

The Ivory Gull in Ontario, 1887-2016

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Figure 1. Juvenile (left) and adult (right) Ivory Gulls showing typical plumage features. The black markings found on young birds are variable, whereas adults are always a brilliant white. February 2010 in Saint Carols, Newfoundland and Labrador.

Photo: Brandon R. Holden.

Introduction

The Ivory Gull (*Pagophila eburnea*) is one of the most sought after birds among Ontario birders, as few species combine such rarity with beauty. It is seldom seen outside of the Arctic Circle and, as an adult, its plumage is entirely white. Listed as Endangered by the Committee on the Status of Endangered Wildlife in Canada, the national breeding population is believed to have declined 80% since 1980 (COSEWIC 2006). This is mirrored with a global listing of Near Threatened by the International Union for the Conservation of Nature's Red List of Threatened Species (IUCN 2015).

This note documents the occurrence of the Ivory Gull in Ontario, based on the complete set of accepted records from the

Ontario Rare Birds Committee (OBRC). There are 31 accepted records from the OBRC over the 128 year period from 1887 to 2016. We analyze this information, and the literature, to assess the gull's identification, history of occurrence, trends in frequency of observation and some thoughts on what the future may hold for the species in the province.

Identification

Identification of the Ivory Gull is relatively straightforward, yet pitfalls as rare as the species itself exist. It is a small gull, whose structure and plumage are adapted to life in cold climates (Mallory *et al.* 2008). Its definitive basic (adult) plumage is brilliant white, without any other visible markings (Figure 1, right). Both

adults and juveniles have black legs, black eyes and a pale bill with a yellow tip. Juveniles can be identified by black flecks which are variable in intensity and scattered throughout their white plumage, often concentrated on the face and tips of the flight feathers (Figure 1, left). Tiny black flecks around the face on some individuals have been tentatively identified, from photos, as lice (Order Phthiraptera) (B. Holden, pers. obs.), leading to potential confusion and mis-ageing. The distinctive plumage and colour of the soft parts of the Ivory Gull make it impossible to confuse it with any other regularly occurring species in Ontario. Some juvenile or sub-adult Iceland Gulls (*Larus glaucooides*) or Glaucous Gulls (*Larus hyperboreus*) can show brilliant white plumage, either naturally or through sun bleaching of feathers; however, both species are larger than the Ivory Gull and have a structure similar to our common *Larus* gull species. Some confusion can occur with aberrant individual gulls that show brilliant white plumage through leucism or albinism. This confusion has occurred with Bonaparte's Gulls (*Chroicocephalus philadelphia*) on the Niagara River, where the latter congregate in spectacular numbers each autumn (Beardslee 1944, Black and Roy 2010). As a small slender species, a white Bonaparte's Gull is closer to the size and structure of an Ivory Gull than are other regularly occurring Ontario gull species. Under these circumstances, observers should take care to note the colours of the bare parts (bill, legs, eyes) as well as behavioural observations to ensure the correct identification is made. Perhaps due to their remote breeding and winter

ranges, Ivory Gulls are known to be remarkably tame around people. In the right circumstance, this behaviour could provide an additional identification clue.

History of occurrence in Ontario

The 31 accepted records of the Ivory Gull in the files of the OBRC occurred in 24 years during the period 1887-2016. All records were of single birds. Eighteen calendar years had one occurrence, five years had two records per year and one year (1973) had three records (Figure 2, Appendix 1). For "winter seasons" (the November to March periods), the respective numbers were: 18 with one record, three with two and two with three records (see below for the July occurrence). Twenty-seven of the birds observed (87.0%) were identified as first basic/juvenal in plumage; four were definitive basic/adult in plumage.

In terms of seasonal occurrence, of the 26 records for which a specific date was recorded, all occurred between the second week of November and the last week of March. The July record was of a desiccated specimen for which the date of occurrence could not be determined. Within the November to March period, 21 of 26 records (87.1%) occurred between the second week of December and the third week of January (Figure 3). That six-week period is delimited very well with no occurrences during the two weeks before or the two weeks after it.

In terms of an overall temporal trend, there was a significant increase in the number of reports of Ivory Gulls when all records were plotted by year, 1887 - 2016 (Poisson regression, $p < 0.0001$; Figure 2). This increase is more obvious when the

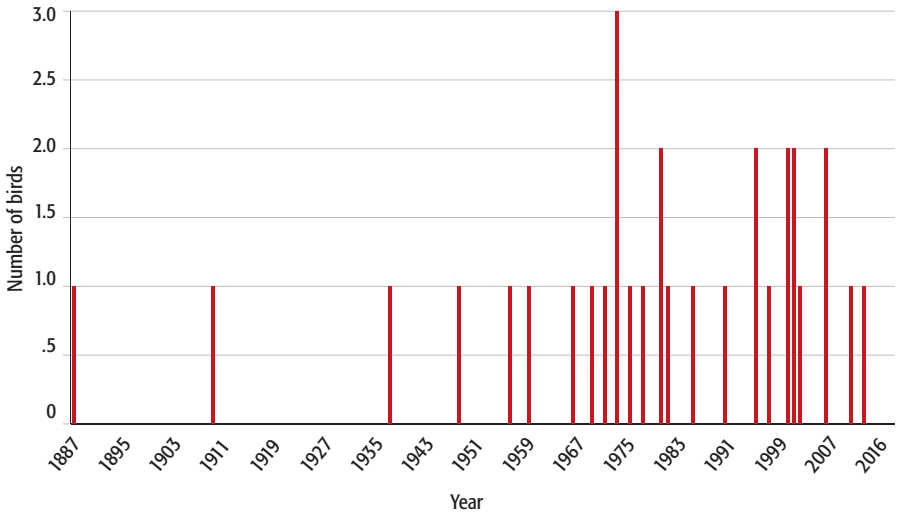


Figure 2. Year and number of reported Ivory Gulls accepted by the Ontario Bird Records Committee up through 2016.

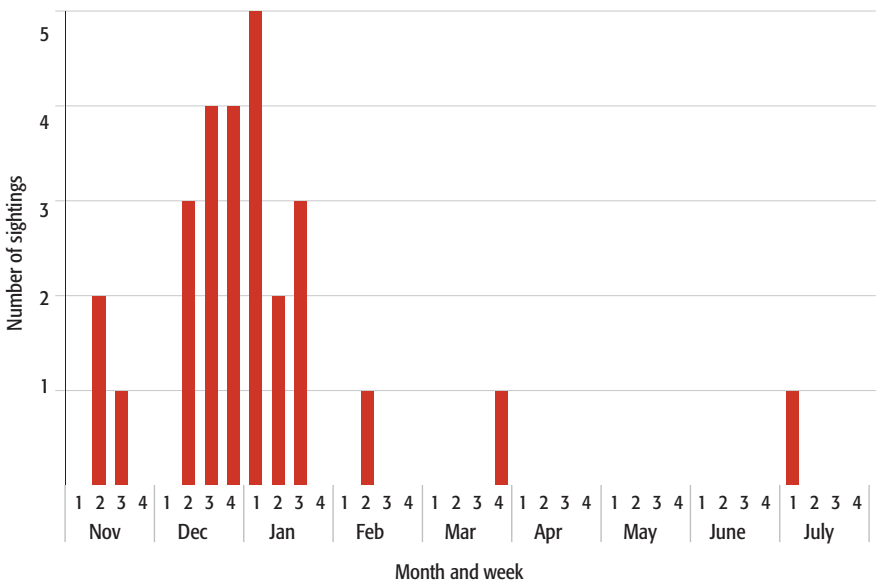


Figure 3. Ivory Gull sightings by month and week.

number of records was plotted by decade; the significant increase in that rate of sighting (Poisson regression, $p < 0.0003$) reached a peak (seven occurrences) during 2000-2009 (Figure 4). This increasing rate of sighting is further confirmed when the observation period, 1887-2016, is simply divided into two equal periods; from 1887 to 1952, Ivory Gulls were reported in Ontario at a rate of one occurrence every 16 years. During 1953-2016, they were reported at one occurrence every 2.3 years. Of course, many factors such as numbers of birders, equipment used, collecting observations and publicizing sightings have changed over this period. Thus, this increase may only reflect greater awareness and directed effort at locating Ivory Gulls. There was no trend in the data from 1960 to 2012, a period which includes the continental decline of the species in its core range (Mallory *et al.* 2008).

Of the 31 records detailed in this account, 12 (38.7%) occurred in just five winter seasons: winter 1966-67 (2), December 1973 (3), November-December 1995 (2), winter 2000-2001 (3) and January-March 2006 (2) (see Appendix 1). These groupings of records suggest that specific conditions, e.g., responses to the environment or weather events, may be required to bring the Ivory Gull to Ontario. Thanks to documentation provided in OBRC reports, eBird and associated materials, we have the ability to detect events correlated with the occurrences of the Ivory Gull in our province. An adult Ivory Gull at Toronto on 15 February 2010 (Wormington and Cranford 2011) was the only record in Ontario for that winter but it coincided with a spectacular invasion of hundreds of Ivory Gulls to inland Labrador and northern Newfoundland (Anonymous 2010, Brinkley 2010, eBird 2016). This invasion occurred when sea ice conditions in that

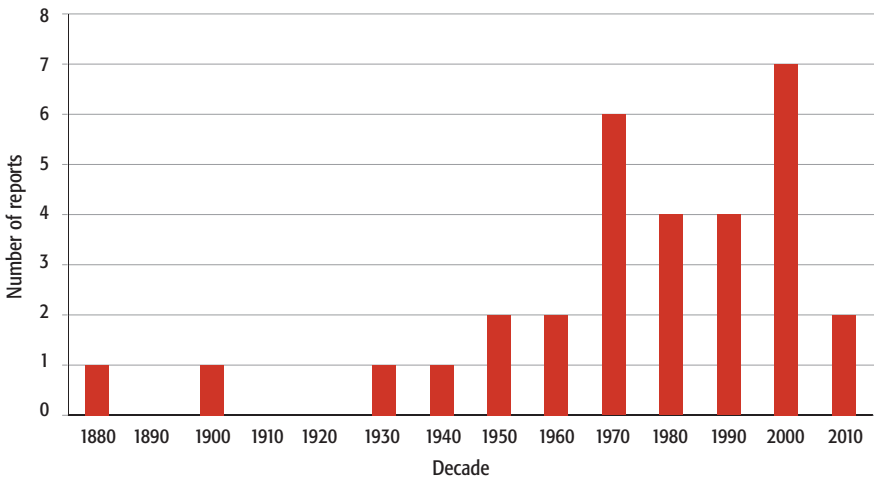


Figure 4. Reports of Ivory Gull by decade, 1880-2010.

Figure 5. General distribution of reported Ontario Ivory Gull records, 1887-2015.



Map prepared by Sarah Hagey

region were considerably below normal, potentially related to an ongoing El Niño event and strong amplitude in the Arctic Oscillation (Cohen *et al.* 2010). Compounding the effect of low sea ice was a powerful extratropical cyclone which, on 14 February 2010, was centered on SW Newfoundland and may have pushed the birds onshore and inland far enough for this one individual to reach Lake Ontario.

Determining noteworthy geographic patterns of Ivory Gulls is challenging in a province as large as Ontario, where the

human population and the majority of birders are heavily concentrated around the lower Great Lakes and birding intensity has likely increased since the 1960s. This challenge is illustrated when these recent occurrences are mapped; they are all scattered in the southern and eastern regions of Ontario along rivers and the Great Lakes shoreline (red dots in Figure 5). Ivory Gulls are known for their scavenging at seal whelping sites and carcasses left by Polar Bears (*Ursus maritimus*) (Mallory *et al.* 2008). Thus, it is possible that they occur along the James Bay and

Hudson Bay coasts during sea ice formation in late autumn and winter at times when and where polar bears are present. Recorded bird observations from the northern borders of Ontario and the offshore location of the ice edge and bears during December-January are virtually nonexistent due to the near inaccessibility to anyone visiting the region. Local traditional knowledge in Nunavut was significant in the identification of national declines in breeding populations (Mallory *et al.* 2003). A similar approach in Ontario's Far North (Hudson Bay Lowland) may not prove as fruitful for documenting the occurrence of this vagrant species because First Nations residents there do not have a maritime hunting tradition similar to that of Inuit in Nunavut. However, Ivory Gulls may be attracted to carcasses and animal remains at remote landfills at these First Nations communities, as they are in the High Arctic (Mallory *et al.* 2003). Thus, local knowledge may indeed contribute to documentation of

occasional records. For the purposes of this analysis, the steady coverage of the lower Great Lakes provides confidence in detecting long term patterns and trends in occurrence.

It is interesting that there are at least six Ivory Gull records from the coasts of James or Hudson Bays (see Appendix 1). Two additional records come from the interior of northern Ontario and are probably of Hudson/James Bay origin and finally, there are at least four records from the upper Ottawa River valley, an area that is well known for vagrant seabirds that are assumed to be travelling from James Bay towards the Atlantic Ocean. Thus, 12 of 31 records (38.7%) strongly suggest connections to Hudson or James Bay. So, although many of the observed birds may arrive in Ontario from the northeast (the St. Lawrence River valley) clearly many others may be coming straight from the north.

If the national decline of the Ivory Gull continues, one can speculate that occurrences in Ontario may decrease as



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well. The federal recovery strategy published in 2014 lists a long term goal of increasing the national population by 25% (Environment Canada 2014). If this is effective, we can hope to see an increase in occurrences of the Ivory Gull in Ontario. We encourage birders to contribute records to readily accessible databases such as the OBRC and eBird, which were instrumental in the creation of this account.

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Literature Cited

Anonymous. 2010. Atlantic Provinces and St. Pierre et Miquelon. *North American Birds* 64:225.

Beardslee, C.S. 1944. Bonaparte's Gull on the Niagara River and Eastern Lake Erie. *Wilson Bulletin* 56:9-14.

Black, J.E. and K.J Roy. 2010. *Niagara Birds*. Brock University Printing and Digital Services, St. Catharines, Ontario. 703 pp.

Brinkley, E.S. 2010. Gulls and living rooms. *North American Birds* 64:213-232.

Cohen, J., J. Foster, M. Barlow, K. Saito and J. Jones. 2010. Winter 2009–2010: A case study of an extreme Arctic Oscillation event. *Geophysical Research Letters* 37:6.

COSEWIC. 2006. COSEWIC assessment and update status report on the Ivory Gull *Pagophila eburnea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa, Ontario. 48 pp.

eBird. 2016. eBird data accessed by Brandon Holden, January 2016. Ivory Gull for Ontario from 1990 to 2015. <http://ebird.org/ebird/map/ivogul?neg=true&env.minX=-147.8549504&env.minY=29.488231464795447&env.maxX=-21.644012900000007&env.maxY=64.22111800683966&zh=true&gp=false&ev=Z&mr=112&bmo=1&emo=12&yr=range&byr=1990&eyr=2015>

Environment Canada. 2014. Recovery Strategy for the Ivory Gull (*Pagophila eburnea*) in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa, Ontario. 21pp.

IUCN. 2015. International Union for Conservation of Nature, *Pagophila eburnea*. Status report <http://www.iucnredlist.org/details/biblio/22694473/0>. Accessed January 2016.

Mallory, M., H.G. Gilchrist, A.J. Fontaine and J.A. Akearok. 2003. Local ecological knowledge of Ivory Gull declines in Arctic Canada. *Arctic* 56:293-298.

Mallory, M.L., I.J. Stenhouse, G. Gilchrist, G. Robertson, J.C. Christopher and S.D. Macdonald. 2008. Ivory Gull (*Pagophila eburnea*), *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/175>

Wormington, A. and M.H. Cranford. 2011. *Ontario Bird Records Committee*

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Appendix 1. Location, date of first sighting, plumage and finder/reporter of sighting.
For additional details, please contact the Ontario Bird Records Committee

	Location, (Reg. Municipality, District or County)	Date	Plumage	Finder¹
1	Toronto, Toronto	December 25, circa 1887	1st winter	W. Loane
2	Fort Albany, Cochrane	spring, 1909	1st basic	unknown collector
3	Cameron Lake, Algoma	12 December 1937	1st basic	D.E. MacMillan
4	Port Burwell, Elgin	28 December 1948	1st basic	F. Bodsworth
5	Albany River mouth, Cochrane	January, 1956	1st basic	W.B. Anderson
6	Severn Lake, Kenora	15 January 1959	Def. basic	J. Brown
7	Fort Severn, Kenora	December, 1966	1st basic	L. Stoney
8	Brighton, Northumberland	02 January 1967	1st basic	D.C. Sadler
9	Oshawa Harbour, Durham	03 January 1971	1st basic	G.A. Scott
10	London, Middlesex	19 December 1973	1st basic	W.R. Jarmin
11	Oshawa Harbour, Durham	24 December 1973	1st basic	D.D. Calvert
12	Niagara Falls, Niagara	29 December 1973	1st basic	W.C. Vaughan
13	Winisk, Kenora	Winter, 1975	1st basic	unknown collector
14	Amherst Island, Lennox and Addington	09 December 1977	1st basic	G. and M. Mathews
15	Beaverton and Thorah Beach, Durham	23 January 1980	1st basic	G. Bellerby
16	Niagara Falls, Niagara	22 December 1980	1st basic	M.E. Gustafson
17	Netitishi Point, Cochrane	13 November 1981	Def. basic	R.D. McRae
18	West Pen Island, Kenora	05 July 1985	1st basic	D. Shepherd
19	Brighton, Northumberland	22 November 1990	1st basic	D. Shanahan
20	Lake Dore, Renfrew	12 November 1995	1st basic	M. Fluegel and K. Hooles
21	Courtright, Lambton	23 December 1995	1st basic	B.A. Mann
22	multiple, Durham and Northumberland	01 January 1997	1st basic	M., P. and S. Holder
23	multiple, Toronto and Halton	23 January 2000	1st basic	J. Edwards
24	Toronto, Toronto	17 December 2000	1st basic	L. Schlichter
25	multiple, Hamilton	01 January 2001	1st basic	W.F. Smith
26	multiple, Lennox and Addington	03 January 2001	1st basic	D.C. Craighead
27	Deep River, Renfrew	16 December 2002	1st basic	R. Metcalfe
28	multiple, Essex	08 January 2006	1st basic	A. and R. Hall
29	Pembroke, Renfrew	28 March 2006	Def. basic	M. Dojczman
30	Toronto, Toronto	15 February 2010	Def. basic	J. Iron and P. Prior
31	Lake Madawaska, Renfrew/Lanark/Ottawa	15 December 2012	1st basic	M.W.P. Runtz

¹ Or, if unknown, 1st reporter