Presqu'ile Bay Ecological Inventory Summary Report, 2009

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St Marys Brighton Lands

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TABLE OF CONTENTS

1 INTRODUCTION

In February 2008 St Marys Cement (St Marys) completed a Species at Risk Conservation and Management Plan for a 100 ha property they own on Presqu'ile Bay, along the Lake Ontario shoreline near Brighton, Ontario. With the support of the Ontario Ministry of Natural Resources (MNR) Species at Risk Stewardship Fund, technical and outreach work has continued on those lands with the production of a baseline report, a Vegetation Management Plan and a Draft Research Strategy.

As part of an ongoing initiative to more fully understand Species at Risk (SAR) in and around the St Marys Presqu'ile Bay lands, additional detailed ecological survey work was completed in 2009. This work was intended to:

- Contribute to a richer ecological database for the lands and waters previously investigated;
- Supplement existing data by gathering information in the spring and early summer periods that had not yet been fully sampled;
- Focus on gathering additional population, distribution and ecological characteristics of known Species at Risk in Presqu'ile Bay (i.e., Least Bittern, Bald Eagle, King Rail, Blanding's Turtle, Map Turtle); and,
- Expand the ecological inventory beyond the St Marys lands into other coastal wetlands within Presqu'ile Bay more generally.

1.1 Context

The St Marys lands include the presence of King Rail, (Endangered in Ontario), and an unexpectedly high population of Least Bittern (Threatened in Ontario). These lands consist of almost 4 km of intact coastal wetlands. Given that more than two-thirds of coastal wetlands along the Great Lakes have been lost, these holdings present an important opportunity for significant conservation initiatives.

Beyond the St Marys lands, Presqu'ile Bay as a whole is recognized for its biological and conservation significance. Nearby Presqu'ile Provincial Park (2,342.5 ha) is classified as a Natural Environment Park, is also designated a Life Science Provincial Area of Natural and Scientific Interest, and 970 ha of the bay is designated as a Provincially Significant Wetland. Presqu'ile Provincial Park was also designated as an Important Bird Area (IBA) in 1999, based primarily on significant populations of five species (Dunlin, Whimbrel, Brant, Greater Scaup, and Double-crested Cormorant). The identification of a large Least Bittern population, and presence of King Rail through 2008 and 2009 Savanta field studies further supports the IBA designation, and for the first time adds wetland obligates to the groups of birds for which Presqu'ile Bay is

notable. About 80% of the Presqu'ile Bay shoreline is vegetated with a variety of wetland communities.

In addition to the St Marys property, and Presqu'ile Provincial Park, the Nature Conservancy of Canada own Willenroth Woods; a 30 ha property with coastal wetland just east of the St Marys lands. The Municipality of Brighton also has a parcel of land adjacent to the St Marys land that includes a constructed wetland for wastewater effluent polishing.

1.2 Species at Risk Stewardship Fund

Additional survey work across Presqu'ile Bay was completed under the Ontario government's Species at Risk Stewardship Fund. Matching funding was provided by St Marys Cement. This program has seen funding provided by both sources during both the 2007-2008 and 2008-2009 years as well.

During the 2007-2008 phase of the program, the following were accomplished:

- An initial inventory of vegetation, birds and winter wildlife;
- Relationship building with partners/stakeholders;
- A SAR Conservation and Management Plan was prepared for the site; and,
- With the help of MNR and the Northumberland Stewardship Council (who provided funding), a Bald Eagle nesting platform was installed in April 2008.

Phase II of the project began in the summer of 2008, and ended in February 2009. Summer and fall fieldwork yielded some quite interesting findings and identified the need for, and benefit of, further studies. Specific highlights of those 2008 field observations included:

- The presence of an unexpectedly high population (i.e., as many as 15 pairs) of Least Bitterns (considered to be Threatened in Ontario); and,
- At least one King Rail, (considered to be Endangered in Ontario), was detected on the site. This observation, along with their known presence at Presqu'ile Provincial Park, support the notion that the Presqu'ile Bay area should be considered to be an important habitat for this species. Estimates suggest there are only about 30 recorded pairs of King Rail in the province.

This 2009 field program and its results are discussed more fully in Section 2.0 of this report.

1.3 Partners

An important underpinning of the work to date has been the establishment and maintenance of relationships with key organizations and agencies. Through sharing information and hosting

stakeholder meetings, St. Marys is learning a great deal about their lands and about important land use and ecological relationships with neighbouring lands.

Key partners included:

- Municipality of Brighton;
- Ministry of Natural Resources;
- Presqu'ile Provincial Park;
- Friends of Presqu'ile Park;
- Nature Conservancy of Canada;
- Northumberland Stewardship Council;
- Lower Trent Conservation;
- Waterfront Regeneration Trust;
- Members of various SAR Recovery Teams; and,
- Knowledgeable local naturalists

2 ECOLOGICAL INVENTORY FINDINGS – 2009 FIELD SEASON

2.1 Summary of Investigation Methods, Location, Timing

Field investigations were completed throughout a broadened study area and with expanded seasonal coverage in 2009. Rather than just focus on the St Marys lands, it was determined that additional information about Species at Risk within the entire coastal wetland system in Presqu'Ile Bay would be an invaluable tool in understanding the relationships between the wetland sections, as well as providing a first bay-wide population estimate for these species.

The remaining wetlands in Presqu'ile Bay for the most part exist in isolated, discreet sections, which were divided into ten study areas (see Figure 1). Three additional study areas - Owen Point Pond, Woodpile Marsh (both within Presqu'ile Provincial Park), and the Constructed Wetland, were also surveyed due to their close proximity to the coastal wetland system and history of target species occurring on site.

The majority of fieldwork was accomplished by canoe-based surveys, although some wetland sections were accessed by roads and adjacent lands. The bulk of the 2009 effort was directed at locating wetland obligate species such as Least Bittern and King Rail, with the likelihood that other SAR would be detected during the course of that field work.

A total of 30 visits were made to the Presqu'ile Bay Wetlands between 19 May and 30 July 2009 (Table 1). Most surveys were conducted in the early to mid-morning, on days with little or no wind or precipitation. Bittern and Rail searches were done primarily through the use of recorded song playback, following Recovery Team protocol standards, while other species were detected by visual search. A total of 234 stations were established, mapped and surveyed at least once during the course of field work. Efforts were made to search each discreet section in one visit to help eliminate duplication of individuals.

In addition to the results generated from this study, local naturalists were contacted and asked to submit any sightings of SAR they made during the course of their field work. This was most helpful and resulted in several new records not found during our surveys.

Table 1. Summary of Survey Dates and Times, by Study Location

Study Site Name	Survey Date	Survey Period
Presqu'ile North	25-May-09	0630-0900
Presqu'ile North	17-Jun-09	0600-0930
Presqu'ile North	29-Jun-09	0500-1040
Presqu'ile South	8-Jun-09	0620-1000
Presqu'ile South	19-Jun-09	0600-1100
Presqu'ile South	7-Jul-09	0545-1215
Presqu'ile South	24-Jul-09	0740-0950
Shoal Point	21-Jul-09	0615-1020
Boat Harbour	25-Jul-09	0630-1030
Stony Point	8-Jun-09	0930-1000
Stony Point	25-Jul-09	0715-1015
Stony Point	20-Jul-09	0615-1045
Owen Point Pond	8-Jul-09	1900-2215
Woodpile Marsh	7-Jun-09	0800-0900
Constructed Wetland	8-Jun-09	1000-1030
Calf Pasture Marsh	25-May-09	0945-1330
Murray Canal North	8-Jun-09	1100-1120
Murray Canal North	19-May-09	0700-0840
Murray Canal North	29-May-09	0800-1130
Murray Canal North	4-Jun-09	0630-0900
Murray Canal South	19-Jul-09	0600-0845
Murray Canal South	19-May-09	0840-1045
Nature Conservancy of Canada	6-Jun-09	0630-0930
Nature Conservancy of Canada	4-Jun-09	0900-1030
St Marys Brighton	23-Jun-09	0530-0900
St Marys Brighton	25-May-09	0930-1130
St Marys Brighton	23-Jun-09	0930-1000
St Marys Brighton	8-Jul-09	1830-1900
St Marys Brighton	22-Jul-09	0610-1045
St Marys Brighton	30-Jul-09	0600-1030

2.2 Ecological Findings

The 2009 field work confirmed the presence of five SAR using the Presqu'ile Bay Wetlands; Least Bittern, Bald Eagle, King Rail, Map Turtle and Snapping Turtle. Another SAR previously known from the Bay - Eastern Musk Turtle - was not located during this field work. Two more SAR, Milksnake and Blanding's Turtle, were found just outside the study area within Presqu'ile Provincial Park, and are noted here due to their proximity and likely connection to the coastal

wetland system. See Table 2, for designation of each of these species under Ontario's Endangered Species Act and the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

Table 2. Presqu'ile Bay SAR Species - ESA and COSEWIC Designations

Common Name	Latin Name	Ontario's ESA Designation	COSEWIC
Reptiles			
Blanding's Turtle	*Emydoidea blandingii*	Threatened	Threatened
Eastern Musk Turtle	*Sternotherus odoratus*	Threatened	Threatened
Milksnake	*Lampropeltis triangulum triangulum*	Special Concern	Special Concern
Northern Map Turtle	*Graptemys geographica*	Special Concern	Special Concern
Snapping Turtle	*Chelydra serpentina*	Special Concern	Special Concern
Birds			
Bald Eagle	*Haliaeetus leucocephalus*	Special Concern	Not At Risk
King Rail	*Rallus elegans*	Endangered	Endangered
Least Bittern	*Ixobrychus exilis*	Threatened	Threatened

Additional Comments on SAR Located within the Study Area

Least Bittern: A minimum of 70 males were detected from six wetland sections, plus birds of unknown sex were located in a further two areas indicating that this species is well distributed in all major wetland areas that are not highly disturbed. It is believed that additional birds were present in several areas that could not be accessed, or that were missed when birds were unresponsive during field visits to prime sites. It is possible that the total population for Presqu'ile Bay (assuming each territorial male represents a breeding pair) could approach 100 pairs.

Bald Eagle: A single sub-adult bird was seen just west of the Murray Canal channel on 6 June. In addition to a USFW band, this bird was wearing a coloured leg band, but it was too distant to read the letters. In the past decade this species has become a regular, almost year-round "resident". Most sightings are of sub-adults, but adults are seen as well. This is a former nesting species, and it is hoped that between the platforms that have been erected on the St Marys Brighton and the NCC lands, as well as a wealth of natural sites in several parts of the Bay, that this species will soon begin nesting again in the area.

King Rail: This is an exceptionally difficult species to locate and confirm because it is secretive, not typically vocal, generally does not respond well to call playback, and unless heard well could be confused for other species (especially Least Bittern and Virginia Rail). King Rails are known from both the north and south sections of Presqu'ile Provincial Park and also from the St Marys land. In 2009 a single bird was heard calling repeatedly on 29 June at a known site within Presqu'ile Provincial Park. In addition, single birds suspected to be this species were heard again near the 2008 site on the St Marys lands, and from a previously unknown site on a undisclosed private holding. Neither could be confirmed due to the brevity/poor quality of the call sequence heard and their failure to respond further.

Ontario's remaining King Rails are primarily found in the few large remaining wetlands in southwestern Ontario, especially in the western Lake Erie/Lake St. Clair region. There are scattered reports, including breeding records from Lake Ontario marshes from Hamilton east to Kingston, however most of these sites are either historical or are only sporadically occupied.

Previous King Rail surveys at Presqu'ile Provincial Park have suggested that up to three pairs may be present there (Craighead, pers. com.), and our earlier work (Savanta 2008) on the St Marys land indicates that at least one bird, and possibly up to three are present there. The 2009 field work yielded a possible record from yet another (undisclosed) site on Presqu'ile Bay. In addition, birds have been located in 4 sites in Prince Edward County marshes in the past decade as well (Craighead, pers. com., McRae pers. obs.)

Results from this study, combined with other recent findings, suggest that the wetlands of Presqu'ile Bay and adjacent Prince Edward County constitute an important, but previously unrecognized, population node for this species in Ontario.

Map Turtle: This species is believed to be quite rare in Presqu'ile Bay, with only a few known reports. Up to three were found, each time sunning on an artificial surface (floating mooring tire), just west of the Murray Canal channel. This species is fairly common in the Trent River, and it is quite likely that this species is accessing Presqu'ile Bay via the Bay of Quinte and the Murray Canal.

Common Snapping Turtle: This species appears to be fairly common and widespread in Presqu'ile Bay, with numerous sightings in most wetland sections throughout the season.

SAR Located just outside the Study Area

The following two species were located just outside the study area within Presqu'ile Provincial Park, but are noted here as it is quite possible that they occasionally use the coastal wetlands of Presqu'ile Bay or the immediate buffer surrounding it.

Milk Snake: Local naturalist Bill Gilmour found Milksnakes in Presqu'ile Provincial Park on Paxton Drive, near Atkins Lane. Two were road-killed and one was alive. The site is about 700m from the Calf Pasture Wetland Study Site.

Blanding's Turtle: Bill Gilmour found two Blanding's Turtles in late May within Presqu'ile Provincial Park. The sightings were both from interior dogwood swamp habitats (Beach 2 and Main Road, Beach 4 and Main Road) on the Tombolo within 500m of the coastal wetland.

2.3 Other Comments and/or Observations

Significant portions of the original Presqu'ile Bay Wetlands have been lost to development over the past century. While the large core areas of remaining wetland are now either under protection, or appear stable for the moment, many of the smaller isolated remnants continue to face degradation and may soon be lost.

There are a number of issues and pressures that may impact on the quality of the Presqu'ile Bay Wetlands, and by extension on the SAR that live there. Among the pressures still affecting wetlands in Presqu'ile Bay are on-going shoreline development and improvements, minimal buffers between the wetland and adjacent developments, chemical treatments to reduce aquatic plant growth in channels, runoff, and invasive species (e.g., Carp and Mute Swan).

The following are some recommendations regarding next steps for monitoring and managing the Presqu'ile Bay Wetlands:

- Continued monitoring of SAR within the wetland complex;
- Management of important areas to protect against the effects of non-native species that could prove harmful to SAR; and,
- With community/stakeholder input and support, investigate the possibility of restoring/enhancing some of the lost/compromised wetland connecting blocks where desired and feasible.

3 CONCLUDING REMARKS

This work constitutes the first "bay-wide" examination of the Presqu'ile Bay Wetland complex for SAR, and will form an important benchmark for future surveys, research and restoration projects. The results show clearly that Presqu'ile Bay is an important area for several SAR, most notably for Least Bittern and King Rail.

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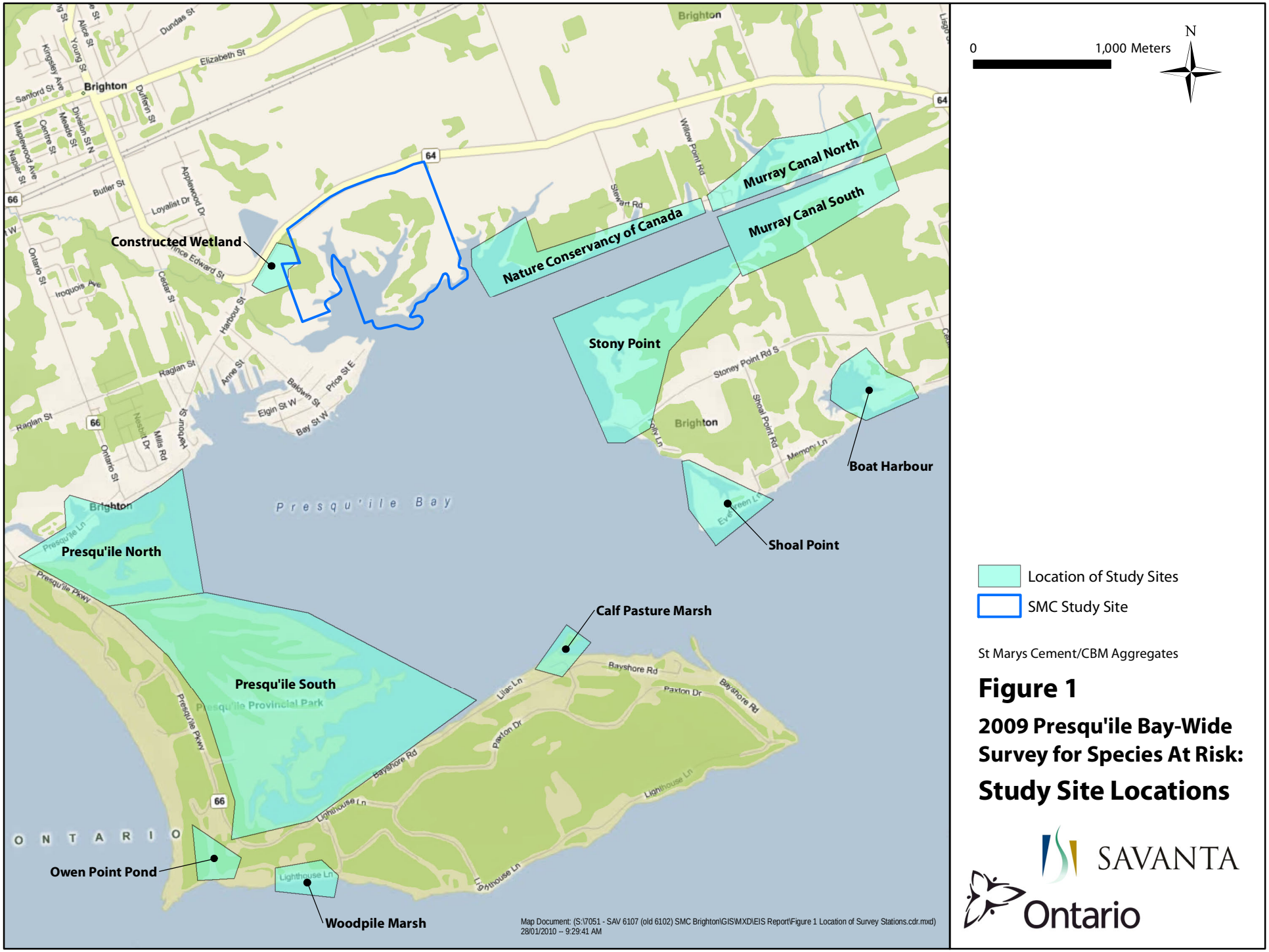
FIGURE 1

2009 Presqu'ile Bay-Wide Survey for Species At Risk: Study Site Locations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Nature Conservancy of Canada
Murray Canal North
Murray Canal South
Stony Point
Boat Harbour
Shoal Point
Presqu'ile North
Presqu'ile South
Presqu'ile Provincial Park
Calf Pasture Marsh
Owen Point Pond
Woodpile Marsh
Presqu'ile Bay
Brighton
ONTARIO
Location of Study Sites
SMC Study Site
St Marys Cement/CBM Aggregates
Figure 1
2009 Presqu'ile Bay-Wide Survey for Species At Risk:
Study Site Locations
SAVANTA
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