The spring migration of the Whimbrel (Numenius phaeopus) through the Great Lakes basin and surrounding areas (with a focus on the greater Toronto area)

Wayne E. Renaud

Whimbrels resting on the boulders, Tommy Thompson Park, Toronto, 2:56 pm 27 May 2012
(Charlotte England)

CONTEXT

The Whimbrel has been divided taxonomically into four subspecies word-wide with an estimated population varying from 797,000 (C.W.S. Occ. Paper #4) to 1,550,000 (http://audubon2org/webapp/watchlist/viewSpecies.jsp?id+=213). Skeel and Mallory (1996) list the eastern North American subspecies that moves through the Great Lakes basin in spring as 'Numenius phaeopus hudsonicus', although data from satellite-harnessed Whimbrels suggest some portion on this group breeds at the eastern end of the western sub-arctic North American breeding range (F. Smith, p.c.). Early estimates for the east Atlantic flyway ranged from 25,000-100,000 in 1993 (Rose and Scott 1994). Morrison and Ross (1989) report 15,000+ in coastal wintering area of nw South America, at the time considered the primary wintering site for the Hudson Bay population.

The main spring staging areas are located on Virginia's Delmarva Peninsula. Watts and Truitt (2011) summarized data from the lower peninsula from 1994-2009: "mean numbers declined by nearly 50%, ranging from 2,880 to 3,175 and 1,430 to 1,553 during the early 1990's to late 2000's periods, respectively, representing a 4.2% average rate of decline. In addition, the total

number of birds detected during the year (across 6 surveys) declined from a range of 6,696 to 8,771 and 4,295 to 4,418 for early and late decades, representing a 3.3% average, annual rate of decline." During spring migration in the mid-1990s, Bryan Watts from the Center for Conservation Biology at the College of William and Mary and Barry Truitt of The Nature Conservancy began documenting the dense concentration of whimbrel within the barrier island lagoon system of the lower Delmarva Peninsula and estimated 40,000 (F. Smith, p.c). The high count recond for the Delmarva: 2122 in Boxtree Marsh, 24 May 2012 (CCB/TNC Whimbrel watch archives; F Smith, p.c.). By 2007 the estimate was lowered to 17,000 (http://www.audubon2.org/watchlist/viewSpecies.jsp?id=213).

Figure 1 depicts e.bird range map for spring migration for the eastern USA and SE Canada.

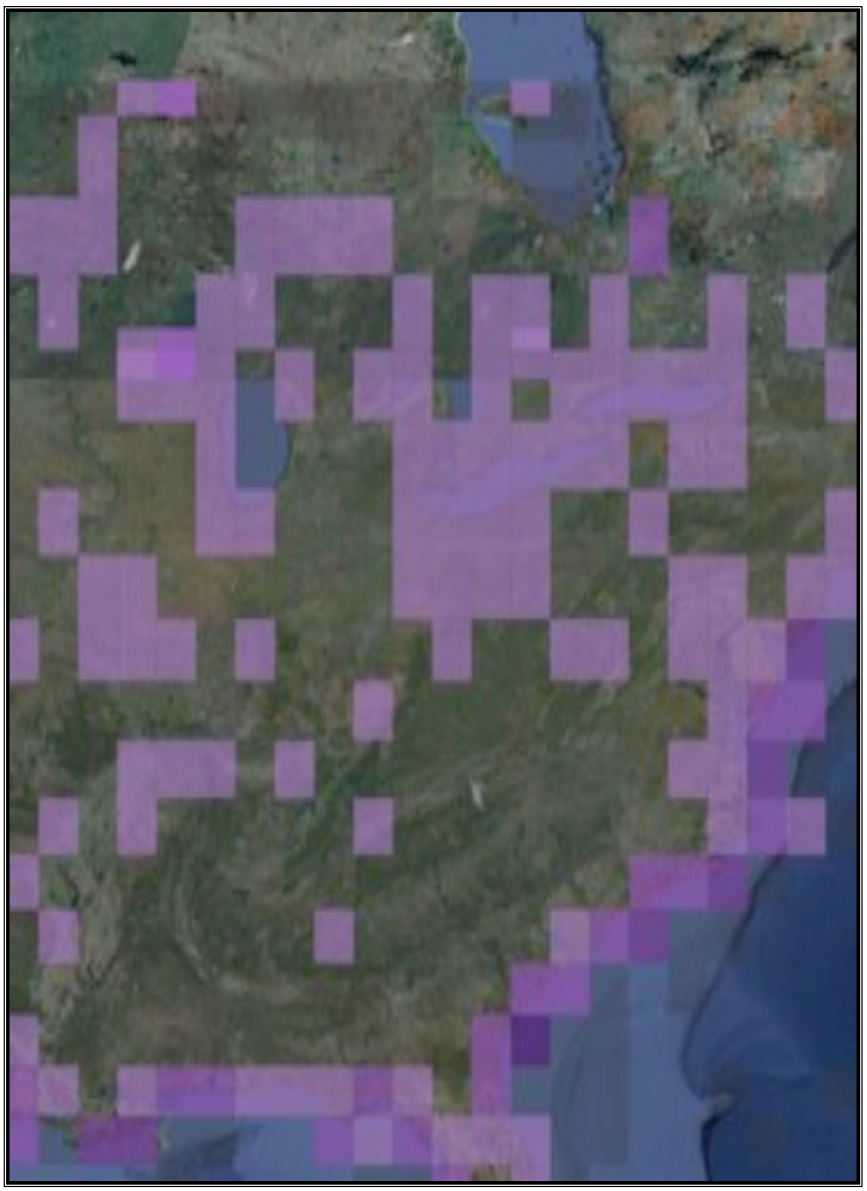

Figure 1.
E.bird spring migration range map for Whimbrel from March – May 1900-2012 (density of color indicates relative frequency of records among each rectangle; eg. darker = more frequent)

This paper documents the history of the spring migration of the Whimbrel through the Great Lakes basin and associated changes to the greater Toronto area (hereafter GTA) shorelines, where some the largest North American inland counts of Whimbrels in history have been taken. The GTA as defined here runs along shoreline of Lake Ontario from Oshawa in the east to Mississauga in the west, a distance of approximately 80 kilometers.

MIGRATION ROUTING AND PHENOLOGY IN EASTERN NORTH AMERICA

Whimbrel moving north to the eastern-most breeding areas are among the last of the shorebirds to pass though the eastern U.S.A. and Great Lakes basin in spring, staging for a relatively brief period along the south-central Atlantic coast, passing from 14 to 20 May, then flying (rarely staging), via the Great Lakes to James Bay (Moosonee: 27 May 1985 /Weir (1985) and Hudson Bay (Skeel and Mallory 1996) during which time they are rarely seen inland [some exceptions: 'sunset' flight: 23 May 1995: 270+ over Montezuma N.W.R., New York (≠30 km sw of Lake Ontario)(Boyle et al 1995); 150 feeding in a cultivated fields at 'Holland Marsh'≠ 40 km north of the Lake Ontario at Toronto 22 May 1991 (Weir 1991); 130 over Flint, Michigan (≠ km s of Saginaw Bay, e of L. Huron) on 22 May 1995 (Grunland 1995)]. It's arrival in the Churchill, Manitoba area, the heart of the eastern breeding range occurs "… in small flocks of 5 to 10 in late May (earliest: 20 May)" (Jehl and Smith 1970).

EXTENT OF MAJOR STAGING AREAS IN E AND SE ATLANTIC COAST REGION

"Stage along Gulf and Atlantic coasts north to New Jersey; regularly a few farther north (Harrington and Page 1992). Numbers build from March to early Apr in the s. U.S., and mid-Apr to mid-May from the Carolinas north. " (Skeel and Mallory 1996).

As far north as Delaware Bay by late April [eg., 300 on Nummy I., sw N.J./26 April 2005 (Elia 2005)] but more typically reach northern Maryland in the last week of May [eg., in 1999 "A large Whimbrel movement occurred across a broad front 26 May (MJI, AF), with 100 at Ocean City and 200 at Deal, in addition of large flocks in w. Maryland" (Iliff 1999). Much less common north of Cape May, sw N.J. along the Atlantic coast but occasionally north to Nova Scotia (Harrington and Page 1992). In 1998, Iliff (1998) indicated that '"survey of of Quinby, Cedar and Parramore I., Accomack, VA, produced a count of 1500 May 14 (NB, BP, LW), though past surveys have had up to 10 times this amount [ie.: 15000]. In the upper bay, large flocks are occasionally noted but 242 at Hart May 23 (EJS) represented a record high for the island: 2 flocks totally 200-300 seen and heard at dusk over Arnold, Anne Ardundel, the same day (HLW, lMD)." Based on radio and satellite tag data, the CCB has established that Whimbrels arrive in Virginia as early as the 1st week of April, and depart as late as the 2nd week of June, with 95% leaving between 16 and 31 May (F. Smith, p.c.).

Elsewhere, the largest concentrations occur in the mid-Atlantic U.S.A. states: Georgia [eg.: spring 1996: 2600+ at Liberty (Davis 1996) and South Carolina [eg., 1900 Edisto Beach, 20 May 1997 (Davis 1997)] .

Relatively recently, Whimbrels have begun staging in southern Louisiana, which may represent the 'hudsonicus ' subspecies. The first large concentration: >250 in rice fields near Vermillion on 12 May 2002 (Myers and Wallace 2002). On 11 May 1996: "a flock of 950 (was) going to roost at Vincent N..W.R. … to complete a total rice field count of 1013, surely an all time

Regional high" (Muth 1997). More recently, 1050 were found at 'Milton-Abbeville' (ssw of LaFayette) on 2 May 2010 (J. Davis, ebird).

A shift northward of staging areas along the west Atlantic coast on the USA was first noted in 1980 (Armistead 1980): "outstanding this spring … unprecedented numbers (ie.: 187 at five locations from 15 to 24 May) of Whimbrel in the Chesapeake Bay area, were even one is an event." In 1986, Armistead (1986) further reported that "… surveys of the Chincoteague National Wildlife Refuge revealed 376 (a record high count) Whimbels on 8-9 May, Hart in the upper bay." In 1990, " … a surprised count was 595 at Bellevue, MD, in two large flocks flying north at dusk calling in the evening of May 25 in the central part of the bay area were observers have only seen two previous birds of this species" (Armistead 1990). The following year, Armistead (1992) declared the "most unusual in interior Maryland were 40 Whimbrels … at Hashawaha … May 25, and 246 … in Cobb-Wreck Is. Area May 13." A large flock of 500+ was considered "impressive" at Shell Bay Landing, Cape May, N.J. on 6 May 1996 (Boyle et al 1996). On 17 May 2011, 450 (record high for spring migration) were counted at Edwin B. Forsythe NWR, New Jersey, 12 km north of Atlantic City (W. Keim, ebird).

Thus the spring staging areas along the se USA coastline are highly concentrated but spread over a large area and explains why the width of the migration corridor through the Great Lakes basin is relatively wide.

MOVEMENT THROUGH THE GREAT LAKES BASIN

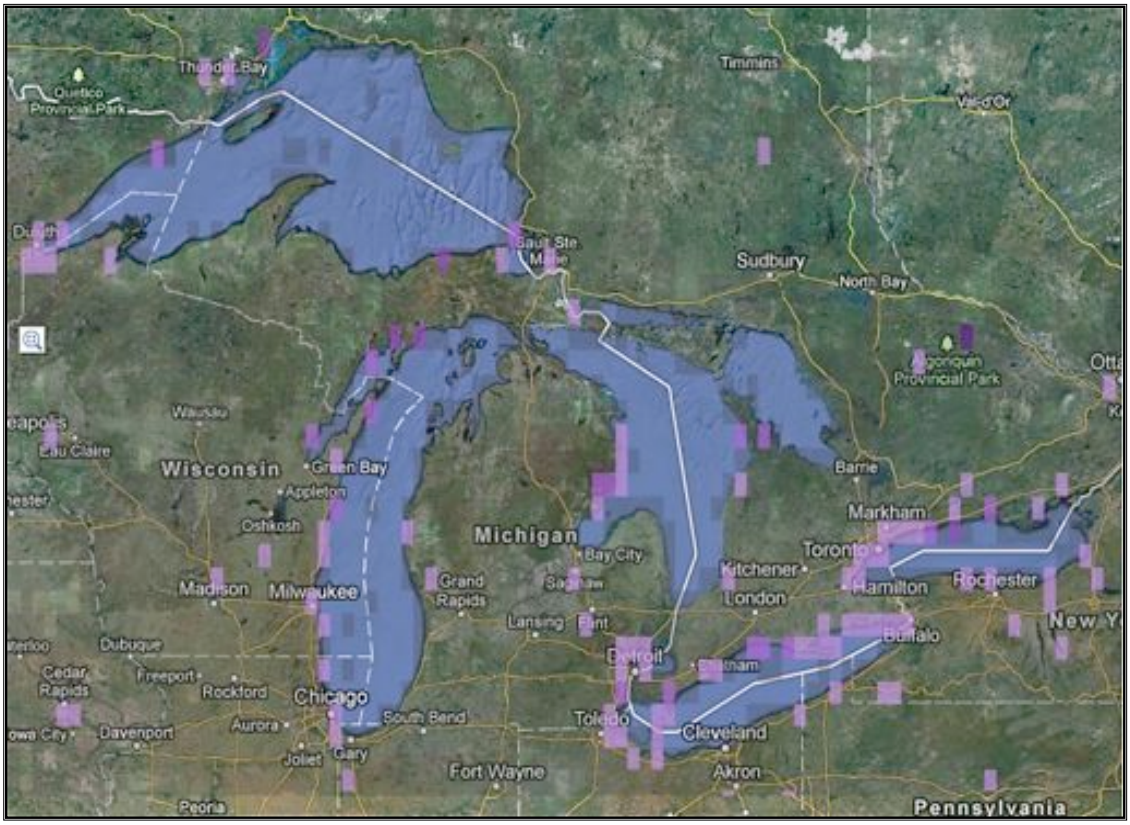

Figure 2.
Whimbrel ebird range map for the Great Lakes basin for March to May (1900 to 2012/density of color indicates relative frequency of records among each rectangle; eg. darker = more frequent)

Spring arrival

During the extra-ordinarily early spring of 2012 a single Whimbrel was found on Prince Edward Point near Kingston on 23-24 March (Ontbirds: M.Conboy: Kingston Area Birds for the period Mar 23 to Apr 1, 2012). The next earliest record, a single Whimbrel at Tawas Point State Park, Michigan on 16 April 1992 (Grunland 1992); a very early flock of 18 on 18 April 2004 at Salt Lake, W. Minnesota (Grunland 2004). Earliest spring arrival records elsewhere: 22 April 1999 (J.Berry; Montrose Pt., Chicago, Illinois; ebird); 22 April 2011 (L.&J. Kraemer/Duluth-Park Point, Minnesota; ebird); 28 April 2009 (B.Holden/Hillman Marsh C.A., Ontario; ebird); 30 April 2008 (D.Overacker; Buck Creek State Park, Ohio: ebird); 2 May 1964 (flock of 50@Malton/J. Saunders); 3 May 1981 (Pt. Pelee N.P./Goodwin 1981); 6 May 2010 (Syracuse/Oneida L., New York; Syracuse RBA); 8 May 1972 (M.R. Donald/Ozaukee, Wisconsin; http://wsbirds.org/?page_id+1587); 9 May (Pt. Pelee; Weir 1982); 11 May 2001 (P. Svingen/Diluth, Minnesota: ebird); 14 May 2011 (Presqu'ile, Ontario; friendsofPresqu'ile/birdingreports); 15 May 1973 (Amherst I.; Weir et al 2008).

Few local bird lists have information on average arrival dates. For the Toronto area Saunders (1947) listed 24 May and further elaborated Saunders ('Curlew Day' In Fairfield 1998) "they usually go through this region within a period of 48-96 hours each spring, usually on the 24th or 25th of May". For the Kingston area, Quilliam (1973) listed 23 May (ave. of 16 yrs.) and Weir (2008) list as 20 May (ave. of 30 yrs.). Tozer and Richards (1974) for Oshawa, N. shore of L. Ontario as 21 May (ave. of 17). For the greater Hamilton area, Curry et al (2006) list average spring arrival at 24 May (13 years between 1950 and 1970) and 23 May (17 years between 1980 and 2000). Wisconsin: "… main migration period, 20-30 May" (Robbins 1991). Minnesota/w. L. Superior: average spring arrival date (of 16; 1985-2011): 20 May (ebird).

Thus average first arrival dates across the great lakes span 20 to 24 May.

Spring departure

Because Whimbrels are among the latest shorebirds to move through in spring migration, along with Red Knots, Semipalmated Plovers, Sanderling and Ruddy Turnstones, small numbers are recorded regularly until the end of May and early June; stragglers to mid June.

Early June records for the Toronto area date back at least to 1937 when 2 were seen at Ashbridges Bay on 5 June (I. Ellis/TOC archives). For the Toronto area, Saunders (1947) listed 29 and 31 May as 'latest departure dates' for Saunders and Baillie, respectively, but no June records. In the Hamilton area (Curry et al. 2006) listed 8, 10 and 15 June as 'extreme dates' for spring departure; average for 1950-1970: 27 May; for 1971-2000: 26 May. In the Kingston area (Wier et al 2008) listed 2 June as the average spring departure date; latest 15 June. In 1994, late spring migrants along shorelines of Lake Erie included singles at Erie Beach 8 June and Hillman Marsh 9 June (Ridout 1994). Fifteen Whimbrels were recorded on L. Erie near Tillsonburg on 6 June 1996 (Ridout 1996) and at Pte. Mouilee-Long Pond S.G.A., Michigan on 8 June 2009 (H.Vaughn, ebird). "Late Whimbrels were four at Pt. Elgin, Cranberry Marsh and Wolfe I., June 3-15" (Weir 1982).

In the Duluth, Minn. area, latest spring departures dates: 17, 18 and 23 June (Duluth Birding Report/Minn. Ornith. Union/June 18, 2009); high June count: 25 on 2 June 2012 at Park Point – Bay Point, St. Louis County, Wisconsin (T. Mitchell/ebird + photo). In the 'Western Great Lakes Region"

of the USA, Tessen (1982) reported: "A Whimbrel at Beaver Bay until 4 June, one in Lake-of-the-Woods' June 11, Ashland June 2, and 6 at Manitowac on 2 June."

Status and distribution within the migration corridor

Flock of Whimbrels flying past the tip of Whimbrel Point, Colonel Samuel Smith Park at 12:57 pm on 26 May 2012 (Wayne Renaud)

While the north bound routing through the Great Lakes Basin have traditionally been viewed as relatively quite narrow, to some extent, it extends to the entire width of the basin from eastern Lake Ontario to western Lake Superior [western Lake Superior: Thunder Bay, ON: 2001: 19-20 May, eight each on Mission and Bent Island and 'several hundred' recorded during a western Lake Superior colonial birds survey on 26-28 May (http://www.nat.com/bic/ont/recent/ htm; Duluth: 100+ on 20 May 1978/Echert 1978] . These Whimbrels may originate, in part or whole, from the Louisiana staging areas. In Wisconsin on the west shore of Lake Michigan (and further west than Whitefish Point, east Lake Superior), Eckert (1980) reported 3000+ passing Manitowoc N.W.R. and Bailley's Harbour on 22 May 1980; 1500 at Bailey's Hr, Door Cty on 26 May 2010 (Recent Postings from The Wisconsin Birding List). This is clearly the western edge of the oscillating migration corridor; no counts west of here have exceeded 400 [max.: 400 over Nipigon, n Lake Superior on 25 May 1979 (Goodwin 1979).

Even in the known more concentrated migration corridor along the shores of the Great Lakes the numbers are highly variable for year to year. For example, in spring migration (1 March-31 May) 1986, the 'Ontario Region' reported "154+ sightings … the lowest numbers in over 10 years and their peak was 50 at Long Point 28 May (L.P.B.O.)" (Weir 1986). Similarly, the same year the Western Great Lakes Region (Minn., Wisc. and MIch.) reported Whimbrels as "scarcer than normal in Michigan" with a "flock of 110 at Manitowoc [western Lake Michigan] … the largest group reported" (Powell 1986).

In 2012 the total numbers reported from Toronto (including 4693 from the Toronto Ornithological Club Whimbrel Watch) were close to 5000; 13 additional sightings on Lake Ontario totaled 636 (highest: 200+ on 25 May at Carruthers Ck. Marsh/Ajax/T.Hoar/Ontbirds). Numbers on the other Great Lakes were low to below average based on e.bird postings: Lake Superior (eight groups totaling 66; high count: 34 at Dorion Canyon 26 May/Dorion Canyon bird festival); Lake Michigan (15 groups totaling 277; high count: 90 at Matistique on 22 May/C.Vogel), Lake Huron (12 groups totaling 584: high count: 500 at Arenac, Iosco Count sw of Tawas Bay on 25 May/S. Jannex) and Lake Erie (27 groups totaling 740; high count 236 at Pointe Mouillee State Game Area on 25 May/A. Charier).

Taverner (1942) identified Amherst Island at the foot of Lake Ontario (ie. the east end) as a favourite 'crossing place' for the species in their northern flight and "May 24 is the date upon which they can be look for passing in one large flock." Bull (1974) in this documentation of spring migration through New York state, indicated that the main migration occurs: "along the Canadian shores of Lake Erie west of Buffalo … in late May (when) flock (of) up to several hundred may be seen" and that "most flock of any size are observed in continuous flight overhead". Goodwin (1982) described four crossing points of the main stream of migration starting at Owen Point on North shore of Lake Ontario 90 km ese of Kingston, then onto the south tip of Manitoulin Island in Georgian Bay, then to Moosonee on the sw coast of James Bay, and lastly the subarctic tundras of Cape Henrietta Maria on sw side of Hudson Bay. In 1983, Weir (1983) described "tremendous number of Whimbrels … 20 – 24 May along the axis of e. Lake Ontario shore to Georgian Bay and Manitoulin Island. Some spill over to Ottawa and Long Point near Wiarton: 2000 passed in ½ hour and 25 May (J.W. Jarmain), a remarkable total of a species not often seen in the Grey-Bruce area." Surprisingly, none of these sources reference western Lake Ontario beyond Oshawa as part of the northbound migration corridor. The other point of departure for Whimbrel on the Great Lakes is Whitefish Point Bird Observatory, e Lake Superior (eg., 1276 from 24-28 May 2008; max. of 700 on 25 May/Powell 1988).

Table 1 lists high counts for the Great Lakes (and adjacent areas) in spring migration.

Table 1. a select list of whimbrel high counts for the great lakes basin and adjacent areas in spring migration (1942 to 2012)

Location	Date	Qu.	Source of record
LAKE ONTARIO			
Kipling/Lakeshore, Toronto, ON	24 May 1992	5000	Many obs. (J. Guild. p.c.)
sw Toronto-se Mississauga, L. ON	23 May 2007	3267	Renaud et al. (Ontbirds)
Toronto E. headland, ON	24 May 1988	3000	Weir (1988)
Sw Toronto, ON	23 May 2005	2643	W. Renaud (Ontbirds)
Colonel Samuel Smith Park, Toronto, ON	26 May 2012	2284	TOC 2012 Whimbrel Watch
Toronto-se Mississauga, ON	26 May 2007	2114	W.Renaud et al (Ontbirds)
Toronto, ON	25 May 1994	2000	Ridout (1994)
Sw Toronto, ON	26 May 2007	1916	W.Renaud et al (Ontbirds)
Sw Toronto, ON	24 May 2009	1813	TOC 2009 Whimbrel Watch
Sw Toronto, ON	24 May 2011	1533	TOC 2011 Whimbrel Watch

Port Britain, ON	27 May 1951	1500	Clive Goodwin, p.c.
Near Toronto, ON	24 May 1959	1000	Gunn (1959)
Presqu'ile Provincial Park, ON	21 May 1985	1000	Weir (1985)
Marmora, n of L. Ont., ON	21 May 1984	1000	Weir (1984)
Sw Toronto, ON	28 May 2009	955	TOC 2009 Whimbrel Watch
Sw Toronto, ON	25 May 2005	952	W.Renaud/D.Hallett (Ontbirds)
Sw Toronto, ON	25 May 2007	912	W.Renaud (Ontbirds)
Sw Toronto/se Mississauga, ON	25 May 2007	825	W.Renaud/D.Hallett (Ontbirds)
Sw Toronto/se Mississauga, ON	28 May 2005	775	W.Renaud et al (Ontbirds)
Sw Toronto/se Mississauga, ON	25 May 2007	735	W.Renaud/D.Hallett (Ontbirds)
Colonel Samuel Smith Park, Toronto, ON	22 May 2012	635	TOC 2012 Whimbrel Watch
Colonel Samuel Smith Park, Toronto, ON	23 May 2010	624	TOC 2020 Whimbrel Watch
Colonel Samuel Smith Park, Toronto, ON	28 May 2010	618	TOC 2010 Whimbrel Watch
Lorne Pk. Mississauga, ON (7 flocks)	23 May 1942	600	Curry et al (2006); J.Baillie (TOC archives)
Willow Beach/Pickering, ON	**25 May 1957**	**600**	**JS (TOC archives)**
Humber Bay W park, Toronto, ON	**22 May 1984**	**600**	**B.Yukick (TOC archives)**
Sw Toronto, ON	25 May 2011	534	TOC 2011 Whimbrel Watch
Sw Toronto, ON	22 May 2009	509	TOC 2009 Whimbrel Watch
Toronto/4th St. & Lake, ON	26 May 1983	500	B. Jefferson, p.c.
Wolfe, ON	29 May 1971	500	Goodwin & Rosche (1971)
Sw Toronto, ON	20 May 2004	500	W.Renaud/D.Hallett (Ontbirds)
Rattray Marsh C.A., Mississauga, ON	24 May 2006	500	W.Renaud (Ontbirds)
Grafton/Willow Beach, ON	24 May 1964	500	Clive Goodwin, p.c.
Whitby, ON	22 May 1961	470	Clive Goodwin, p.c.
Grafton/Willow Beach, ON	22 May 1957	450	Clive Goodwin, p.c.
Colonel Samuel Smith Park, Toronto, ON	26 May 2007	436	W.Renaud (Ontbirds)
Oshawa 2nd Msh/Darlington P.P., ON	23 May 2002	402	T.Hoar (Ontbirds)
Whitby, ON	24 May 1964	400	Clive Goodwin, p.c.
Toronto@Long Branch, ON	**22 May 1967**	**360**	**R.McCleary (TOC archives)**
Pickering, ON	**21 May 1973**	**350**	**D.Scovell (TOC archives)**
Whitby, ON	18 May 1992	340	Weir (1992)
Thickson Woods, Whitby, ON	**24 May 1987**	**331**	**TOC archives**
Oshawa 2nd Marsh, L. On., ON	21 May 2004	307	M.Williamson (Ontbirds)
Toronto, eastern gap, ON	**27 May 1949**	**300**	**F. Smith (TOC archives)**
Pickering, ON	**24 May 1949**	**300**	**JS (TOC archives)**
Frenchman's Bay, Pickering, ON	**24 May 1956**	**300**	**A.Bunkder (TOC archives)**
Port Hope, ON	24 May 1959	300	Clive Goodwin, p.c.
Sw Toronto, ON	25 May 2009	300	TOC Whimbrel Watch
Darlington P.P., ON	22 May 2008	290	T.Hoar (Ontbirds)

Whitby, ON (5 flocks in 2 hrs)	**24 May 1970**	**285**	**B.Bellerby (TOC Archives)**
Pickering Beach, ON (1 flock)	**24 May 1970**	**265**	**G.Fairfield (TOC archives)**
Eastern Headland, Toronto, ON	**22 May 1985**	**256**	**A.Jarahillo (TOC archives)**
Port Credit, Mississauga, ON	24 May 2006	250	W.Renaud (Ontbirds)
'Eastern Headland', Toronto, ON	26 May 1989	230	Clive Goodwin, p.c.
Thickson Woods, Whitby, ON	**21 May 1987**	**200**	**TOC archives**
Toronto Island, Toronto, ON	24 May 2007	200	A.Thomson (ebird)
Tommy Thompson Park, Toronto, ON	24 May 2009	200	A.Stimas-Machey (ebird)
LAKE ERIE			
Port Bruce (Pt. Stanley), ON	21 May 1996	2220	Ridout (1997)
Rockhouse Pt., ON	25 May 1957	1575	Gunn (1957)
Rondeau area, ON (4 locations)	25 May 2003	1320	A.Wormington (Ontbirds)
Rondeau, ON	23 May 1984	1200	Weir (1984)
Nr. Rondeau, Terance Beach, ON	25 May 2003	1000+	J. Woods (Ontbirds)
Long Pt., ON	22 May 1976	1000	Clive Goodwin, p.c.
Long Pt. Bay/Pt. Ryerse, ON	27 May 2005	900	C.Wood (Ontbirds)
Fr. Erie to Pt. Maitland, ON	24 May 1961	724	Woodford & Burton (1961)
Long Pt, ON	22 May 1978	700	Goodwing (1978)
Pt. Mouillee S.C.A., MI	27 May 1979	700	Eckert (1979)
Pt. Mouilee S.C.A., MI	22 May 1988	650	Powell (1989)
Rondeau, ON	23 May 1970	600	Goodwin & Rosche 1970
Long Pt., ON	22 May 1978	600	Goodwin (1979)
Long Pt., ON	22 May 1985	600	Weir (1985)
Wheatly nr. Pt. Pelee, ON	27 May 1999	600	http://www/nat.com/bic/ont/recent/htm
Turkey Pt., ON	23 May 1995	600	Ridout (1995)
Rockhouse Pt., ON	26 May 1954	550	Clive Goodwin, p.c.
Pt. Pelee, ON	26 May 2982	500	Weir (1982)
Rondeau P.P., ON	24 May 2011	435	Christian Fils (Ontbirds)
Port Stanley, ON	24 May 1991	400	Weir (1991)
Rondeau P.P., ON	21 May 1956	400	Clive Goodwin, p.c.
Long Pt., ON	23 May 1994	350	Ridout (1994)
Presque Isle S.P., PENN	19 May 1986	331	L.McWilliam, p.c.
Pte. Mouillee S.C.A., MI	26 May 1989	320	B.Szanto (ebird)
Pte. Mouilee S.C.A., MI	26 May 1988	320	Powell (1989)
Pt. Burwell, ON	22 May 2002	300	D.Martin (ebird)
Long Point-breakwater, ON	24 May 2006	300	M.Burrell (ebird)
Pt. Pelee, ON	24 May 1994	267	Ridout (1994)
LAKE HURON (& GEOGIAN BAY)			
Long Pt., Wiarton, ON	25 May 1983	2000	Weir (1981)

Manitoulin Island, ON	19-25 May 1993	1600	Ridout (1993)
N. Pt. Alpena, MI	25 May 2005	672	Grunland (2005)
Burpee/Manitoulin Island, ON	23 May 1980	600	Goodwin (1980)
Grand Bend, ON	20 May 1984	600	Weir (1984)
Ssw of Tawas City, Saginaw Bay, MI	24 May 2012	500	S.Jannex (ebird)
Kilarney, ON	24 May 1980	400	Goodwin (1980)
Tawas Pt., Saginaw Bay, MI	23 May 2007	300	S.Fitzgerald (ebird)
Rowling, MI	26 May 1984	300+	Powell (1984)
Manitoulin I., ON	21 May 1992	296	Weir (1992)
Bright's Grove, ON	26 May 1989	280	Weir (1989)
Manitoulin I., ON	24 May 1993	250	Eckert (1993)
LAKE MICHIGAN			
Manitowoc N.W.R., Wi	22 May 1980	2000	Eckert (1980)
Toft's Point, Bailey's Hr., Door Cty., WI	25 May 2010	1500	M.Gross fide A. Moretti/Wisconsin Birding List 25 May 2010: "`1500 Whimbrels-Door Co.'
Door Cty, MI	27 May 1988	300	Powell (1988)
Rowling, MI	26 May 1984	300	Powell (1984)
LAKE SUPERIOR			
Whitefish Pt. B.O., MI	25 May 1988	700	Wier (1988)
Whitefish Pt. B.O., MI	27 May 1989	500	Powell (1989)
Whitefish Pt. B.O., MI	27 May 1994	508	Grunland (1994)
Nipigon@Nipigon R., N or L. Superior, ON	25 May 1979	400	Goodwin (1979)
Whitefish Pt., B.O., MI	28 May 1984	375	ISS data (ebird)
'Lake Superior'	26-28 May 1999	200+	http://www.tbjf.net/sigtin2.htm
HOLLAND RIVER, ON	27 May 1942	550	Devitt (1943)
HOLLAND MARSH, ON	22 May 1991	150	Weir (1991)

On Lake Huron (Georgian Bay) high counts are highly localized to Manitoulin Island, the tip of the Bruce Peninsula and Saginaw Bay, Michigan on the mid west coast of Lake Huron. On Lake Michigan mostly confined to Manitowoc National Wildlife Refuge, Wisconsin. Within the state of Michigan: " … the progress of migration … is in the last ten days of May, and are usually seen in order: Monroe, Tawas Point State Park and Whitefish Point Bird Observatory … hundreds are often seen" (Powell 1984). On Lake Superior mostly confined to the Whitefish Point Bird Observatory, Michigan near the eastern end of the lake where "698" is considered "typical" each spring (Grunland 1994), although Grunland (1993) indicated at ten-year average at Whitefish Point Bird Observatory, Michigan of 251.

Based on Table 1 it is clear that Whimbrels are most common and regularly as spring migrants along parts of the north shores Lakes Erie and Ontario, where even here the numbers are very localized and highly variable from year to year. What these two lakes have in common is that are both long and narrow and oriented in a more or less east-direction. It appears that Whimbrel migrating from the se more often than not when they arrive at the north shore of both lakes, veer off to the west. Lakes Huron and Michigan are oriented in a north-south directions resulting in relatively fewer large build-ups in number as occurs on Ontario and Erie. There are too few records for Lake Superior to make any generalizations but occur on average ever 2nd or 3rd year near Duluth, Minn & Wisc. but regularly in relatively large number at Whitefish Point Observatory; both are at opposite ends of the lake suggesting, except for Whitefish Point, there is a uniform and low volume of migration across lake Superior every year.

WHIMBRELS ON LAKE ERIE

Peck (in Black and Kayo 2010) documented the birds of the Niagara Peninsula which straddles sw Lake Ontario and ne Lake Erie (north to Grimsby and sw to Port Colborne): "rare spring, summer and fall transient. The majority pass by a little east of the Niagara, but annual sightings in the region do occur. An exceptional early record is of twenty birds on 17 May 1966 at Fort Erie (BOSNR). BOS May Count: Reported on 7 of 41 counts, maximum of 58 birds in 1967."

On the south shore of Lake Erie the only location posting Whimbrels in spring migration is Gull Point at Presque Isle, Erie County. J. McWilliams (p.c., 13 Feb. 2012: "23 on May 25, 1979, Gull Point, Presque Isle State Park (PISP), Dave Steadman; 50 on May 25, 1985, Gull Point, PISP, Jerry McWilliams; 331 on May 19, 1986, Gull Point, PISP, Donald B. Snyder; 35 to 40 on May 29, 2005, flying over the Erie Zoo, Ben Coulter; 60 WHIM on May 25, 1999, Gull Point, PISP, Jerry McWilliams; 8 WHIM on May 26, 1999, Gull Point, PISP, Jerry McWilliams. I can find no documentation for flocks prior to 1979, only reference to single birds. No flocks have been recorded since 1999".

In spring there is no shortage of birders at several popular locations along the north shore of Lake Erie: Pt. Pelee, Rondeau, Long Point and places in between where the highest Whimbrel counts are taken [max.: 2220 at Port Bruce (Pt. Stanley), on 21 May 1996 (Ridout 1997)]. Since Whimbrels when flying, are most often seen moving east to west it is not surprise

that the place which gets the most Whimbel sightings is located at extreme west end Lake Erie in Michigan: Pointe Mouilee State Game Preserve/West Lead and Huron River Delta with records on ebird back to 1974. High counts include 700 on 27 May 1979 (Eckert 1979); 650 on 22 May 1988 (Powell 1989); 320 on 28 May 1989 (B. Szanto, ebird); 237 on 22 May 1010 (ISS data, ebird); 236 on 25 May 2012 (A.Chartier, ebird); 210 on 21 May 2011 (J.Bull, ebird).

WHIMBRELS ON LAKE ONTARIO

eastern and central Lake Ontario

There are only three counts of 500+ from eastern Lake Ontario: 1000 at Presqu'Ile 21 May 1985 (Weir 1985); 1000 at Marmora (54 km north of Presqu'ile) on 21 May 1984 (Weir 1984) and 500 on Wolfe Island (south of Kingston) on 29 May 1971 (Goodwin & Rosche 1971). A flock of 200 was recorded at Presqu'ile on 20 May 1961 (Woodfort and Burton 1961); Kingston, 180 on 24 May 1969 (C. Goodwin, p.c.); 100 on 24 May 1970 at Presqu'ile (ibid); 220 on 26 May 1992 at Presqu'ile (ibid). These large counts appear to be rare and atypical; Weir's (2008) status for the greater Kingston area: "Uncommon, sometimes common, fairly regular spring transient … typical numbers are up to ten".

Reports of Whimbrel (Ontbirds) over the past 10 years from Presqu'ile have all been under 150 Whimbrels [eg., 2002: flocks of up to 40, 24 to 30 May (F. Helleiner); 2004: 57 on 22 May; 120 on 23 May (F. Helleiner, Ontbirds); 2008: 15 on 26 May (F. Helleiner, Ontbirds); 2009: Prince Edward Point, Quinte: two flocks totaling 132 on 24 May (T. Sprague, Ontbirds); Presqu'ile: four on 16 May; 21 on 21 May; 60 on 24 May (F. Helleiner, Ontbirds); Salmon Island, Kingston area: 60 on 24 May (J. & J. Good & C. Weseloh, Ontbirds); 2011: Presqu'ile: "16-20" on 27 May; two on 29 May (F. Helleir, Ontbirds); Amherstview, Kingston: 3 on 28 May (P.& J. Good, Ontbirds); Presqui'ile: 50+ on 23 May (B. Gilmour, Ontbirds) 2012: Presqu'ile PP: 1 on 26 May; 3 on 28 May; 1 on 30 May/ebird].

In N.Y. Whimbrels are more often recorded just south of the east end of Lake Ontario at Lake Oneida (Max.: 71 on 28 May 2009 and 33 on 26 May 2011/both B. Purcell/ebird) and Montezuma National Wildlife Refuge (24 on 27 May 2002/S.Kahl, ebird). Occasional fallouts do occur further west on the south shore of Lake Ontario (max.: near Rochester, NY "a total of 216 passed Hamlin Beach … in the spring of 2008" (Veit et al. 2008).

Along the north-central shoreline of Lake Ontario including Port Hope and Cobourg., moderate numbers occur at irregular intervals in spring. Some of the earlier records include Port Britain: 1500 on 27 May 1951; Port Hope: 300 on 24 May 1959 and 200 on 23 May 1973 (C. Goodman, p.c.). More often reported from Willow Beach/Grafton: 400 on 22 May 1957; 500 on 24 May 1964; and 200 on 25 May 1974 (ibid). It appears from that most of the high counts were recorded before the mid-1970's suggesting that a shift to the west in the movement of Whimbrel has occurred since then, about the time the GTA was starting to get large numbers on a more regular basis.

Western Lake Ontario

In the Birds of Hamilton (Currie et al, 2006), whose study area extends east to the mouth of the Credit River, Mississauga, lists the Whimbrel as an "uncommon spring transient" with

the largest count of 600 at Lorne Park, Mississauga dating back to 23 May 1942. Currie (ibid) lists an example of "other good numbers" as 170, 24 May 1995, Bronte Harbour, Oakville. More recently 500 were reported fly north over Rattray Marsh (just west of Lorne Park) on 24 May 2006 (Renaud & Hallett, Ontbirds).

It is clear that at the current time Whimbrels regularly crossing Lake Ontario on a diagonal encounter the north shoreline as far east the Cobourg/Port Hope area, then turn west and fly along the shoreline to the GTA. The observations of large numbers (up to 500) spiraling to higher elevations, sometimes so high out of scope range or moving north suggest that this location is a strategic location where flocks re-group on their last long leg of the spring migration to the tidal flats and beaches of sw James Bay and sw Hudson from where they quickly disperse inland.

WHY THE GTA?

The GTA and adjacent areas shore lines: past and present

Located at the mouths of the Don, Credit, Humber and Rouge Rivers and Harmony, Lynde and Etobicoke Creek, the greater metro Toronto historically and presently contain a complex network of irregular shorelines punctuated with peninsulas, beaches, shallow marshes and headlands. To the west is Oshawa 2nd Marsh/McLaughlin Bay Wildlife Reserve and Cranberry Marsh, Lynde Conservation area. To the west is Rattray Marsh Conservation Area. On a grander scale the present site of Toronto islands were originally low sand bars and backwater marshes (ie. Ashbridges bay marsh) fed by the Humber River.

An even larger complex of marshes exists off the west end of Lake Ontario at the Cootes Paradise/Dundas Marshes but there is no evidence that large numbers of Whimbrels ever staged or overflew there in large numbers (Curry et al 2006: based on bird records dating to the mid 1840s).

The two maps shown here for Toronto front off the Don and Humber Rivers: one from 1818 and one from 1894 show how much the original barrier island and sandbars have change over 200 years. From the time the last glaciers retreated from the great lakes, these habitats may have harbored large numbers of shorebirds which could rest and feed; these undoubtedly included Whimbrels.

Figure 2.
This map (circa 1818) shows the land form which would eventually become Toronto Island as a narrow peninsula with shallow ponds in lea of the beach ridge (British military authorities/RON ALLEN)

"The map, reproduced here, is a fabulous time capsule that reveals how much the islands, city shoreline and harbour have changed over the past 200 years. By 1818, the deposits had made a 9-kilometre-long hook-shaped peninsula ending at Gibraltar Point. The peninsula became an island in 1852, when a storm cut a small channel through the sand. A year later the channel was 45 metres wide. A second storm in 1858 widened it to 150 metres, creating the Eastern Gap. The map also shows the line drawn around the western part of the peninsula, with water between 0.75 and 1.5 metres deep. Garrison Creek, long since filled in, was so-named because Fort York was built alongside it. It's seen opposite Gibraltar Point. The … (ran) for about 8 kilometres." (Adam Mayers, Toronto Star, 18 July 2007 'What Toronto looked in 1818').

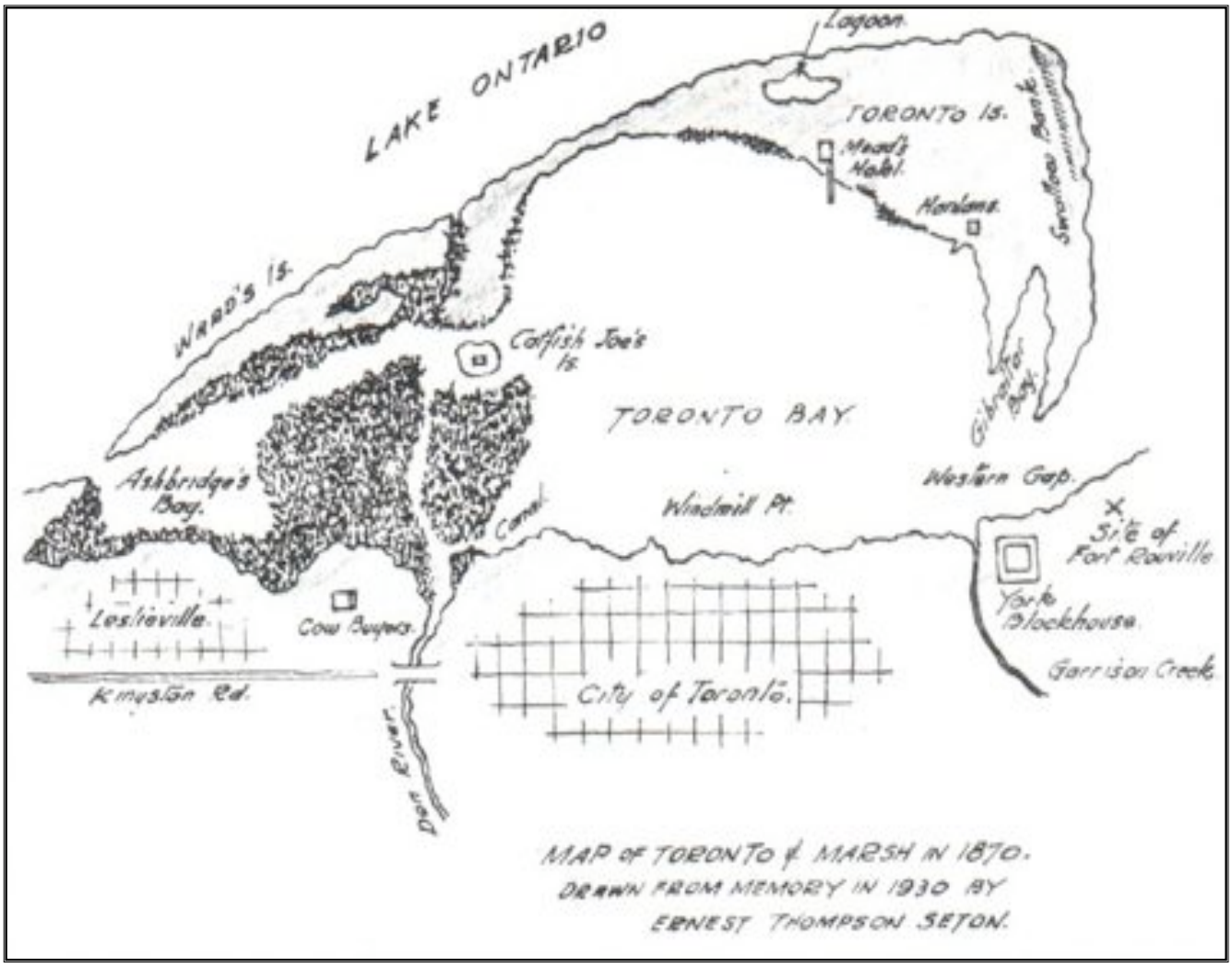

Figure 3.
Sketch of Toronto Bay, Ashbridge's Bay and Ward's and Toronto Island circa 1030 by Ernest Thompson Seton (from Saunders 1998). Note the complete separation of the two island from the north shore of Lake Ontario, offering migrant birds (include Whimbrel) minimal disturbance if resting/feeding on the shorelines of the islands during migration.

This 560 ha. Ashbridges Bay marsh located just east of Toronto Harbour is well documented with photographs and descriptions by early naturalists and market hunters in Fairfield (1998). It " … was known to every hunter in Ontario for the duck and game birds found it its large ponds and along its shores. Running east from the west turn in the breakwater was a sand bar about two and one half miles long by two hundred yards wide, it its widest point. Shorebirds came to rest by the hundred every spring and fall … flocks of two or three hundred was a common sight to see – Sanderlings, peeps, Greater Yellowlegs , Lesser Yellowlegs, Golden Plover, Black-bellied Plovers, curlew, godwit" (Smith in Fairfield 1998).

Figure 4. Map of Toronto, 1894

The discharge of sewage and development began to change the condition of marsh in 1830 followed further by discharge from the Gooderham and Worts Distillery and a growing number of cattle farms (ibid). During this time span, number of severe storms reconfigured the depth and configuration of the marsh. In 1912 the city began backfilling the marsh for development, which was mostly completed by the 1918 except for a small marsh on the east side, then all marshes gone by the 1938 (ibid).

Up to at least the 1890s Ashbridges by was the most popular place in Toronto to hunt shorebirds as game, for museums, or to be sold to collectors, in spring as attested by the large collection of bird skins in the Royal Ontario Museum from this time period from this location. Until at least the 1940 Ashbridges Bay remained a popular place to look for Whimbrels and other shorebirds (Saunders in Fairfield 1998) , "attracting thousands … each fall." (Bennet in Fairfield 1998. Of 16 Whimbrel skins collected in the great lakes basin, 11 were taken from Toronto (1891 to 1907); two of which refer to 'Toronto Harbour, Toronto marsh' (c/o M. Peck, p.c.). The 11 records contain seven from spring migration and four from fall migration. The other five records come from Rondeau (25 May 1888); Wasaga Beach (18 August 1939); two from Pelee Island (both 14 July 1950); South Cayuga (24 May 1959)(ibid).

So the modern configuration of the shoreline may now contain a similar-sized area for migrant shorebirds as was present 200 years ago. Extensive marshes such as the historic Ashbridges Bay marsh have not been successfully restored, but Whimbrels in migration do not appear to use marsh habitat as staging areas during migration (except for Oshawa Second Marsh). Rocky headlands and beaches are, how ever, used extensively as resting area for Whimbrel in GTA as shown here in Table 2. The largest such is habitat is located in Tommy Thompson Park (aka 'Outer Harbour Eastern Headland' or 'Leslie Street Spit'). "The park is located on a man-made peninsula, known as the Leslie Street Spit, which extends five km into

Lake Ontario and is over 500 hectares in size. The Toronto Harbour Commissioners (now Toronto Port Authority) began construction of the spit in the late 1950s and, since that time, it has been the site for the disposal of dredged material from the Outer Harbour and surplus fill from development sites within Toronto." (www.tommythompsonpark.ca).

Figure 6.
Google Earth photograph of Toronto Islands (left) , Tommy Thompson Park (peninsula) and Ashbridges Bay Park (upper right) α 2002 (Google Earth)

Others smaller lakefront parks created from fill include Bluffers Park, Ashbridges Bay, Humber Bay East and West parks, Colonel Samuel Smith Park in Toronto and Lakefront Promenade Park in Mississauga all of which contain rocky (ie. Rip-rap) peninsulas and headlands. The abandoned concrete pier off Port Credit Marina, Mississauga, left after the Lakeview power plant was shut down, now serves as a major area for resting gulls and cormorants and possibly also Whimbrel. Just to the east of the pier, the rip-rap shoreline along the lakefront of the Mississauga Sewage Treatment Plant and Lagoons offer additional relatively undisturbed resting habitat. Both of these locations are clearly visible by scope from the Whimbrel watch location: Whimbrel Point in Colonel Samuel Smith Park, Toronto.

Colonel Samuel Smith park, although one the smaller landfill parks, apparently attracted the largest diversity of shorebird, especially during the early construction phases when the peninsula was still a complex of low stony ridges and gravelly beach, especially during the late 1980's and early 1990's (J. Guild; D. Perks; Barb & Jim Scott; Beth Jefferson; p.c.; Don & Carolyn McClement; p.c.). "1988: May 23 on the landfill of Lake Shore Hospital Grounds (LSPH) ; 500+ on the eastern points. All standing facing the lake. Not feeding, or even calling until disturbed. Flocks took off & flew in V & straight lines. Circled around & landed again & again. Finally disturbed once too often & flew west." (B. Jefferson, p.c.). D. McClements (p.c.) earliest record for the park: "Whimbrel at Sam Smith –1992 May 23; 1994 May 20; 1995 May 23; 1996 May 23. Most of these landed at the Park. They'd fly from the eastern point that is south of the outflow from the pond to the long southwestern spit or the other way around. Flocks would fly westerly out over the Lake to around where the Lakeview Generating Station was and then turn inland and be fairly low and we'd lose sight of them. Lots of shorebirds would land on the property as it was being built and shortly thereafter. We always thought it related to the freshly dug earth and a more pioneer field (barren) landscape."

Figure 5.
Google earth photo of Colonel Samuel Smith Park. The overall shape of this park is also much different than other landfill waterfront park in the GTA: forming a more circular-shaped peninsula with rocky headlands of various sizes projecting out of the center with sandy or rocky beaches with low sloping rock walls in between. We know from table 2 that rocky headlands and gravel beaches are Whimbrels preferred resting habitat.