

The Cave Swallow, *Petrochelidon fulva*, in Ontario, 1989-2014: a Summary using eBird Records

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This note documents the occurrence of the Cave Swallow (*Petrochelidon fulva*) in Ontario, looking back through 25 years of data from eBird, which contains the complete set of accepted records from the Ontario Bird Records Committee (OBRC). This is not a comprehensive look at all published occurrences of the species in Ontario, but an overview of some easily accessible electronic data. With this information, we examine a brief history of occurrence, identification, trends in the data and some thoughts on what the future may hold for the species in the province.

The Cave Swallow was first documented in Ontario at Point Pelee National Park on 21 April 1989 by Alan Wormington (Wormington and Curry 1990), which remains an exceptional spring record. Nine years later, Alan would document the second provincial record, only about seven kilometres from the first, from 7-9 December 1998 (Dobos 1999). The next chapter of the

species' history in Ontario began on 2 November 1999 when Kevin A. McLaughlin recorded an astonishing five Cave Swallows flying together at Point Pelee National Park (Roy 2000). This was the first of fifteen records from 1999 accepted by the OBRC, constituting a total of 86 individuals from 2-6 November, capping off the province's first "invasion".

Identification of the Cave Swallow can be straightforward, often aided by the calendar as much as visual field marks. A medium-sized swallow with a square tail, the Cave Swallow has a buffy throat, forehead and rump, dark wings and tail, with a white belly (Figure 1). Late in the fall, young-of-the-year are readily recognized by their suspended primary molt, with fresh dark inner primaries contrasting against the more faded outer primaries. (Figure 2)

While all swallows found in Ontario are fundamentally similar, confusion generally exists between Cave Swallows and



Figure 1. A first basic Cave Swallow at Point Pelee National Park, 13 November 2012.

Photos: Brandon R. Holden.



Figure 2. A first basic Cave Swallow at Point Pelee National Park, 13 November 2012, showing light outer primaries contrasting with dark inner primaries.

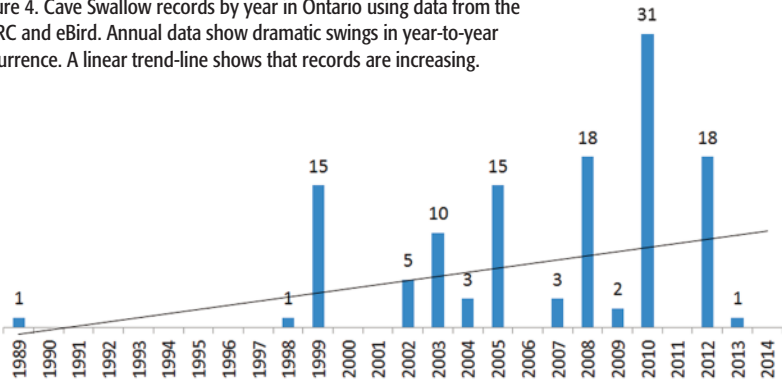
the more common and closely related Cliff Swallow (*P. pyrrhonota*). Adult Cliff Swallows are distinguished by a combination of their dark throat, pale foreheads and generally more contrasting appearance (Figure 3). Adult Cliff Swallows from the southwestern regions (*P. p. melanogaster*) of their range show rusty foreheads, much like Cave Swallows although this subspecies is currently unrecorded in the province. These “southwestern” birds should be considered (especially in spring) when potentially encountering a vagrant Cave Swallow. Here it would be important to note the finer plumage details of a potential vagrant, as the southwestern Cliff Swallow will have a darker throat than the Cave Swallow. In the fall, juvenile Cliff Swallows can show dark or dusky foreheads with pale throat patterns. They are generally less buffy-orange than Cave Swallows and do not show the contrasting primaries expected by the young-of-the-year Cave Swallows that have been recorded in Ontario in late fall. As noted,

the majority of Cave Swallow records in Ontario occur from late October through November, long after most Cliff Swallows have left our borders. A large group of *Petrochelidon* swallows observed in November is likely to be Cave Swallows. It is with single or observations outside of the traditional late-fall window that require extended study and careful consideration when separating these species, subspecific vagrant or late Cliff Swallows must be considered when documenting a sighting.



Figure 3. An alternate Cliff Swallow at Point Pelee National Park, 9 May 2010.

Figure 4. Cave Swallow records by year in Ontario using data from the OBRC and eBird. Annual data show dramatic swings in year-to-year occurrence. A linear trend-line shows that records are increasing.



Since the initial records (1989, 1998) and the invasion (1999), Ontario birders have recorded Cave Swallows in ten of the subsequent 15 years. Large invasions have been observed in 1999, 2005, 2008, 2010 (the largest) and 2012. When compiling records from the OBRC database from 1990-2009, we found a total of 63 accounting for 188

individuals documented. In 2010, the Cave Swallow was formally removed from the OBRC review list for southern Ontario, ceasing documentation from 2010-present. For these years, an additional 50 records were taken from eBird for 2010-2014 (eBird 2015). Total records by year (not individual birds) are graphed in Figure 4.

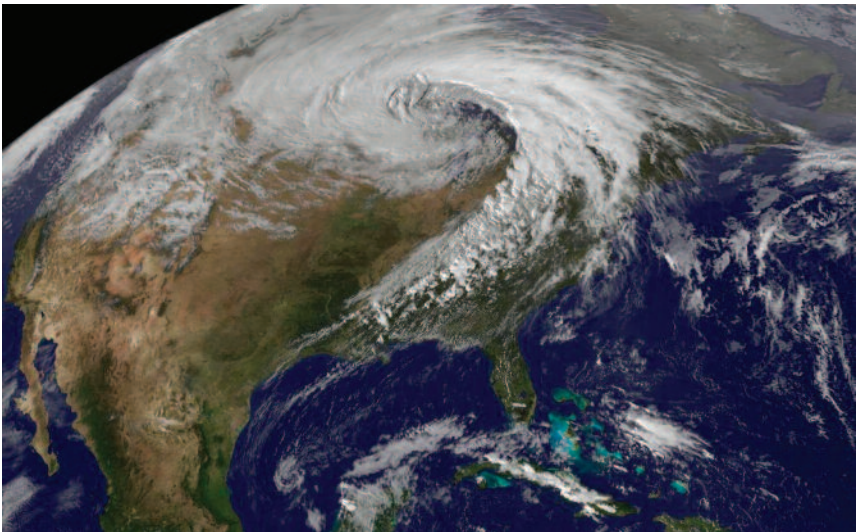


Figure 5. This record breaking extratropical cyclone in late October 2010 was responsible for bringing many Cave Swallows to Ontario (NOAA 2015).

Thanks to documentation provided in OBRC reports, eBird and associated materials, we have a better understanding of the factors involved with these spectacular invasions. Powerful and far reaching southerly winds, with associated warm temperatures in October and November, have been a precursor to these irruptions. The record high count for Ontario (148 individuals) occurred on 26 October 2010 at Fifty Point Conservation Area in Grimsby, which was remarkable in that all birds passed east to west within three hours of observation that morning (eBird 2015). The flight abruptly stopped as a cold front swept through causing the skies to cloud over, a shift to westerly winds and temperatures to drop. The record event in 2010 was associated with an exceptional extratropical storm over the western Great Lakes (Figure 5), where the all-time North American land-based record for low pressure was broken (NOAA 2015). Long Point seemed to be the epicenter of the 2010 event, where counting exact numbers proved difficult as large numbers passed through the entire area. Once large numbers of Cave Swallows have reached our borders, there is occasionally a “return” flight as north winds blow birds back to the northern shores of the lower Great Lakes. Prince Edward County, Erieau and Point Pelee National Park have been notable locations to receive such birds (B. Holden pers. obs.).

Determining noteworthy geographic patterns can be challenging in a province as large as Ontario, where the human population is heavily situated around the lower Great Lakes. Yet, here a pattern emerges, with the majority of records



Figure 6. General distribution of Cave Swallow records in Ontario (in red).

occurring along the shorelines of the lower Great Lakes throughout the various invasions. Locations of records, not accounting for total numbers of individuals, have been plotted in Figure 6.

We predict that Cave Swallows will continue to appear in Ontario whenever powerful weather systems bring appropriate surges of warm southerly air during late fall. Numbers have seemingly risen since the initial invasion in 1999, but having very few birds in recent years (2011, 2013 and 2014) makes it difficult to determine if the increase in numbers will continue. Without a doubt, our knowledge of the species will continue to grow with observers ready to detect new arrivals more readily than ever. Outside of the “traditional” late fall window are

three spring records of single birds (fide Wormington), which is perhaps a time-frame when birders are not expecting the species to occur and may be under recorded. 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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Editor's Note: There are additional references with observations of Cave Swallow in Ontario in print journals:

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