Habitat description: Alvar Woodland:		
hackberry, white ash, blue ash, chinquapin oak, hawthorn,		
red oak, sugar maple; canopy 76%, 13-17m high		
Size: 13.75 hectares		
Year: 2010		
Weather: Mean start temperature 18 C		
Coverage: 27 hours; 10 vis.		
Dates: June 3, 5, 12, 13, 15, 18, 20, 24, 29, July 7		
Species	Territories	
Red-winged Blackbird	8	
House Wren	6	
Northern Cardinal	6	
Common Grackle	5	
Downy Woodpecker	5	
Indigo Bunting	5	
Eastern Wood-Pewee	4	
Yellow Warbler	3.5	
American Robin	3	
Blue Jay	3	
Eastern Towhee	3	
Black-capped Chickadee	2	
Great Crested Flycatcher	2	
Gray Catbird	2	
Yellow-billed Cuckoo	2	
Baltimore Oriole	1	
Blue-gray Gnatcatcher	1	
Brown-headed Cowbird	1	
Cedar Waxwing	1	
Mourning Dove	1	
Red-eyed Vireo	1	
Scarlet Tanager	1	
Wild Turkey	1	
Territories	67.5	
Per 40 hectares	196	
Species	23	

**Table 9 – Results from NCC Florian Diamante Conservation BBC02**

<b>BROWN'S ROAD SOUTH</b>		<b>BBC02</b>
Landowner: Nature Conservancy of Canada		
Location: Ontario, Essex County, Pelee Island		
Continuity: Established in 2010		
Habitat description: Alvar savannah/shrub thicket:		
hackberry, black walnut, chinquapin oak, white ash, red ash,		
hawthorn, red cedar, blue ash; canopy 53%, 8-12 m high		
Size: 10 hectares		
Year: 2010		
Weather: Mean start temperature 18 C		
Coverage: 27 hours; 10 visits		
Dates: June 2, 4, 7, 12, 13, 15, 17, 20, July 2, 5		
Species	Territories	
Red-winged Blackbird	29.5	
Yellow Warbler	11	
Brown-headed Cowbird	7	
Common Grackle	7	
Field Sparrow	6	
Mourning Dove	6	
Northern Cardinal	6	
Baltimore Oriole	5	
Downy Woodpecker	4	
Yellow-billed Cuckoo	4	
American Robin	3	
Black-capped Chickadee	3	
Eastern Towhee	3	
Indigo Bunting	3	
Blue Jay	2	
Carolina Wren	2	
Eastern Wood-Pewee	2	
Great Crested		
Flycatcher	2	
American Woodcock	1	
Black-billed Cuckoo	1	
Eastern Kingbird	1	
Gray Catbird	1	
Orchard Oriole	1	
Territories	110.5	
Per 40 hectares	442	
Species	23	

**Table 10 – Results from NCC Florian Diamante Conservation BBC03**

<b>BROWN'S ROAD FIELD</b>		<b>BBC03</b>
Landowner: Nature Conservancy of Canada		
Location: Ontario, Essex County, Pelee Island		
Continuity: Established in 2010		
Habitat description: Agricultural Field:		
Active soybean field; canopy 0%, 0m high		
Size: 11 hectares		
Year: 2010		
Weather: Mean start temperature 18 C		
Coverage: 13 hours; 8 visits		
Dates: June 13, 15, 17, 18, 19, 23, 25, 28		
Species	Territories	
Horned Lark	3	
Killdeer	2	
Red-winged Blackbird	1.5	
Grasshopper Sparrow	1	
Territories	7.5	
Per 40 hectares	27	
Species	4	

**Table 11 – Results from NCC Florian Diamante Conservation BBC04**

<b>MIDDLE POINT WOODS</b>		<b>BBC04</b>
Landowner: Nature Conservancy of Canada		
Location: Ontario, Essex County, Pelee Island		
Continuity: Established in 2010		
Habitat description: Lowland Forest:		
n/a		
Size: 8.75 hectares		
Year: 2010		
Weather: Mean start temperature 18 C		
Coverage: 28 hours; 10 vis.		
Dates: June 12, 14, 16, 18, 19, 23, 28, July 1, 2, 3		
Species	Territories	
Red-winged Blackbird	25	
American Robin	15	
House Wren	11	

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Yellow Warbler	10.5
Brown-headed Cowbird	7
Downy Woodpecker	7
Northern Cardinal	6
Common Grackle	5
Baltimore Oriole	4
Indigo Bunting	3.5
Black-capped Chickadee	3
Eastern Wood-Pewee	3
Red-eyed Vireo	3
Blue Jay	2
Great Crested Flycatcher	2
Red-bellied Woodpecker	2
European Starling	1
Red-tailed hawk	1
Territories	111
Territories/40 ha	507
Species	18

**Table 12 – Results from NCC Florian Diamante Conservation BBC05**

12      Records from the Ontario Nature Conservation

<b>STONE ROAD ALVAR 2</b>	<b>BBC05</b>
Landowner: Nature Conservancy of Canada	
Location: Ontario, Essex County, Pelee Island	
Continuity: Established in 2010	
Habitat description: Alvar Woodland:	
hackberry, hawthorn, white ash, sugar maple, blue ash, chinquapin oak, red elm; canopy 69%, 12-20m high	
Size: 10 hectares	
Year: 2010	
Weather: Mean start temperature 18 C	
Coverage: 29 hours; 9 visits	
Dates: June 10, 16, 18, 20, 25, 26, 30, July 3, 6	
Species	Territories
American Robin	13
Indigo Bunting	13
Red-winged Blackbird	13
House Wren	12.5
Common Grackle	12
Downy Woodpecker	9

**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
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Northern Cardinal	8.5
Yellow Warbler	8
Brown-headed Cowbird	6
Eastern Wood-Pewee	5.5
Yellow-billed Cuckoo	5.5
Baltimore Oriole	4
Cedar Waxwing	4
Black-capped Chickadee	3
Carolina Wren	3
Eastern Towhee	3
Northern Flicker	3
Mourning Dove	2.5
American Goldfinch	2
Blue Jay	2
Great Crested Flycatcher	2
Red-eyed Vireo	2
Tree Swallow	2
Wild Turkey	1.5
American Woodcock	1
Blue-gray Gnatcatcher	1
Common Yellowthroat	1
Orchard Oriole	1
Scarlet Tanager	1
Song Sparrow	1
White-eyed Vireo	1
Chipping Sparrow	0.5
Wood Thrush	0.5
Territories	148
Per 40 hectares	592
Species	33

**Table 13 – Results from NCC Florian Diamante Conservation BBC06**

<b>RED CEDAR NORTH</b>	<b>BBC06</b>
Landowner: Nature Conservancy of Canada	
Location: Ontario, Essex County, Pelee Island	
Continuity: Established in 2010	
Habitat description: Alvar Woodland:	
red cedar, chinquapin oak, ironwood, white ash, blue ash,	
shagbark hickory, hackberry; canopy 71%, 15-20m high	
Size: 9.25 hectares	
Year: 2010	

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Weather: Mean start temperature 18 C

Coverage: 29 hours; 10 vis.

Dates: June 2, 4, 7, 8, 10, 13, 14, 21, 26, 30

Species	Territories
House Wren	13.5
American Robin	9
Brown-headed Cowbird	9
Downy Woodpecker	8.5
Common Grackle	8
Red-eyed Vireo	7.5
Indigo Bunting	7
Northern Cardinal	5
Black-capped Chickadee	3
Red-winged Blackbird	3
Yellow-billed Cuckoo	3
Cedar Waxwing	2
Eastern Wood-Pewee	2
Great Crested Flycatcher	2
Baltimore Oriole	1
Scarlet Tanager	1
Yellow Warbler	1
Carolina Wren	0.5
Territories	86
Per 40 hectares	372
Species	18





*Scarlet Tanager*



*Red Cedar North BBC plot – Richard and Beryl Ivey Conservation Area*

## 5.22 NCC Point Counts

Since 2006, a total of fifty-seven point-count sites have been established on Pelee Island on Nature Conservancy of Canada conservation properties. As of 2011, each site has been surveyed twice, with at least one year between each summer survey. The totals below summarize the period 2009 – 2011, when forty-one sites were surveyed once in early-June and again at the end of the month. The sites this year were located at the following NCC properties: Demarco Conservation Area, Erie Sand & Gravel 1, Erie Sand & Gravel 2, Erie Sand & Gravel 3 (all at Brown's Road), Middle Point Woods (East Shore Road), Shaughnessy Cohen Nature Reserve (Stone Road), and Gibwood (North Shore Road).

**Map 9 – NCC point count sites – Florian Diamante Conservation Area**



**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
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In all, forty-five species were documented in 2011 during 82 five-minute surveys including the following top ten species, in order of abundance: Red-winged Blackbird, American Robin, Common Grackle, Brown-headed Cowbird, Yellow Warbler, Northern Cardinal, Mourning Dove, Tree Swallow, Cedar Waxwing, and Indigo Bunting.

**Table 14 – Number of NCC point count sites where species was recorded at least once during 82 five-minute surveys**

Species	# Sites	Species	# Sites
Red-winged Blackbird	41	Purple Martin	6
American Robin	36	Barn Swallow	6
Common Grackle	35	Black-capped Chickadee	6
Brown-headed Cowbird	31	Orchard Oriole	6
Yellow Warbler	23	Killdeer	5
Northern Cardinal	22	Eastern Wood-Pewee	5
Mourning Dove	21	Black-billed Cuckoo	4
Tree Swallow	21	Wild Turkey	3
Cedar Waxwing	20	Red-bellied Woodpecker	3
Indigo Bunting	17	Eastern Towhee	3
Baltimore Oriole	17	House Finch	3
American Goldfinch	15	Warbling Vireo	2
European Starling	14	N. Rough-winged Swallow	2
Blue Jay	11	Blue-gray Gnatcatcher	2
Yellow-billed Cuckoo	10	Gray Catbird	2
Downy Woodpecker	10	Chipping Sparrow	2
House Wren	10	Great Blue Heron	1
Great Crested Flycatcher	9	Red-tailed Hawk	1
Northern Flicker	8	Willow Flycatcher	1
Horned Lark	8	American Crow	1
Red-eyed Vireo	7	Wood Thrush	1
Field Sparrow	7	Common Yellowthroat	1
Eastern Kingbird	6	<b>Species</b>	<b>45</b>

**DE DEMARCO PROPERTY**

Nature Conservancy of Canada

Hectares: 16

The Demarco property is located on the north side of Brown's Road in the northeast section of the island and makes up one of five study sites in the Brown's Road area. The plot lies directly to the east and adjoins plot E2 and directly north of E3. The property consists primarily of moist, mature deciduous forest, although a large portion of the southern section includes an area of reclaimed pasture and part of the northeast sections includes a small pine plantation.

**Table 15 – Point count results from Demarco Conservation Area**

<b>DEMARCO CONSERVATION AREA</b>				<b>2011</b>
<b>Florian Diamante Nature Reserve</b>				
<b>Nature Conservancy of Canada</b>				<b>16 ha</b>
<b>Species/Point #</b>	<b>DE01</b>	<b>DE02</b>	<b>DE03</b>	<b>DE04</b>

**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
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Mourning Dove	FS	F		
Yellow-billed Cuckoo			FS	
Downy Woodpecker		S	S	
Yellow-shafted Flicker				S
Great Crested Flycatcher			F	
Red-eyed Vireo			FS	
Blue Jay			F	
Tree Swallow	F			
Black-capped Chickadee			S	
House Wren			FS	
Blue-gray Gnatcatcher			FS	
American Robin	S	F	FS	S
European Starling		S		
Cedar Waxwing			F	F
Yellow Warbler	FS	FS	F	FS
Northern Cardinal		FS		
Indigo Bunting			S	S
Field Sparrow		F		
Brown-headed Cowbird	S		FS	FS
Red-winged Blackbird	FS	FS	FS	FS
Common Grackle	S		FS	S
Baltimore Oriole		F	F	F
Orchard Oriole	F			
American Goldfinch			F	S
<b>Total species - 1st visit</b>	<b>5</b>	<b>7</b>	<b>14</b>	<b>5</b>
<b>2nd visit</b>	<b>6</b>	<b>5</b>	<b>11</b>	<b>8</b>
<b>Combined visits</b>	<b>8</b>	<b>9</b>	<b>17</b>	<b>10</b>
<b>Total species</b>				<b>24</b>
<b>2008</b>				<b>23</b>
F - detected during first 5-minute point count				
S - detected during second 5-minute point count				

**E1     ERIE SAND & GRAVEL 1**

Nature Conservancy of Canada

Hectares: 63

The Erie Sand & Gravel 1 site is one of three large NCC properties situated on the north and south side of Brown's Road. This plot is located on the south side just below site E2 and DE and slightly west of E3. The property consists of a mixture of mature deciduous woods to the west, open, shrubby savanna in the central portion and some grassland to the northeast. Two small soybean fields are located on the site at the northwest and southeast corners.

**Table 16 – Point count results from Florian Diamante E1**

<b>ERIE SAND &amp; GRAVEL 1</b>									<b>2011</b>
<b>Florian Diamante Nature Reserve</b>									
<b>Nature Conservancy of</b>									
<b>Canada</b>									<b>63 ha</b>
<b>Species/Point #</b>	<b>E11</b>	<b>E12</b>	<b>E13</b>	<b>E14</b>	<b>E15</b>	<b>E16</b>	<b>E17</b>	<b>E18</b>	<b>E19</b>

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Wild Turkey						S			
Mourning Dove					F	F		F	
Yellow-billed Cuckoo	F	F		FS	F			FS	
Black-billed Cuckoo				F				F	
Red-bellied Woodpecker		F			S				
Downy Woodpecker		F							
Willow Flycatcher									FS
Great Crested Flycatcher				FS				F	F
Eastern Kingbird	F						F		
Red-eyed Vireo		F							
Blue Jay		F		F	F			FS	
N. Rough-winged Swallow							S		
Tree Swallow	S	F	F	F					
Barn Swallow						S	S		
Black-capped Chickadee					S			S	
House Wren			F				F		
American Robin	FS	FS	FS	S	FS	FS	FS		F
European Starling		F							
Cedar Waxwing	S		F		S		F	FS	FS
Yellow Warbler	FS			FS	FS	S	FS		FS
Northern Cardinal	F		FS	FS	FS	F	F	FS	FS
Indigo Bunting		S			FS		F	F	S
Eastern Towhee					FS				
Field Sparrow					FS		FS	FS	FS
Chipping Sparrow		S							
Brown-headed Cowbird		F	FS	S	FS	S		FS	S
Red-winged Blackbird	FS	FS	FS	FS	FS	FS	FS	FS	FS
Common Grackle	FS	FS	FS	S	S	FS	FS	FS	FS
Baltimore Oriole	S	F	FS	S				S	
Orchard Oriole				S					
American Goldfinch		F						FS	
<b>Total species - 1st visit</b>	<b>7</b>	<b>13</b>	<b>9</b>	<b>8</b>	<b>11</b>	<b>5</b>	<b>10</b>	<b>13</b>	<b>9</b>
<b>2nd visit</b>	<b>7</b>	<b>5</b>	<b>6</b>	<b>10</b>	<b>12</b>	<b>7</b>	<b>7</b>	<b>11</b>	<b>9</b>
<b>Combined visits</b>	<b>10</b>	<b>15</b>	<b>9</b>	<b>13</b>	<b>15</b>	<b>9</b>	<b>12</b>	<b>15</b>	<b>11</b>
<b>Total species</b>									<b>32</b>
<b>2008</b>									<b>38</b>
F - detected during first 5-minute point count									
S - detected during second 5-minute point count									





*Point count site – Florian Diamante Conservation Area E1*

## **E2     ERIE SAND & GRAVEL 2**

Nature Conservancy of Canada

Hectares: 63

This NCC property is located on the north side of Brown's Road directly north of E1 and to the west of DE. Although more than 50% of the site consists of soya bean field, a mature woodlot and open savannah make up the majority of the southeast section of the plot.

**Table 17 – Point count results from Florian Diamante E2**

<b>ERIE SAND &amp; GRAVEL 2</b>						<b>2011</b>
<b>Florian Diamante Nature Reserve</b>						
<b>Nature Conservancy of Canada</b>						<b>63 ha</b>
<b>Species/Point #</b>	<b>E21</b>	<b>E22</b>	<b>E23</b>	<b>E24</b>	<b>E25</b>	<b>E26</b>
Wild Turkey			S			
Killdeer	S	FS				
Mourning Dove	S		S	F		
Yellow-billed Cuckoo					F	
Black-billed Cuckoo					F	
Red-bellied Woodpecker						F
Downy Woodpecker					S	
Yellow-shafted Flicker					FS	
Great Crested Flycatcher				FS	FS	
Eastern Kingbird	F			FS		
Red-eyed Vireo					S	F
Blue Jay				F	F	S
Horned Lark	F	FS	S			
N. Rough-winged Swallow			F			

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Tree Swallow	FS		S	S		
House Wren			F			
American Robin	FS	F	FS	S	FS	FS
Gray Catbird					S	
European Starling	FS		F			F
Cedar Waxwing				FS	F	
Yellow Warbler				FS		F
Northern Cardinal				F	FS	F
Indigo Bunting				S	FS	S
Eastern Towhee					F	
Chipping Sparrow						F
Brown-headed Cowbird		S	FS	S		F
Red-winged Blackbird	FS	FS	FS	FS	FS	FS
Common Grackle	FS	S	FS	FS	FS	S
Baltimore Oriole					FS	
Orchard Oriole				S		
House Finch	F					
American Goldfinch				FS		F
<b>Total species - 1st visit</b>	<b>8</b>	<b>5</b>	<b>7</b>	<b>10</b>	<b>13</b>	<b>10</b>
<b>2nd visit</b>	<b>7</b>	<b>5</b>	<b>8</b>	<b>12</b>	<b>12</b>	<b>5</b>
<b>Combined visits</b>	<b>10</b>	<b>6</b>	<b>11</b>	<b>15</b>	<b>16</b>	<b>13</b>
<b>Total species</b>						<b>32</b>
<b>2008</b>						<b>32</b>
F - detected during first 5-minute point count						
S - detected during second 5-minute point count						



*Point count site – Florian Diamante Conservation Area*

**E3     ERIE SAND & GRAVEL 3**

Nature Conservancy of Canada

Hectares: 47

The Erie Sand & Gravel 3 site is a large property consisting almost entirely (85%) of soybean fields with the exception of a small treed area with some savannah/scrub in the northwest corner of the plot.

**Table 18 – Point count results from Florian Diamante E3**

<b>ERIE SAND &amp; GRAVEL 3</b>							<b>2011</b>
<b>Florian Diamante Nature Reserve</b>							
<b>Nature Conservancy of Canada</b>							<b>47 ha</b>
<b>Species/Point #</b>	<b>E31</b>	<b>E32</b>	<b>E33</b>	<b>E34</b>	<b>E35</b>	<b>E36</b>	<b>E37</b>
Wild Turkey				F			
Killdeer				S		S	S
Mourning Dove	F			S	S	S	
Downy Woodpecker				S			
Yellow-shafted Flicker	S				S		
Blue Jay					F		
Horned Lark		FS	F	FS		S	S
Purple Martin			S		F		
Tree Swallow	FS		F	FS	FS		S
Barn Swallow			F		S	S	
American Robin			FS	FS	FS	F	S
European Starling	FS	F		S			F
Cedar Waxwing	S			F			
Yellow Warbler	FS			S			FS
Common Yellowthroat		F					
Northern Cardinal		F					F
Indigo Bunting				F	S		
Field Sparrow							F
Brown-headed Cowbird	F			FS	FS	FS	
Red-winged Blackbird	FS	FS	FS	FS	F	FS	FS
Common Grackle	FS	FS	S	FS		S	FS
Baltimore Oriole						F	
Orchard Oriole	F						F
American Goldfinch	S				F		F
House Sparrow		F					
<b>Total species - 1st visit</b>	<b>8</b>	<b>7</b>	<b>5</b>	<b>9</b>	<b>7</b>	<b>4</b>	<b>8</b>
<b>2nd visit</b>	<b>8</b>	<b>4</b>	<b>4</b>	<b>11</b>	<b>7</b>	<b>7</b>	<b>7</b>
<b>Combined visits</b>	<b>11</b>	<b>7</b>	<b>7</b>	<b>14</b>	<b>11</b>	<b>9</b>	<b>12</b>
<b>Total species</b>							<b>25</b>
<b>2008</b>							<b>20</b>
F - detected during first 5-minute point count							
S - detected during second 5-minute point count							

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*Point count site at E3 property – Florian Diamante Conservation Area*

**GB    GIBWOOD PROPERTY**

Nature Conservancy of Canada

Hectares: 15

The Gibwood property is made up of approximately 50% mature broadleaf forest in the north section of the plot and a mixture of open grassland and a small wetland area in the central and south section of the site. A small pond was established on the property in 2002 and various wetland and native prairie restoration projects were carried out the following year.

**Table 19 – Point count results from Gibwood Conservation Area**

<b>GIBWOOD CONSERVATION PROPERTY</b>				<b>2011</b>
<b>North Shore Road</b>				
<b>Nature Conservancy of Canada</b>				<b>15 ha</b>
<b>Species/Point #</b>	<b>GB1</b>	<b>GB2</b>	<b>GB4</b>	<b>GB5</b>
Red-tailed Hawk				F
Mourning Dove	FS		S	F
Yellow-billed Cuckoo	F			
Black-billed Cuckoo		F		
Downy Woodpecker	F			
Eastern Kingbird	F			
Warbling Vireo	F			
Purple Martin	F	S	S	S
Tree Swallow	FS		S	S
Black-capped Chickadee		F		
American Robin	S	FS	FS	F

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European Starling	F			F
Cedar Waxwing	S	FS		F
Yellow Warbler			F	F
Northern Cardinal	S	FS	S	F
Indigo Bunting			FS	FS
Brown-headed Cowbird	S	S	FS	F
Red-winged Blackbird	FS	FS	FS	FS
Common Grackle	FS	FS		F
Baltimore Oriole	S		F	
House Finch	F			
American Goldfinch	S			S
<b>Total species - 1st visit</b>	<b>11</b>	<b>7</b>	<b>6</b>	<b>11</b>
<b>2nd visit</b>	<b>10</b>	<b>7</b>	<b>8</b>	<b>5</b>
<b>Combined visits</b>	<b>17</b>	<b>9</b>	<b>10</b>	<b>14</b>
<b>Total species</b>				<b>22</b>
<b>2008</b>				<b>24</b>
F - detected during first 5-minute point count				
S - detected during second 5-minute point count				

**MP      MIDDLE POINT WOODS**

Nature Conservancy of Canada

Hectares: 29

Middle Point is located along the east shore of the island and consists of a narrow section of mature woodland located at the intersection of East Shore Road and Brown's Road. The site is made up of a variety of dry and wet forest associations ranging from mature Hackberry and Red Ash to Cottonwoods and Silver Maple swamp (Kamstra *et al.* 1995). The property is bordered by Lake Erie to the east and agricultural land on the west side.

**Table 20 – Point count results from Middle Point Woods**

<b>MIDDLE POINT WOODS</b>						<b>2011</b>
<b>Middle Point Conservation Area</b>						
<b>Nature Conservancy of Canada</b>						
						<b>29 ha</b>
<b>Species/Point #</b>	<b>MP2</b>	<b>MP3</b>	<b>MP4</b>	<b>MP5</b>	<b>MP6</b>	<b>MP7</b>
Mourning Dove						S
Yellow-billed Cuckoo	S					
Downy Woodpecker						FS
Yellow-shafted Flicker	S	S				
Eastern Wood-Pewee	S	F	F			FS
Great Crested Flycatcher			S			
Eastern Kingbird						S
Red-eyed Vireo	S				F	
Warbling Vireo						S
Tree Swallow	FS			FS	S	
Black-capped Chickadee		S				
House Wren	F	FS	FS			FS
American Robin	FS	F	FS	FS	S	FS



**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
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European Starling	F		F			S
Cedar Waxwing				S	F	FS
Yellow Warbler		FS	F		FS	
Northern Cardinal			F			FS
Indigo Bunting	F					
Brown-headed Cowbird	S		FS	F		S
Red-winged Blackbird	FS	FS	FS	FS	FS	FS
Common Grackle	FS	F		FS		FS
Baltimore Oriole	FS		FS			FS
House Finch						S
American Goldfinch			F		S	FS
<b>Total species - 1st visit</b>	<b>8</b>	<b>6</b>	<b>10</b>	<b>5</b>	<b>4</b>	<b>11</b>
<b>2nd visit</b>	<b>10</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>16</b>
<b>Combined visits</b>	<b>13</b>	<b>8</b>	<b>11</b>	<b>6</b>	<b>7</b>	<b>16</b>
<b>Total species</b>						<b>24</b>
<b>2008</b>						<b>27</b>
F - detected during first 5-minute point count						
S - detected during second 5-minute point count						



*Middle Point Woods*

**SC     SHAUGHNESSY COHEN PROPERTY**

Nature Conservancy of Canada

Hectares: 23

This NCC property dedicated to the late Shaughnessy Cohen is located at the north end of Stone Road on the east side. The property is located within the boundary of the Stone Road alvar complex in the southeast part of Pelee Island and lies approximately 200 metres northeast of the other two survey sites described in this report. The conservation area is composed of mature deciduous forest in the northwest and southeast sections, open alvar savannah to the southwest and a recently abandoned field in the northeast corner.

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**Table 21 – Point count results from Shaughnessy Cohen Nature Reserve**

SHAUGHNESSY COHEN NATURE RESERVE					2011
Stone Road Alvar Conservation Area					
Nature Conservancy of Canada					23 ha
Species/Point #	SC1	SC2	SC3	SC4	SC5
Mourning Dove	F	S	S	FS	F
Yellow-billed Cuckoo					S
Downy Woodpecker	S	F			FS
Yellow-shafted Flicker		F	S		FS
Eastern Wood-Pewee					F
Great Crested Flycatcher			F	F	
Red-eyed Vireo		S			
Blue Jay		S			FS
American Crow			S		
Tree Swallow				FS	S
Barn Swallow	S				
Black-capped Chickadee			S		
House Wren			FS		S
Blue-gray Gnatcatcher		S			
American Robin	FS		FS		S
Wood Thrush		S			
Gray Catbird					S
Cedar Waxwing	FS				FS
Yellow Warbler	S		F	FS	
Northern Cardinal	FS				F
Indigo Bunting		F	F		
Eastern Towhee			S		
Field Sparrow				F	
Brown-headed Cowbird	S	F	FS	F	F
Red-winged Blackbird	FS	F	F	FS	FS
Common Grackle	FS		S	S	FS
Baltimore Oriole	S				FS
Orchard Oriole	F				
American Goldfinch				F	
<b>Total species - 1st visit</b>	<b>7</b>	<b>5</b>	<b>7</b>	<b>8</b>	<b>12</b>
<b>2nd visit</b>	<b>10</b>	<b>5</b>	<b>9</b>	<b>6</b>	<b>11</b>
<b>Combined visits</b>	<b>12</b>	<b>10</b>	<b>13</b>	<b>9</b>	<b>16</b>
<b>Total species</b>					<b>29</b>
<b>2008</b>					<b>21</b>

**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
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F - detected during first 5-minute point count  
 S - detected during second 5-minute point count

### 5.23 NCC Transects

### 5.24 NCC Incidental Observations

## 5.3 Ontario Nature

### 5.31 Ontario Nature Breeding Bird Census

**Map 11 – Ontario Nature Breeding Bird Census plot – Stone Road Alvar Conservation Area**





*Tree Swallows*

**Table 22 – Results from Ontario Nature Stone Road Alvar plot BBC09**

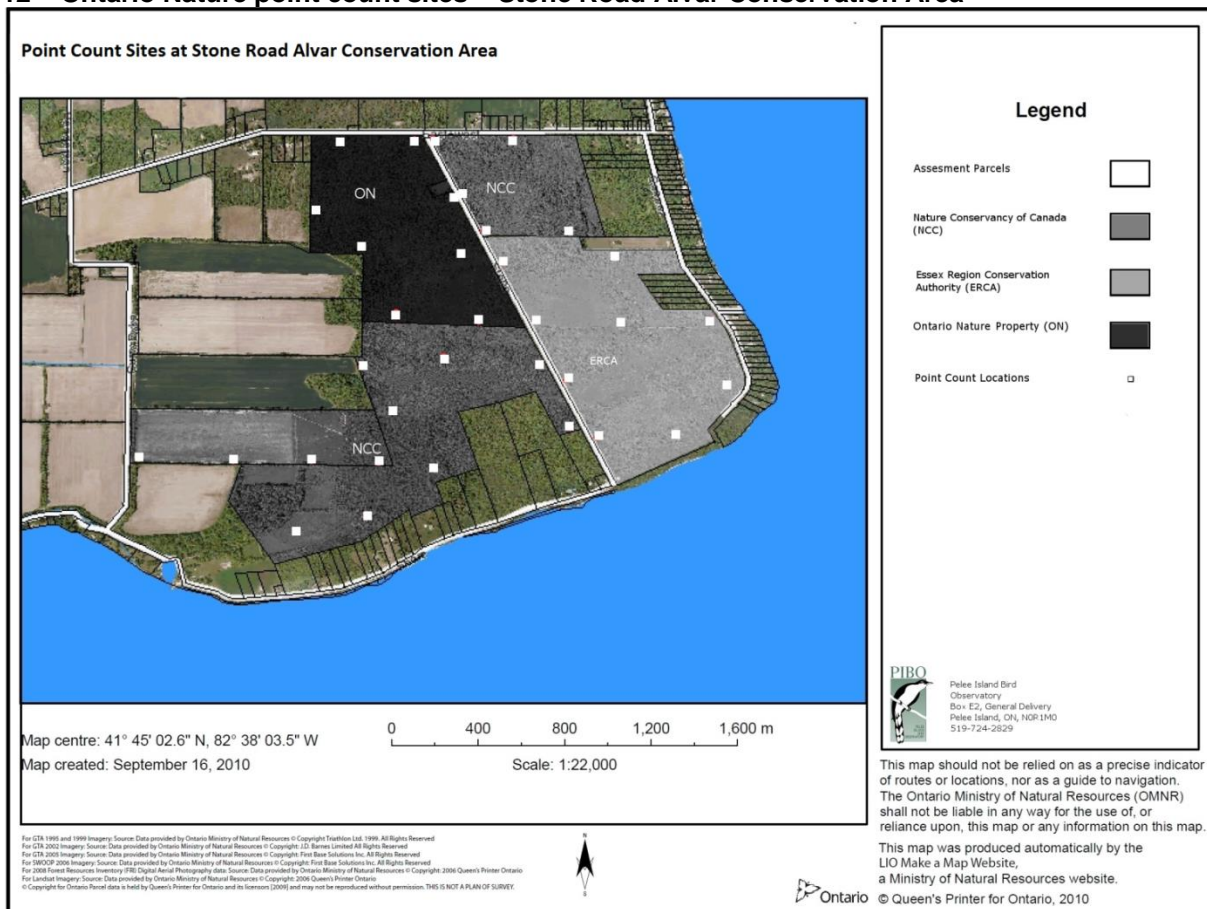
Stone Road Alvar 1		BBC09
Landowner: Ontario Nature		
Location: Ontario, Essex County, Pelee Island		
Continuity: Established in 2010		
Habitat description: Open Alvar scattered shrubs and trees: downy dogwood, prickly ash, fragrant sumac, staghorn sumac, smooth rose, riverbank grape; canopy 4%, 4-11m high		
Size: 6.5 hectares		
Year: 2010		
Weather: Mean start temperature 18 C		
Coverage: 22 hours; 10 vis.		
Dates: June 4, 7, 8, 9, 17, 24, 28, July 1, 5, 7		
Species	Territories	
Red-winged Blackbird	17	
Yellow Warbler	15	
Field Sparrow	9	
Indigo Bunting	8	
Common Grackle	4	
American Goldfinch	3	
Black-capped Chickadee	3	
Cedar Waxwing	3	

**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
**Pelee Island Bird Observatory**

Eastern Towhee	3
Mourning Dove	3
Northern Cardinal	2.5
Tree Swallow	2
Blue-gray Gnatcatcher	1.5
Blue Jay	1
Downy Woodpecker	1
Great Crested Flycatcher	1
Yellow-billed Cuckoo	1
 Territories	 78
Per 40 hectares	480
Species	17

## 5.32 Ontario Nature Point Counts

**Map 12 – Ontario Nature point count sites – Stone Road Alvar Conservation Area**





**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
**Pelee Island Bird Observatory**



*Yellow Warbler*

**Table 23 – Point count results from Stone Road Alvar Nature Reserve 2009**

<b>ONTARIO NATURE</b>								<b>2009</b>
<b>Stone Road Nature Reserve</b>								
<b>Ontario Nature</b>								<b>48 ha</b>
<b>Species/Point #</b>	<b>ON1</b>	<b>ON2</b>	<b>ON3</b>	<b>ON4</b>	<b>ON5</b>	<b>ON6</b>	<b>ON7</b>	<b>ON8</b>
Ring-necked Pheasant						S	F	
Wild Turkey								F
Mourning Dove	F			F	S	FS	F	
Yellow-billed Cuckoo	F							
Red-bellied Woodpecker						F		
Downy Woodpecker			S		F			
Yellow-shafted Flicker							S	
Eastern Wood-Pewee			S		F			
Alder Flycatcher				F				
Great Crested Flycatcher		F						
Eastern Kingbird		F				F		
Red-eyed Vireo			S				S	FS
Blue Jay			S					
American Crow								S
Purple Martin			F					
Tree Swallow					F			
Black-capped Chickadee	F					S		F
House Wren	S							

**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
**Pelee Island Bird Observatory**

Blue-gray Gnatcatcher						S		F
American Robin	FS	F	FS	F		S	F	S
Wood Thrush								S
Brown Thrasher		FS						F
Cedar Waxwing	FS	FS				FS	F	
Yellow Warbler		FS		FS		FS		
Northern Cardinal	F		F			F	S	S
Indigo Bunting			F			FS	F	S
Eastern Towhee			F				FS	
Field Sparrow		F				S		
Brown-headed Cowbird	S				F	S	F	
Red-winged Blackbird	FS	FS		FS	FS	FS		F
Common Grackle	S		S	FS	S	S	FS	
Baltimore Oriole	F	F	F	F	F			
American Goldfinch		F				FS		
<b>Total species - 1st visit</b>	<b>8</b>	<b>10</b>	<b>6</b>	<b>7</b>	<b>6</b>	<b>10</b>	<b>8</b>	<b>6</b>
<b>2nd visit</b>	<b>6</b>	<b>4</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>13</b>	<b>5</b>	<b>6</b>
<b>Combined visits</b>	<b>11</b>	<b>10</b>	<b>11</b>	<b>7</b>	<b>8</b>	<b>16</b>	<b>11</b>	<b>11</b>
<b>Total species</b>								<b>33</b>
F - detected during first 5-minute point count								
S - detected during second 5-minute point count								

**Table 24 – Point count results from Stone Road Alvar Nature Reserve 2011**

<b>ONTARIO NATURE</b>								<b>2011</b>
<b>Stone Road Nature Reserve</b>								
<b>Ontario Nature</b>								<b>48 ha</b>
<b>Species/Point #</b>	<b>ON1</b>	<b>ON2</b>	<b>ON3</b>	<b>ON4</b>	<b>ON5</b>	<b>ON6</b>	<b>ON7</b>	<b>ON8</b>
Turkey Vulture						S		
Ring-necked Pheasant				FS	FS			
Mourning Dove	F	S			FS	F		
Yellow-billed Cuckoo		S			F		S	
Downy Woodpecker	S	S	S	S				F
Yellow-shafted Flicker	F					F		
Eastern Wood-Pewee	F		S	S	F		F	
"Traill's" Flycatcher						F		
Great Crested Flycatcher			S					
Eastern Kingbird						F		
Red-eyed Vireo	F	F	FS				FS	F
Blue Jay			S		F			
Tree Swallow	S	FS			FS	FS		
House Wren	F		FS				FS	
American Robin	S	S	FS	FS			FS	
Wood Thrush			S					

**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
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Gray Catbird		F						
Cedar Waxwing	S	F			S	S	FS	
Yellow Warbler	FS	F		FS	FS	FS		
Scarlet Tanager			S					
Northern Cardinal		FS	S	FS	FS	F	FS	S
Indigo Bunting	F	FS	FS	S		FS	S	
Eastern Towhee		F						
Field Sparrow				S	F	FS		
Brown-headed Cowbird	S		F	F	FS		F	FS
Red-winged Blackbird		FS	S	FS	F	S		FS
Common Grackle	S	FS	S		S	FS	F	F
Baltimore Oriole	F	S						
Orchard Oriole		S			F			
American Goldfinch				S			F	
<b>Total species - 1st visit</b>	<b>8</b>	<b>10</b>	<b>5</b>	<b>6</b>	<b>12</b>	<b>11</b>	<b>9</b>	<b>5</b>
<b>2nd visit</b>	<b>7</b>	<b>11</b>	<b>13</b>	<b>10</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>3</b>
<b>Combined visits</b>	<b>14</b>	<b>16</b>	<b>14</b>	<b>11</b>	<b>14</b>	<b>13</b>	<b>11</b>	<b>6</b>
<b>Total species</b>								<b>30</b>
<b>2009</b>								<b>33</b>
F - detected during first 5-minute point count								
S - detected during second 5-minute point count								

### 5.33 Ontario Nature Transects

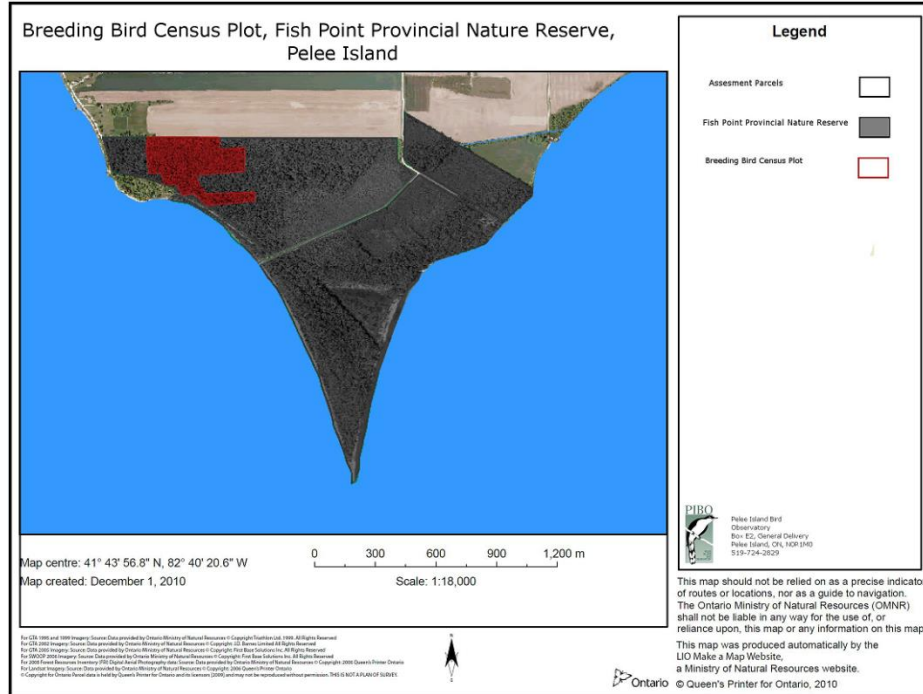
### 5.34 Ontario Nature Incidental Observations

## 5.4 Ontario Parks – Ontario Ministry of Natural Resources

### 5.41 Ontario Parks Breeding Bird Census

**Breeding Bird Surveys on Pelee Island, Essex County, Ontario: 2009 – 2011**  
**Pelee Island Bird Observatory**

**Map 13 – Ontario Parks Breeding Bird Census plot – Fish Point**



**BBC plot at Fish Point Provincial Nature Reserve**







**Table 25 – Results from Ontario Parks Lighthouse Point plot BBC07**

<b>LIGHTHOUSE POINT</b>		<b>BBC07</b>
Landowner: Ontario Parks/OMNR		
Location: Ontario, Essex County, Pelee Island		
Continuity: Established in 2009		
Habitat description: Alvar Savannah/Shrub Thicket: hackberry with hop tree, blue ash, hawthorn and white mulberry, half-open savannah; canopy 46%, 6-10m high		
Size: 9.5 hectares		
Year: 2009		
Weather: Mean start temperature 18 C		
Coverage: 35 hours; 11 vis.		
Dates: June 3, 7, 9, 11, 12, 14, 16, 18, 22, 24, 28		
Species	Territories	
Red-winged Blackbird	33	
Yellow Warbler	23	
Indigo Bunting	7.5	
American Robin	7	
Brown-headed Cowbird	6	
American Goldfinch	5	
Common Grackle	5	
Northern Cardinal	5	
Black-billed Cuckoo	4	
Baltimore Oriole	3	
Brown Thrasher	3	
Downy Woodpecker	3	
House Wren	2.5	
Great Crested Flycatcher	2	
Mourning Dove	2	
Eastern Kingbird	1.5	
Eastern Wood-Pewee	1	
Gray Catbird	1	
Northern Flicker	1	
Tree Swallow	1	
Yellow-billed Cuckoo	1	
Territories	117.5	
Per 40 hectares	495	
Species	21	

**Table 26 – Results from Ontario Parks Fish Point plot BBC08**

<b>FISH POINT</b>		<b>BBC08</b>
Landowner: Ontario Parks/OMNR		
Location: Ontario, Essex County, Pelee Island		
Continuity: Established in 2009		
Habitat description: Maple Swamp:		
red and silver maple with occasional cottonwood, black ash,		
hackberry, pin oak, willow; canopy 91%, 20-25m high		
Size: 9.75 hectares		
Year: 2009		
Weather: Mean start temperature 18 C		
Coverage: 30 hours; 10 vis.		
May 30, June 6, 9, 12, 17, 21, 22, 26, 28		
Species	Territories	
Common Grackle	14	
House Wren	14	
American Robin	10.5	
Downy Woodpecker	10	
Brown-headed Cowbird	8	
Eastern Wood-Pewee	7.5	
Baltimore Oriole	7	
Red-eyed Vireo	7	
Red-winged Blackbird	7	
Tree Swallow	6	
European Starling	4	
Northern Cardinal	4	
Yellow-billed Cuckoo	4	
Great Crested Flycatcher	3	
Indigo Bunting	3	
Northern Flicker	2	
American Crow	1	
Black-billed Cuckoo	1	
Black-capped Chickadee	1	
Blue Jay	1	
Prothonotary Warbler	1	
Red-bellied Woodpecker	1	
Warbling Vireo	0.5	
Yellow Warbler	0.5	
Territories	118	
Per 40 hectares	484	

Species	24
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## 5.42 Ontario Parks Point Counts

### FP FISH POINT PROVINCIAL NATURE RESERVE

Ontario Ministry of Natural Resources

Hectares: 115

Situated at the south end of Pelee, Fish Point forms the distinctive southern tip of the island. The Fish Point Provincial Nature Reserve extends from the end of the point to an area approximately two kilometres north of the tip. The vegetation communities at Fish Point are composed of a diverse number of distinct habitats including wet and dry deciduous forest, wetlands, dunes and open beach.

**Table 27 – Point count results from Fish Point Provincial Nature Reserve**

<b>Fish Point</b>											<b>2011</b>
<b>Fish Point Provincial Nature Reserve</b>											
<b>Ontario Parks/Ontario Ministry of Natural Resources</b>											<b>115 ha</b>
<b>Species/Point #</b>	<b>FP1</b>	<b>FP2</b>	<b>FP3</b>	<b>FP4</b>	<b>FP5</b>	<b>FP6</b>	<b>FP7</b>	<b>FP8</b>	<b>FP9</b>	<b>FP10</b>	<b>FP11</b>
Bald Eagle		S									
Mourning Dove				S							S
Yellow-billed Cuckoo				F		F					F
Downy Woodpecker	S	FS	S	S			S	S			
Yellow-shafted Flicker	S					F					
Eastern Wood-Pewee		F		FS		S	S				
Great Crested Flycatcher						F		F			
Eastern Kingbird						FS					
Red-eyed Vireo			F	FS				F			
Warbling Vireo						S	S				
Blue Jay						S		F			
American Crow			S								
Tree Swallow			F	F	FS	S	S			FS	FS
Barn Swallow							S				
Black-capped Chickadee	F				F			F			
House Wren		F		F	FS	S		FS			
Blue-gray Gnatcatcher								FS			
American Robin	F	F	S	S	FS	F		FS	S	F	S
Wood Thrush				S							
European Starling	S	F		F	FS	FS					
Cedar Waxwing	FS	F		F		S		F	FS	F	F
Yellow Warbler			F	FS				FS	FS	FS	FS
Common Yellowthroat									S		F
Northern Cardinal		F	S	FS	S	F			S	F	
Indigo Bunting	S			S	FS			F		F	
Brown-headed Cowbird			F	FS	S	F		FS	S	F	FS
Red-winged Blackbird	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS
Common Grackle	FS	FS	FS	FS	FS	S	FS	F	F	FS	F
Baltimore Oriole	FS		F	F	FS	F		FS	S		FS
American Goldfinch					S		S				S

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<b>Total species - 1st visit</b>	<b>6</b>	<b>9</b>	<b>7</b>	<b>13</b>	<b>9</b>	<b>10</b>	<b>2</b>	<b>14</b>	<b>4</b>	<b>9</b>	<b>9</b>
<b>2nd visit</b>	<b>9</b>	<b>4</b>	<b>6</b>	<b>12</b>	<b>11</b>	<b>10</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>4</b>	<b>8</b>
<b>Combined visits</b>	<b>10</b>	<b>10</b>	<b>11</b>	<b>18</b>	<b>12</b>	<b>17</b>	<b>8</b>	<b>15</b>	<b>9</b>	<b>9</b>	<b>12</b>
<b>Total species</b>											<b>30</b>
<b>2008</b>											<b>29</b>
F - detected during first 5-minute point count											
S - detected during second 5-minute point count											

**LP      LIGHTHOUSE POINT PROVINCIAL NATURE RESERVE**

Ontario Ministry of Natural Resources

Hectares: 90

Lighthouse Point is located at the north end of Pelee and includes the distinctive northeastern tip of the island and the wetland area on the west side of the point – Lake Henry. Although a significant portion of Lighthouse Point Provincial Nature Reserve extends south of the point and wetland area, only the north half of the reserve (approximately 45 hectares) was surveyed in 2008. Information about the marsh bird survey conducted at Lake Henry, Lighthouse Point, can be found at the end of this section.

**Table 28 – Point count results from Lighthouse Point Provincial Nature Reserve**

<b>LIGHTHOUSE POINT</b>	<b>2011</b>		
<b>Lighthouse Point Provincial Nature Reserve</b>	<b>95 ha</b>		
<b>Ontario Parks/Ontario Ministry of Natural Resources</b>			
<b>Species/Point #</b>	<b>LP1</b>	<b>LP2</b>	<b>LP3</b>
Mourning Dove			S
Downy Woodpecker		F	
Warbling Vireo		F	
Blue Jay			F
Tree Swallow	S	S	S
Barn Swallow			S
American Robin	F	F	F
European Starling	F		F
Cedar Waxwing			FS
Yellow Warbler			F
Northern Cardinal	S	S	
Brown-headed Cowbird	F		
Red-winged Blackbird	FS	FS	FS
Common Grackle	S	FS	FS
Baltimore Oriole	S		
House Sparrow			S
<b>Total species - 1st visit</b>	<b>4</b>	<b>5</b>	<b>7</b>
<b>2nd visit</b>	<b>5</b>	<b>5</b>	<b>7</b>

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<b>Combined visits</b>	<b>8</b>	<b>7</b>	<b>11</b>
<b>Total species</b>			<b>16</b>
<b>2008</b>			<b>13</b>
F - detected during first 5-minute point count			
S - detected during second 5-minute point count			

#### **5.43 Ontario Parks Transects**

#### **5.44 Ontario Parks Incidental Observations**

#### **5.45 Ontario Parks Marsh Bird Monitoring**



*White-eyed Vireo*

#### **MBMP MARSH BIRD MONITORING PLOT – LIGHTHOUSE POINT**

Ontario Ministry of Natural Resources

Hectares: n/a

Lake Henry was formed in the early 1970's when a combination of high water and severe storms broke the dike near the southwest corner of the existing lagoon (Kamstra et al. 1995). The lake is sheltered on the east side by Lighthouse Point. Although much of the site is overgrown with *phragmite spp.*, some cattail marsh and other semi-aquatic plant life can be found on the northwest shoreline.



**Map 15 – Marsh bird monitoring points – Lighthouse Point**



## 5.5 Combined Results

**Table 29 – Status of eighty-six species listed in this report as confirmed, probable, or possible breeders on Pelee Island**

Species	Status	Priority	Notes
Double-crested Cormorant	Possible		
Least Bittern	Confirmed	SAR	Threatened
Great Blue Heron	Possible		
Green Heron	Confirmed		
Black-crowned Night Heron	Possible		
Great Egret	Possible		
Turkey Vulture	Possible		
Canada Goose	Confirmed		
Wood Duck	Confirmed		
Mallard	Probable		
Bald Eagle	Confirmed	SAR	Special Concern
Cooper's Hawk	Probable		
Red-tailed Hawk	Confirmed		
American Kestrel	Possible		
Ring-necked Pheasant	Confirmed		
Wild Turkey	Confirmed		
Killdeer	Confirmed		
Spotted Sandpiper	Probable		
American Woodcock	Confirmed		
Bonaparte's Gull	n/a		
Ring-billed Gull	Possible		
Herring Gull	Possible		
Great Black-backed Gull	n/a		
Caspian Tern	n/a		
Mourning Dove	Confirmed		
Yellow-billed Cuckoo	Confirmed		
Black-billed Cuckoo	Probable		
Great Horned Owl	Confirmed		
Eastern Screech-Owl	Probable		
Chimney Swift	Confirmed	SAR	Threatened
Ruby-throated Hummingbird	Confirmed		
Belted Kingfisher	Possible		
Red-bellied Woodpecker	Probable		
Downy Woodpecker	Confirmed		
Northern Flicker	Probable		
Eastern Wood-Pewee	Probable		
Willow Flycatcher	Probable		
Acadian Flycatcher	Possible	SAR	Endangered
Eastern Phoebe	Probable		
Great Crested Flycatcher	Probable		
Eastern Kingbird	Probable		
Red-eyed Vireo	Probable		
Warbling Vireo	Probable		

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White-eyed Vireo	Probable		
Blue Jay	Probable		
American Crow	Probable		
Horned Lark	Probable		
Purple Martin	Confirmed		
N. Rough-winged Swallow	Possible		
Bank Swallow	Confirmed		
Tree Swallow	Confirmed		
Barn Swallow	Confirmed	SAR	Special Concern
Black-capped Chickadee	Confirmed		
Brown Creeper	Possible		
Carolina Wren	Confirmed		
House Wren	Confirmed		
Marsh Wren	Probable		
Blue-gray Gnatcatcher	Probable		
Eastern Bluebird	Confirmed		
American Robin	Confirmed		
Wood Thrush	Possible		
Gray Catbird	Probable		
Brown Thrasher	Probable		
European Starling	Confirmed		
Cedar Waxwing	Probable		
Blue-winged Warbler	Possible		
Yellow Warbler	Confirmed		
Prothonotary Warbler	Confirmed	SAR	Endangered
American Redstart	Probable		
Common Yellowthroat	Probable		
Eastern Yellow-breasted Chat	Probable	SAR	Special Concern
Scarlet Tanager	Possible		
Northern Cardinal	Confirmed		
Rose-breasted Grosbeak	Possible		
Indigo Bunting	Probable		
Eastern Towhee	Probable		
Field Sparrow	Probable		
Chipping Sparrow	Probable		
Savannah Sparrow	Possible		
Grasshopper Sparrow	Probable		
Song Sparrow	Probable		
Eastern Meadowlark	Possible	SAR	Special Concern
Bobolink	Possible	SAR	Threatened
Brown-headed Cowbird	Confirmed		
Red-winged Blackbird	Confirmed		
Common Grackle	Confirmed		
Baltimore Oriole	Confirmed		
Orchard Oriole	Probable		
House Finch	Probable		
American Goldfinch	Probable		
House Sparrow	Confirmed		

**Table 30 – Breeding evidence codes.**

<b>CODE</b>	<b>CATEGORY</b>	<b>DESCRIPTION</b>
X	OBS	Species observed in its breeding season (no breeding evidence)
H	POSS	Observed in breeding season in suitable nesting habitat
S	POSS	Singing males or breeding calls heard in suitable nesting habitat in breeding season
P	PROB	Pair observed in suitable nesting habitat in breeding season
T	PROB	Permanent territory presumed through registration of territorial song or the occurrence of an adult bird at the same place in suitable breeding habitat on at least two days, one week or more apart
D	PROB	Courtship or display
V	PROB	Visiting probable nest site
A	PROB	Agitated behaviour or anxiety calls by an adult
B	PROB	Brood patch or cloacal protuberance
N	PROB	Nest building or hole excavation
DD	CONF	Distraction display or injury feigning
NU	CONF	Used nest or eggshells
FY	CONF	Recently fledged young
AE	CONF	Adult leaving or entering nest site
FS	CONF	Adult carrying fecal sac
CF	CONF	Adult carrying food for young
NE	CONF	Nest containing eggs
NY	CONF	Nest with young seen or heard

## 5.51 Combined Breeding Bird Census

**Table 31 – Description of ten Breeding Bird Census (BBC) plots including habitat-type, land-steward, size, species documented, total territories, and territories/40 hectares**

Code	Name	Habitat	Steward	Location	Size (ha)	Species	Territories	Terr./40 ha
BBC01	Browns Road North	Alvar Woodland	NCC	Browns Road	13.75	23	67.5	196
BBC02	Browns Road South	Alvar Savannah/Shrub Thicket	NCC	Browns Road	10	23	110.5	442
BBC03	Browns Road Field	Soybean Field	NCC	Browns Road	11	4	7.5	27
BBC04	Middle Point Woods	Lowland Forest	NCC	East Shore Road	8.75	18	111	507
BBC05	Stone Road Alvar 2	Alvar Woodland	NCC	Stone Road	10	33	148	592
BBC06	Red Cedar North	Alvar Woodland	NCC	East-West Road	9.25	18	86	372
BBC07	Lighthouse Point	Alvar Savannah/Shrub Thicket	OP	Harris-Garno Road	9.5	21	117.5	495
BBC08	Fish Point	Maple Swamp	OP	McCormick Road	9.75	24	118	484
BBC09	Stone Road Alvar 1	Open Alvar	ON	Stone Road	6.5	17	78	480
BBC10	Stone Road Alvar 3	Open Alvar	ERCA	Stone Road	14.5	18	79.5	219
<b>Key</b>				<b>Total</b>	<b>Av. 10.3</b>	<b>49</b>	<b>923.5</b>	<b>Av. 381</b>
NCC	Nature Conservancy of Canada							
OP	Ontario Parks/Ontario Ministry of Natural Resources							
ON	Ontario Nature							
ERCA	Essex Region Conservation Authority							

**Table 32 – Species holding territories on ten BBC plots including number of territories, territories/40 ha, in order of abundance**

Plot Number	BBC0 1	BBC0 2	BBC0 3	BBC0 4	BBC0 5	BBC0 6	BBC0 7	BBC0 8	BBC0 9	BBC1 0			
Name	BRN	BRN	BRF	MPW	SRA2	RCN	LP	FP	SRA1	SRA3			
Steward	NCC	NCC	NCC	NCC	NCC	NCC	OP	OP	ON	ERCA			
Year	2010	2010	2010	2010	2010	2010	2009	2009	2010	2010			
Species/Territories											Total	Av./ 10 ha	Terr./ 40 ha
Red-winged Blackbird	8	29.5	1.5	25	13		33	7	17	27	161	16	64
Yellow Warbler	3.5	11		10.5	8		23	0.5	15	24	95.5	9.3	37
Common Grackle	5	7		5	12	8	5	14	4	5.5	65.5	6.5	26
American Robin	3	3		15	13	9	7	10.5		2	62.5	6	24
House Wren	6			11	12.5	13.5	2.5	14			59.5	5.8	23
Indigo Bunting	5	3		3.5	13	7	7.5	3	8	2.5	52.5	5	20
Downy Woodpecker	5	4		7	9	8.5	3	10	1	1	48.5	4.8	19
Northern Cardinal	6	6		6	8.5	5	5	4	2.5	3.5	46.5	4.5	18
Brown-headed Cowbird	1	7		7	6	9	6	8			44	4.3	17
Baltimore Oriole	1	5		4	4		3	7			24	2.3	9
Eastern Wood-Pewee	4	2		3	5.5		1	7.5			23	2.3	9
Yellow-billed Cuckoo	2	4			5.5	3	1	4	1	1	21.5	2	8
Red-eyed Vireo	1			3	2	7.5		7			20.5	2	8



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Black-capped Chickadee	2	3		3	3	3		1	3	1.5	19.5	2	8
Field Sparrow		6							9	3	18	1.8	7
Great Crested Flycatcher	2	2		2	2	2	2	3	1		16	1.8	7
Mourning Dove	1	6			2.5		2		3	1	15.5	1.5	6
Eastern Towhee	3	3			3				3	1	13	1.5	5
Blue Jay	3	2		2	2			1	1		11	1	4
Tree Swallow					2		1	6	2		11	1	4
American Goldfinch					2		5		3	0.5	10.5	1	4
Cedar Waxwing	1				4				3	1	9	<1	3
Black-billed Cuckoo		1					4	1			6	<1	2
Northern Flicker					3		1	2			6	<1	2
Carolina Wren		2			3	0.5					5.5	<1	2
European Starling				1				4			5	<1	2
American Woodcock		1			1					2	4	<1	1
Gray Catbird	2	1					1			1	4	<1	1
Blue-gray Gnatcatcher	1				1				1.5		3.5	<1	<1
Brown Thrasher							3				3	<1	<1
Horned Lark			3								3	<1	<1
Red-bellied Woodpecker				2				1			3	<1	<1
Scarlet Tanager	1				1	1					3	<1	<1
Eastern Kingbird		1					1.5				2.5	<1	<1
Wild Turkey	1				1.5						2.5	<1	<1
Killdeer			2								2	<1	<1
Orchard Oriole		1			1						2	<1	<1
American Crow								1			1	<1	<1
Common Yellowthroat					1						1	<1	<1
Grasshopper Sparrow			1								1	<1	<1
Prothonotary Warbler								1			1	<1	<1
Red-tailed hawk				1							1	<1	<1
Song Sparrow					1						1	<1	<1
White-eyed Vireo					1						1	<1	<1
Willow Flycatcher										1	1	<1	<1
Yellow-breasted Chat										1	1	<1	<1
Chipping Sparrow					0.5						0.5	<1	<1
Warbling Vireo								0.5			0.5	<1	<1
Wood Thrush					0.5						0.5	<1	<1
<b>Plot Name</b>	<b>BRN</b>	<b>BRS</b>	<b>BRF</b>	<b>MPW</b>	<b>SRA2</b>	<b>RCN</b>	<b>LP</b>	<b>FP</b>	<b>SRA1</b>	<b>SRA3</b>			
<b>Territories</b>	<b>67.5</b>	<b>110.5</b>	<b>7.5</b>	<b>111</b>	<b>148</b>	<b>86</b>	<b>117.5</b>	<b>118</b>	<b>78</b>	<b>79.5</b>	<b>923</b>		
<b>Territories/40 hectares</b>	<b>196</b>	<b>442</b>	<b>27</b>	<b>507</b>	<b>592</b>	<b>372</b>	<b>495</b>	<b>484</b>	<b>480</b>	<b>219</b>	<b>381</b>		
<b>Species</b>	<b>23</b>	<b>23</b>	<b>4</b>	<b>18</b>	<b>33</b>	<b>18</b>	<b>21</b>	<b>24</b>	<b>17</b>	<b>18</b>	<b>49</b>		

## 5.12 Combined Point Counts

**Table 33 – Total number of species recorded at point count survey properties in 2011**

CODE	SITE NAME	LOCATION	AREA	POINTS	SPECIES	STEWARD
AL	ALVAR	Stone Rd.	142	10	-	Nature Conservancy of Canada
<b>DE</b>	<b>DEMARCO</b>	Brown's Rd.	40	4	24	Nature Conservancy of Canada
<b>E1</b>	<b>ERIE SAND &amp; GRAVEL</b>	Brown's Rd.	150	10	32	Nature Conservancy of Canada
<b>E2</b>	<b>ERIE SAND &amp; GRAVEL</b>	Brown's Rd.	155	8	32	Nature Conservancy of Canada
<b>E3</b>	<b>ERIE SAND &amp; GRAVEL</b>	Brown's Rd.	115	7	25	Nature Conservancy of Canada
<b>ER</b>	<b>ERCA</b>	Stone Rd.	55	10	29	Essex Region Conservation Auth
<b>FP</b>	<b>FISH POINT</b>	McCormick Rd.	115	11	30	Ministry of Natural Resources
<b>GB</b>	<b>GIBWOOD</b>	North Shore Rd.	37	5	22	Nature Conservancy of Canada
<b>LP</b>	<b>LIGHTHOUSE POINT</b>	Lighthouse Dr.	96	3	16	Ministry of Natural Resources
<b>MP</b>	<b>MIDDLE POINT WOODS</b>	East Shore Rd.	71	7	24	Nature Conservancy of Canada
<b>ON</b>	<b>ONTARIO NATURE</b>	Stone Rd.	46	8	30	Ontario Nature
RN	RED CEDAR SAVANNA NORTH	East-West Rd.	106	11	-	Nature Conservancy of Canada
RS	RED CEDAR SAVANNA SOUTH	East-West Rd.	135	13	-	Pelee Island Winery
<b>SC</b>	<b>SHAUGHNESSY COHEN</b>	Stone Rd.	56	6	29	Nature Conservancy of Canada
VW	VON W	East-West Rd.	42	2	-	Nature Conservancy of Canada
WP	WILDS OF PELEE	Curry Rd.	56	4	-	Nature Conservancy of Canada
TOTAL	16 SITES					

Bold – surveyed in 2011

**Table 34 – Percentage of all point count sites where species was recorded at least once during two 5-minute surveys**

Species	%	Species	%
Red-winged Blackbird	97	Horned Lark	11
Common Grackle	89	Purple Martin	11
American Robin	84	Ring-necked Pheasant	8
Brown-headed Cowbird	70	Killdeer	7
Yellow Warbler	60	Red-bellied Woodpecker	7
Northern Cardinal	59	Warbling Vireo	7
Tree Swallow	56	Eastern Towhee	7
Cedar Waxwing	51	Wild Turkey	5
Mourning Dove	48	Black-billed Cuckoo	5
Baltimore Oriole	44	Wood Thrush	5
Indigo Bunting	42	Blue-gray Gnatcatcher	4
Downy Woodpecker	36	Gray Catbird	4
American Goldfinch	29	Common Yellowthroat	4
European Starling	29	House Finch	4
House Wren	26	American Crow	3
Yellow-billed Cuckoo	23	N. Rough-winged Swallow	3
Red-eyed Vireo	22	Chipping Sparrow	3
Blue Jay	22	House Sparrow	3
Eastern Wood-Pewee	19	Willow Flycatcher	2
Northern Flicker	18	Scarlet Tanager	2
Great Crested Flycatcher	18	Turkey Vulture	2

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Field Sparrow	16	Bald Eagle	2
Barn Swallow	15	Red-tailed Hawk	2
Eastern Kingbird	14		
Black-capped Chickadee	14	<b>49 Species</b>	
Orchard Oriole	12		



*Black-billed Cuckoo*

**Table 35 – Comparison of percentage of point count sites where species was recorded at least once and total number of territories recorded during breeding surveys on ten BBC plots, in order of abundance**

Point Counts			Breeding Bird Census (BBC)	
	Species	%	Species	Terr.
1	Red-winged Blackbird	97	Red-winged Blackbird	161
2	Common Grackle	89	Yellow Warbler	100
3	American Robin	84	Common Grackle	66
4	Brown-headed Cowbird	70	American Robin	63
5	Yellow Warbler	60	House Wren	60
6	Northern Cardinal	59	Indigo Bunting	53
7	Tree Swallow	56	Downy Woodpecker	49
8	Cedar Waxwing	51	Northern Cardinal	46
9	Mourning Dove	48	Brown-headed Cowbird	44
10	Baltimore Oriole	44	Baltimore Oriole	24
11	Indigo Bunting	42	Eastern Wood-Pewee	23
12	Downy Woodpecker	36	Yellow-billed Cuckoo	22
13	American Goldfinch	29	Red-eyed Vireo	21
14	European Starling	29	Black-capped Chickadee	20
15	House Wren	26	Field Sparrow	18
16	Yellow-billed Cuckoo	23	Great Crested Flycatcher	16
17	Red-eyed Vireo	22	Mourning Dove	16
18	Blue Jay	22	Eastern Towhee	13
19	Eastern Wood-Pewee	19	Blue Jay	11

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20	Northern Flicker	18	Tree Swallow	11
21	Great Crested Flycatcher	18	American Goldfinch	11
22	Field Sparrow	16	Cedar Waxwing	9
23	Barn Swallow	15	Black-billed Cuckoo	6
24	Eastern Kingbird	14	Northern Flicker	6
25	Black-capped Chickadee	14	Carolina Wren	5
26	Orchard Oriole	12	European Starling	5
27	Horned Lark	11	American Woodcock	4
28	Purple Martin	11	Gray Catbird	4
29	Ring-necked Pheasant	8	Blue-gray Gnatcatcher	3
30	Killdeer	7	Brown Thrasher	3
31	Red-bellied Woodpecker	7	Horned Lark	3
32	Warbling Vireo	7	Red-bellied Woodpecker	3
33	Eastern Towhee	7	Scarlet Tanager	3
34	Wild Turkey	5	Eastern Kingbird	3
35	Black-billed Cuckoo	5	Wild Turkey	3
36	Wood Thrush	5	Killdeer	2
37	Blue-gray Gnatcatcher	4	Orchard Oriole	2
38	Gray Catbird	4	American Crow	1
39	Common Yellowthroat	4	Common Yellowthroat	1
40	House Finch	4	Grasshopper Sparrow	1
41	American Crow	3	Prothonotary Warbler	1
42	N. Rough-winged Swallow	3	Red-tailed hawk	1
43	Chipping Sparrow	3	Song Sparrow	1
44	House Sparrow	3	White-eyed Vireo	1
45	Willow Flycatcher	2	Willow Flycatcher	1
46	Scarlet Tanager	2	Yellow-breasted Chat	1
47	Turkey Vulture	2	Chipping Sparrow	0.5
48	Bald Eagle	2	Warbling Vireo	0.5
49	Red-tailed Hawk	2	Wood Thrush	0.5
<b>49 Species</b>			<b>49 Species</b>	

**Table 36 – Breeding status of eighty-six species recorded on Pelee Island during the summer months from 2009 - 2011**

<b>Confirmed</b>	<b>Probable</b>	<b>Possible</b>
American Robin	American Crow	Acadian Flycatcher
American Woodcock	American Goldfinch	American Kestrel
Bald Eagle	American Restart	Belted Kingfisher
Baltimore Oriole	Black-billed Cuckoo	Black-crowned Night Heron
Bank Swallow	Blue Jay	Blue-winged Warbler
Barn Swallow	Blue-gray Gnatcatcher	Bobolink
Black-capped Chickadee	Brown Thrasher	Brown Creeper
Brown-headed Cowbird	Cedar Waxwing	Double-crested Cormorant
Canada Goose	Chipping Sparrow	Grasshopper Sparrow
Carolina Wren	Common Yellowthroat	Great Blue Heron
Chimney Swift	Cooper's Hawk	Great Egret
Common Grackle	Eastern Kingbird	N. Rough-winged Swallow
Downy Woodpecker	Eastern Meadowlark	Savannah Sparrow
Eastern Bluebird	Eastern Phoebe	Scarlet Tanager
European Starling	Eastern Screech-Owl	Turkey Vulture
Great Crested Flycatcher	Eastern Towhee	Wood Thrush
Great Horned Owl	Eastern Wood-Pewee	
Green Heron	Field Sparrow	Bonaparte's Gull X

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House Sparrow	Gray Catbird	Caspian Tern X
House Wren	Horned Lark	Herring Gull X
Killdeer	House Finch	Ring-billed Gull X
Least Bittern	Indigo Bunting	
Mourning Dove	Mallard	
Northern Cardinal	Marsh Wren	
Prothonotary Warbler	Northern Flicker	
Purple Martin	Orchard Oriole	
Red-tailed Hawk	Red-bellied Woodpecker	
Red-winged Blackbird	Red-eyed Vireo	
Ring-necked Pheasant	Rose-breasted Grosbeak	
Ruby-throated Hummingbird	Song Sparrow	<b>Confirmed - 35 species</b>
Tree Swallow	Spotted Sandpiper	<b>Probable - 35 species</b>
Wild Turkey	Warbling Vireo	<b>Possible - 16 species</b>
Wood Duck	White-eyed Vireo	<b>Other - 4 species</b>
Yellow Warbler	Willow Flycatcher	
Yellow-billed Cuckoo	Yellow-breasted Chat	<b>Total - 90 species</b>

**Table 37 – All species recorded from 2009 – 2011 during standardized 5-minute point count surveys and Breeding Bird Census surveys**

<b>Species</b>	<b>Species</b>
Acadian Flycatcher	Green Heron
American Goldfinch	Herring Gull
American Kestrel	House Wren
American Restart	Indigo Bunting
American Robin	Killdeer
Baltimore Oriole	Least Bittern
Bank Swallow	Mallard
Barn Swallow	Marsh Wren
Belted Kingfisher	Mourning Dove
Black-billed Cuckoo	N. Rough-winged Swallow
Black-crowned Night Heron	Northern Flicker
Blue-gray Gnatcatcher	Orchard Oriole
Blue-winged Warbler	Prothonotary Warbler
Bobolink	Purple Martin
Bonaparte's Gull	Red-eyed Vireo
Brown-headed Cowbird	Red-tailed Hawk
Canada Goose	Red-winged Blackbird
Caspian Tern	Ring-billed Gull
Cedar Waxwing	Rose-breasted Grosbeak
Chimney Swift	Ruby-throated Hummingbird
Chipping Sparrow	Savannah Sparrow
Common Yellowthroat	Scarlet Tanager
Cooper's Hawk	Song Sparrow
Double-crested Cormorant	Spotted Sandpiper
Eastern Bluebird	Tree Swallow
Eastern Kingbird	Turkey Vulture
Eastern Meadowlark	Warbling Vireo
Eastern Phoebe	White-eyed Vireo
Eastern Wood-Pewee	Willow Flycatcher



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Field Sparrow	Wood Duck
Grasshopper Sparrow	Wood Thrush
Gray Catbird	Yellow Warbler
Great Blue Heron	Yellow-billed Cuckoo
Great Crested Flycatcher	Yellow-breasted Chat
Great Egret	<b>Species - 69</b>

## **5.53 Combined Transects**

## **5.54 Combined Marsh Bird Monitoring**

## **5.55 Combined Incidental Observations**

## **6.0 Discussion & Recommendations**

## **7.0 Conclusion**

## **Acknowledgements**

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