

# Ontario SwiftWatch

## Protocol and Data Forms for Volunteers

*Updated February 2020*



Photo: Brian Topp

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**Canada** 



**TD Friends of the  
Environment  
Foundation**

## Introduction

Through SwiftWatch, Birds Canada, its partners, and hundreds of volunteers are working to help Chimney Swift recovery in Ontario and across the country. The program's primary objectives are to fill key knowledge gaps by identifying and monitoring priority roost and nest sites, and to then take further conservation efforts to address threats to swifts, specifically the loss and disturbance of these sites.

Objectives are met by engaging communities, volunteers, and chimney owners in monitoring and stewardship. Ontario SwiftWatch involves four types of surveys:

- 1) **National roost monitoring;**
- 2) **Presence/absence surveys;**
- 3) **Continued monitoring at roost and nest sites; and,**
- 4) **Casual observations.**

## Background

### Chimney Swifts

Famously referred to as a “cigar with wings”, the Chimney Swift (*Chaetura pelagica*) is regularly seen, and its high-pitched, chitter call heard, as it flies overhead in towns and cities across eastern North America. Chimney Swifts belong to the bird guild known as “aerial insectivores”, meaning that they feed on flying insects while in flight.

During spring and fall migration, Chimney Swifts congregate at communal roosts at dusk and can often be seen entering roost chimneys in large groups shortly after sunset. During late spring, swifts disperse into breeding pairs to nest in chimneys (only a single pair will nest in a chimney). One breeding pair raises up to five young during the summer, sometimes with the help of one or two unmated individuals. Other non-breeding swifts will continue to roost communally throughout the summer, and, in late summer, are joined by swift families after fledging (Figure 1).



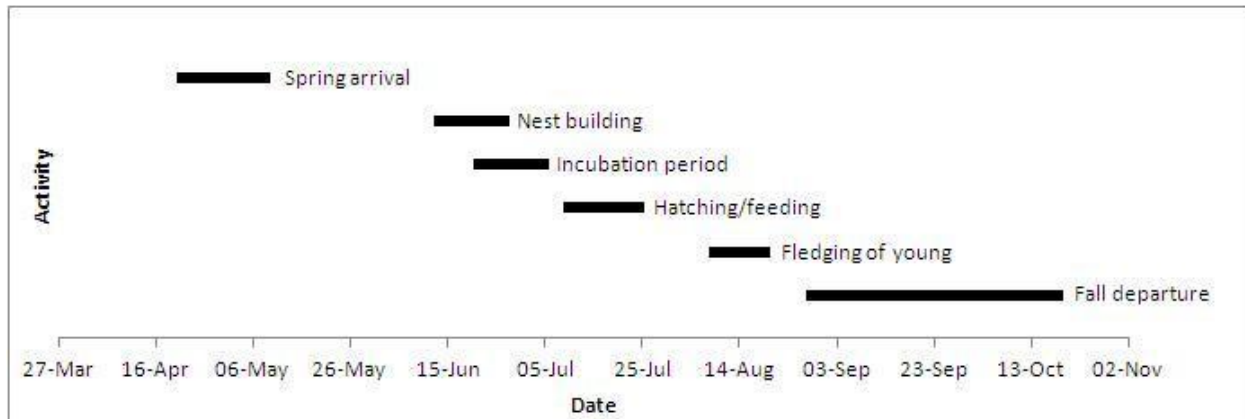


Figure 1. Timeline of typical Chimney Swift breeding activity in Ontario based on data collected by Ontario SwiftWatch volunteers.

## A Swift Decline

Along with many other aerial insectivores, Chimney Swifts have experienced steep population declines across their range. In Canada, the Chimney Swift population has been reduced by 90% since 1970. Accordingly, the Chimney Swift was listed as Threatened in Canada under the Species at Risk Act and in Ontario under the Endangered Species Act in 2009.

While the causes of population decline are still unknown, the loss of suitable nest and roost sites may be a contributing factor. Historically, this species nested and roosted in large, hollow trees found in old-growth forests throughout eastern North America. However, when European settlers arrived, the clearing of land for agriculture greatly reduced the availability of these large, hollow trees. Swifts adapted by using chimneys on houses, churches, schools, and industrial buildings. However, as these buildings age and modern heating methods replace wood and coal burning fireplaces, many chimneys are being capped, steel-lined, or demolished altogether. At the current rate of chimney decline, it is possible that within 30 years there will be very little or no Chimney Swift habitat left, and this time, swifts are unlikely to find an alternative. Identifying, monitoring, and preserving existing Chimney Swift habitat is a key component in their population recovery.

## SwiftWatch Background

Starting in 2003, the McIlwraith Field Naturalists (now Nature London) began monitoring Chimney Swifts to learn more about the species and advance its conservation in London. In 2009, Birds Canada partnered with the Nature London to assess and help standardize their monitoring protocol. In 2010, Birds Canada, in partnership with several community and naturalist groups, launched Ontario SwiftWatch to coordinate province-wide monitoring efforts for Chimney Swifts. SwiftWatch data are used to direct stewardship efforts and guide the management and conservation of this unique and fascinating species.

**Thank you for volunteering your time and effort!**

## **2020 National Roost Monitoring**

**May 20, May 24, May 28, June 1**

National roost monitoring is conducted annually at known, active roosts across Ontario, Manitoba, Quebec, and the Maritimes on pre-selected dates. The goal of roost monitoring is to count the number of Chimney Swifts using roosts in Canada, and to use this information to track population trends and guide species conservation efforts. It is important that each roost is monitored on all four official dates.

You can also survey a roost on an early optional date, **May 14**, to capture earlier migrants. As swifts sometimes bounce between roosts year to year, this early date can be also helpful for identifying the active roost that spring.

### **Chimney Swift Roost Monitoring Instructions**

- 1. What should I bring?** A copy of the data form (page 7-8), a pencil, a clock, a cell phone.
- 2. When should I arrive at roost site?** At least 30 minutes before sunset. On cold, cloudy, or rainy evenings, arrive at least 45 minutes before sunset as swifts often roost early in poor weather.
- 3. Should I survey when it's raining?** You can conduct your count even if there is light drizzle or intermittent rain, but not in a thunderstorm. In bad weather, you may not observe many swifts.
- 4. Where do I watch the chimney?** Find a safe place in a public location with a clear view of the roost chimney. If possible, position yourself so that the chimney is silhouetted against the northwest sky. Unless you have received prior permission from the property owner, conduct your surveys from the sidewalk, your car, or another public space.
- 5. When should I stop surveying?** Continue your watch until 15 minutes after the last Chimney Swift has entered the chimney, or until it becomes too dark to count.
- 6. What do I record?**
  - a. *Arrival time at site* (HH:MM)
  - b. Local weather conditions (*temperature, wind, precipitation, and cloud cover*) using the weather codes on the second page of the data sheet (page 8).
  - c. *Entry time of first bird* (HH:MM)
  - d. *Entry time of last bird* (HH:MM)
  - e. *Net number of swifts entering chimney* – this is the total number of swifts that are in the chimney at the end of your watch and takes into account any swifts that exited the chimney during your watch ([see below for counting tips!](#))
  - f. *Departure time from site* (HH:MM)
  - g. Optional: *Total number of swifts seen in area* – this is the highest number of swifts seen at one time during your watch; and, *Number of Common Nighthawks observed*

7. **How do I submit my data?** Online at [www.birdscanada.org/birdmon/ai/submitdata](http://www.birdscanada.org/birdmon/ai/submitdata), by email to [OntarioSwiftWatch@birdscanda.org](mailto:OntarioSwiftWatch@birdscanda.org), or by mail (see front page of this document).

### Tips for Counting Chimney Swifts

- Tally every individual swift that enters the chimney and keep a separate tally of any swifts that exit the chimney. Under “*Net Number of Swifts Entering Chimney*”, record the estimated number of swifts inside the chimney at the end of your watch. When calculating the final number, take into account any swifts that exited the chimney. This is just your best estimate!

Here are some example scenarios:

**Example 1 –**

- 1 swift exits chimney at 20:30
- 2 swifts enter chimney at 20:45
- 2 swifts enter chimney at 21:00

*Net number of swifts entering chimney = 4*

**Example 2 –**

- 6 swifts enter chimney at 20:30
- 2 swifts exit chimney at 20:45
- 1 swift enters chimney at 21:00

*Net number of swifts entering chimney = 5*

**Example 3 –**

- 1 swift enters chimney at 20:30
- 3 swifts exit chimney at 20:45
- 1 swift enters chimney at 21:00

*Net number of swifts entering chimney = 1*

- Individual birds may try a few “practice runs” before they enter the chimney. Do not count the birds that dive down but do not enter the chimney.
- It can be challenging counting tens to hundreds of swifts at once! Here are some tips to avoid losing count:
  - Mentally “grab” groups of 5, 10, or 20 swifts as they enter the chimney.
  - During lulls in activity, jot down your subtotals (without taking your eyes off the chimney) and restart counting from 0. At the end of the watch, add up your subtotals.
  - Set up a video camera mounted onto a sturdy tripod to record the swifts as they enter the chimney. This can be reviewed later in slow-motion to provide an accurate swift count. If

you choose to video-record your swift watch, please make a visual count as well (in case the battery dies or memory card runs out!)

- Do the best you can. Swift watching can be challenging, but don't forget to have fun and enjoy the show!

# SwiftWatch Data Form



## Observer Information

Observer Name: \_\_\_\_\_

Observer Address: \_\_\_\_\_

City, Province: \_\_\_\_\_

Contact information: \_\_\_\_\_

Additional Observers: \_\_\_\_\_

## Chimney Information

Name of Site: \_\_\_\_\_

Site Address: \_\_\_\_\_

City, Province: \_\_\_\_\_

Type of Property: \_\_\_\_\_

Property Owner/Contact: \_\_\_\_\_

Date	START (Arrival time at site) (hh :mm)	FINISH (Departure time from site) (hh :mm)	Temp (° C)	Wind Speed (0-7)	Precipitation	Cloud cover (0-11)	Entry time of first bird (hh:mm)	Entry time of last bird (hh:mm)	Net Number of Swifts Entering Chimney		Comments and optional observations: a) total # of swifts seen in the area b) # of Common Nighthawks observed
									Visual count	Video count (optional)	



Use this space to keep a tally or make comments on each visit:

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**Wind (Beaufort Scale)**

- 0 Calm, smoke rises vertically
- 1 Light air, smoke drifts
- 2 Light breeze, wind felt on face
- 3 Gentle breeze, small twigs move
- 4 Moderate breeze, small branches move
- 5 Fresh breeze, small trees sway
- 6 Strong breeze, large branches in motion
- 7 Near gale, whole trees moving

**Precipitation**

- None
- Rain
- Hail
- Trace /Occasional Rain
- Thunderstorms

**Cloud Cover (%)**

- 0 Clear
- 1 10%
- 2 20%
- 3 30%
- 4 40%
- 5 50%
- 6 60%
- 7 70%
- 8 80%
- 9 90%
- 10 Overcast
- 11 Fog

**Please enter your data online at:**

<http://www.birdscanada.org/birdmon/ai/submitdata>

**Or return completed sheets to your coordinator:**

**MARITIMES SwiftWatch**

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**Quick guide to swift monitoring**

1. Start survey 30 min before sunset; end survey 15 min after the last swift enters chimney or until it is too dark to see.
2. Conduct survey at a safe location in a public area.
3. Under "Net Number of Swifts Entering Chimney", record the estimated number of swifts in the chimney at the end of your watch. When calculating the final number, take into account any swifts that exited the chimney.  
  
*Example: 2 swifts enter, then 1 swift exits, then 5 swifts enter*  
*Net number entering chimney = 6*
4. Individual birds may try a few "practice runs" before they enter the chimney. Do not count the birds that dive down but do not enter the chimney.
5. Mentally "grab" groups of 5, 10, or 20 swifts as they enter the chimney. Counting large numbers of swifts can be challenging – just do your best!
6. During lulls in activity, jot down your subtotals (without taking your eyes off the chimney) and restart counting from zero. At the end of the watch, add up your subtotals.
7. Have fun! Thank you for helping to monitor these special birds.

## Presence/Absence Surveys (finding new active chimneys)

The survey objective is to identify chimneys potentially used by swifts (for roosting and/or nesting) and then to observe these chimneys to determine if they are being used by swifts.

### How to find roost and nest sites

- Choose an area to scout out potential chimney habitat, i.e., any buildings with large, open (not capped) chimneys. Areas (often downtown cores in larger centers) with heritage buildings, industrial buildings, older schools and/or churches are good places to start.
- Once you have chosen your area, identify one or more suitable-looking chimneys to survey.
- Conduct your surveys between May 15 and September 15 using the Presence/Absence Form (page 11) to collect initial observations.
- The best time to detect *roosting* swifts is at dusk in mid-May to early June or late July to early-September, depending on where you live. The best time to detect *nesting* swifts is during the day or evening in July when swift parents make frequent trips in and out of chimneys to feed growing young. Nesting swifts can also be detected in June during nest-building, which also occurs throughout the day.
- Try to survey potential roost or nest chimneys for up to 1 hour, or until you detect a swift entering or exiting the chimney, on a day or evening with clear skies and low wind.
- Record the street address or GPS coordinates of the building, the building type (e.g. school, church, commercial, industrial, etc.) and/or building name, the net total number of swifts entering the chimney (even if it's zero!), and the date and time of the observation using the Presence/Absence Form (page 11). Include any comments and details you can make on behaviour or surrounding habitat.
- **Please note if there are multiple chimneys on a building and which ones are used by swifts; each chimney should be treated as a separate site (e.g., 123 Yonge St, WEST chimney).** If you have a camera, please take a picture of the chimney.
- Submit your observations (and any chimney photos) by email to [OntarioSwiftWatch@birdscanada.org](mailto:OntarioSwiftWatch@birdscanada.org) or by mail to the address on the front page of this document.



## Presence/Absence Form

Street address	Building type (e.g., school, residential)	Chimney details (e.g., "North chimney", if more than one chimney on building)	Date	Survey start time	Number of Chimney Swifts enter/exit	Time of entry/exit

Please submit your Presence/Absence observations to [OntarioSwiftWatch@birdscanada.org](mailto:OntarioSwiftWatch@birdscanada.org)

## Continued Monitoring (at already known active sites)

The same chimney can be surveyed spring through fall to evaluate between-year occupancy at nest and roost sites. Data accumulated over many years may provide valuable information on site-use trends and potentially population trends, as well as help prioritize sites for further conservation action.

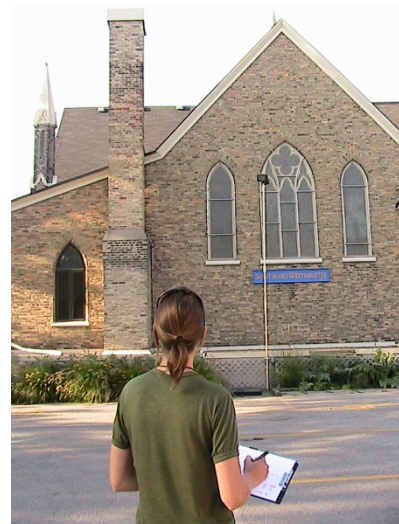
### How to do ongoing nest and roost site monitoring:

- Monitoring is done at known active nest and/or roost chimneys. Contact the Ontario SwiftWatch Coordinator or your local Regional Coordinator to sign up for an active chimney to monitor in your area.
- Observations can be made at any time between early May and late September, depending on where you live. Many prefer to monitor their chimney on the same night every week or every other week, however, the frequency of monitoring and the date are up to you!
- Starting 30 minutes before sunset, volunteers use the SwiftWatch Data Form (page 7-8) to record observation **start and end time, weather conditions, and the net number of swifts entering the chimney** (i.e., entries minus exits). Please keep records even when zero swifts enter the chimney (this is helpful for tracking occupancy). Continue your watch until 15 minutes after the last Chimney Swift has entered the chimney, or until it becomes too dark to count.
- Daytime observations help to distinguish between roost sites and nest sites. If Chimney Swifts enter/exit a chimney during the day, then this indicates the chimney is likely being used as a nest site; activity patterns vary with different stages of nesting. Make note of any interesting behaviour you observe (e.g., swift carrying twigs). Note that Chimney Swifts are often silent and stealthy when returning to the nest, and tend to enter the nest chimney quickly and suddenly. **The best month to detect nesting swifts is July, during low wind and non-overcast sky conditions.**
- Submit your data online at [www.birdscanada.org/birdmon/ai/submitdata](http://www.birdscanada.org/birdmon/ai/submitdata), by email to [OntarioSwiftWatch@birdscanada.org](mailto:OntarioSwiftWatch@birdscanada.org), or by mail to the address on the front page of this document.

## Casual Observations

Casual observations are very important and can assist in finding new areas of concentration or new nest and roost sites. If you observe swifts foraging overhead or happen to see swifts using a chimney, barn, silo, well, or tree, record the **date, time, location, and comments on the swifts' behaviour.**

Casual observations of swifts can be submitted online at [www.birdscanada.org/birdmon/ai/aicasual](http://www.birdscanada.org/birdmon/ai/aicasual), by email to [OntarioSwiftWatch@birdscanada.org](mailto:OntarioSwiftWatch@birdscanada.org), or by mail.



## Be Safe!

Birds Canada puts our volunteers first, so please be safe while participating in Ontario SwiftWatch. Always ensure that you are in a safe public area, out of the way of pedestrians, cyclists, and vehicle traffic. We suggest that, while searching for or monitoring swifts, you: have a partner, carry a cell phone, and tell someone else where you are surveying. If at any time you feel unsafe for any reason, stop surveying and leave the location immediately.

## Weather and Sunset Calculator

Weather: <http://weather.gc.ca/>

Sunset/sunrise calculator: <http://www.nrc-cnrc.gc.ca/eng/services/sunrise/>

## Questions?

If you have any questions, comments, or concerns, please contact the Ontario SwiftWatch Coordinator at [OntarioSwiftWatch@birdscanada.org](mailto:OntarioSwiftWatch@birdscanada.org).

## Additional Resources

### Chimney Swift Identification, Ecology, and Stewardship

- [www.birdscanada.org/volunteer/ai/chsw](http://www.birdscanada.org/volunteer/ai/chsw)
- [www.allaboutbirds.org/guide/chimney\\_swift/id](http://www.allaboutbirds.org/guide/chimney_swift/id)
- [https://wildlife-species.canada.ca/species-risk-registry/species/speciesDetails\\_e.cfm?sid=951](https://wildlife-species.canada.ca/species-risk-registry/species/speciesDetails_e.cfm?sid=951)
- [www.chimneyswifts.org](http://www.chimneyswifts.org)

### Canadian Partners

- Manitoba Chimney Swift Initiative ([www.mbachimneyswift.ca/](http://www.mbachimneyswift.ca/))
- Maritimes SwiftWatch (<http://www.birdscanada.org/volunteer/ai/chsw>)
- Environment and Climate Change Canada ([www.ec.gc.ca](http://www.ec.gc.ca))