

# Maritimes SwiftWatch

## Survey Protocol

*(Updated November 2022)*



Photos: Jason Headley (L), Erin Brethauer, Asheville Citizen-Times ® (R)



**BIRDS CANADA**  
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Maritimes SwiftWatch - Birds Canada  
17 Waterfowl Lane  
Sackville, NB E4L 1G6  
(506) 364-5196

[marswifts@birdscanada.org](mailto:marswifts@birdscanada.org)

[www.birdscanada.org/bird-science/swiftwatch](http://www.birdscanada.org/bird-science/swiftwatch)

[facebook.com/Maritimes.Swifts](https://facebook.com/Maritimes.Swifts)

[twitter.com/Mar Swifts](https://twitter.com/Mar_Swifts)

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**Maritimes SwiftWatch is led by Birds Canada in partnership with and support by:**



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## Introduction

Famously referred to as a “cigar with wings”, the Chimney Swift (*Chaetura pelagica*) is a small, plump, charcoal-grey bird with long, pointed wings and a very short, squared-off tail. The Chimney Swift is an aerial insectivore (a bird that specializes in eating flying insects while in flight) and is almost always seen and heard flying high overhead in towns and cities across eastern North America.

Between May and September Chimney Swifts congregate at communal roosts (predominantly chimneys) at dusk, and it is possible to observe hundreds of swifts flying into these roosting chimneys just after sunset. In June, breeding pairs leave roosts to find nesting sites in individual chimneys as well as other dark, sheltered locations such as barns, sheds, and even wells, while non-breeding swifts remain at roosts. A single pair of swifts can raise up to five young, sometimes with assistance from one or two non-breeding ‘helper’ swifts. Maritimes SwiftWatch was initiated in 2011 to bring together the many individuals and organizations that previously monitored Chimney Swifts independently, at various scales of effort and detail. Maritimes SwiftWatch participants learn to identify Chimney Swifts by sight and sound and monitor swifts at roost and nest sites. The data collected through monitoring helps track Chimney Swift population trends. We also use monitoring data to identify specific threats at roost and nest sites, and to facilitate stewardship of these important sites for Chimney Swifts in the long-term.

Thank you for volunteering your time and effort to participate in Maritimes SwiftWatch. By coordinating our efforts, we are directly contributing to habitat conservation while drawing a broader, more informative picture of Chimney Swift population dynamics, behaviour and ecology to advance the recovery of this unique and fascinating species.

## How to Conduct a Roost Count:

**When:** roost counts are conducted on a set of four predetermined dates for all observers across Canada, including in Nova Scotia, New Brunswick, Quebec, Ontario and Manitoba. Choosing the same set of dates ensures that Chimney Swifts are not double-counted as they move through the Maritimes and beyond. In **2022**, participants will watch roosts on the following dates:

**May 21 (optional)**

**May 25**

**May 29**

**June 2**

**June 6**

During spring and fall migration, Chimney Swifts usually remain on the wing from the moment they leave the roost at dawn until they return at sunset. However, on cold or rainy days

Chimney Swifts often return to the roost early or may remain inside all day. On these days you might not observe many (or any!) Chimney Swifts entering the roost. However, it is still important to conduct a roost count as it gives us valuable information about their behaviour and provides a consistent count at provincial, regional and national scales (i.e. just because it is raining in Wolfville doesn't mean it is raining in Bathurst).

**Before you begin:** Please look at your Roost Monitoring Form and read the Safety and Equipment checklists (page 8). Since it is difficult to predict the exact time when Chimney Swifts will return to the roost, please arrive at your roost site **at least 30 minutes prior to sunset** to give yourself time to set up and get comfortable. On cold, cloudy, or rainy evenings, arrive at least **45 minutes prior to sunset** as swifts often return early in poor weather. Sunset times for specific sites can be found in newspapers, on weather channels, or on the Weather Network website: <http://www.theweathernetwork.com>. Continue your roost count until 15 minutes after the last Chimney Swift has entered the chimney, or until it becomes too dark to count. This ensures that the “stragglers” get counted.

When you arrive at your roost site, find a location where you will be safe and out of the way of pedestrians and traffic. Make sure that you have a clear view of your chimney, unobstructed by trees, power poles and other buildings in the background. Ideally, you should situate yourself so that your chimney is silhouetted by the setting sun (not only picturesque, but the swifts will “stand out” in the sky over the chimney!). You will be at your roost site for approximately one hour, so it's a good idea to bring a folding lawn chair to sit in as you monitor your site. You may also sit in your car while conducting your roost count, so long as you have a clear view of the chimney and surrounding area. We have included a one-page flyer that you can give to curious passersby who approach you during your survey, as well as a printable sign to place in your car's front or rear window to identify yourself as a SwiftWatch volunteer.

**Filling in your Roost Count Form:** Please complete the *Observer Information* and *Roost Information* sections of your data sheet before beginning your roost count. If you bring a friend, record their name under *Additional observers*. Record the name of the building with the roost, if known, and the street address, as well as your arrival time at the site.

Chimney Swifts are often heard before they are seen. Listen carefully for the high-pitched, rapid “chittering” call of the swifts as they fly overhead. When Chimney Swifts begin to appear over your roost site, record the local weather conditions (below; wind speed, cloud cover, temperature, and precipitation) using the weather codes provided on the back of your data sheet. This helps us study how weather conditions affect counts.

Now it's time to sit tight and keep your eyes focused on the chimney! Record the time (hour:minute) when the first swift enters the chimney. While Chimney Swifts are gathering and preparing to enter a roost, individual birds may try a few ‘practice runs’ before they feel comfortable entering the chimney. Try not to count those birds that are diving down but not actually entering the chimney, as including them will lead to an over-estimate of Chimney Swifts at your roost. As well, some birds may actually exit the chimney while others are entering. If you



see birds coming out of the chimney, keep a separate tally of those and subtract that from the total number Chimney Swifts entering the chimney (see “Tips”, Page 8).

When the number of Chimney Swifts entering the roost drops off to zero, record the current time (i.e., time of last swift entry) and keep watching for 15 minutes longer in case of stragglers. Your roost count is over when 15 minutes have passed with no additional swift activity, or when it becomes too dark for you to count the birds properly. Remember to record the time of night (HH:MM) of the last Chimney Swift entry, as well as the time when you conclude your roost count, so that we can calculate effort at each site. If you have any notes on swift behaviour, observations about the building, or activity at the roost site (e.g. predators, construction activity) please include them in the *Comments* section.

<u>Wind (Beaufort Scale)</u>	<u>Precipitation</u>	<u>Cloud Cover</u>
<b>0</b> Calm, smoke rises vertically	None	0 Clear
<b>1</b> Light air movement, smoke drifts	Rain	1 10%
<b>2</b> Slight breeze, wind felt on face	Hail	2 20%
<b>3</b> Gentle breeze, small twigs move	Trace/occasional rain	3 30%
<b>4</b> Moderate breeze, small branches move	Thundershower	4 40%
<b>5</b> Fresh breeze, small trees sway		5 50%
<b>6</b> Strong breeze, large branches in motion		6 60%
<b>7</b> Whole trees moving, resistance felt walking against wind		7 70%
		8 80%
		9 90%
		10 100%
		11 Fog

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

The purpose of Presence/Absence surveys 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 with heritage buildings, industrial buildings, older schools and/or churches are good places to start. These are often found in town/city centres or heritage districts. Contact Maritimes SwiftWatch or one of our regional partners in your area (page 8) for help selecting an area to survey or for a list of specific chimneys to watch.

Once you have chosen your area, identify one or more suitable-looking chimneys to survey. Conduct your surveys between May 15 and August 15 using the **Presence/Absence Form** to collect initial observations. The best time to detect *roosting* swifts is at dusk in late May, or late July/early August. The best time to detect *nesting* swifts is throughout July, when they are making frequent trips in and out of chimneys to feed growing young. **Nesting swifts are most likely to be observed on warm, windless days with very little to no cloud cover.**

Try to survey potential roost or nest chimneys for **60 minutes** or until you detect a swift entering or exiting the chimney, on a day with low wind and little cloud cover. Record the street address and GPS coordinates of the building, the building type (e.g. school, church, commercial, industrial, private residence, 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. 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 Main St, WEST chimney).** If you have a camera, please take a picture of the chimney.

## 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 provides valuable information on site use trends and potentially population trends, as well as helps 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 sites. Contact Maritimes SwiftWatch to sign up for an active site to monitor in your area. Observations can be made at any time from early May to early August. Many prefer to monitor their site 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** 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 year-to-year 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 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-cloudy sky conditions.**

## 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) or by email to [marswifts@birdscanada.org](mailto:marswifts@birdscanada.org), or by mail.

## Chimney Assessments

This information helps us understand more about how the dimensions and structure of a chimney may influence its suitability for Chimney Swifts. If you are reporting a new roost or nest site, please complete the **Chimney Assessment Form** and return it with your other forms.

## Submitting Your Data

**Please submit data by October 1.** We encourage volunteers to enter their data online at <http://www.birdscanada.org/birdmon/ai/submitdata.jsp>. If you require assistance creating a NatureCounts login or have forgotten your password, please contact Maritimes SwiftWatch at (506) 364-5196 or [marswifts@birdscanada.org](mailto:marswifts@birdscanada.org) and we will be happy to help you get set up!

At the end of the SwiftWatch season, please make a copy of your data sheets for your personal records and send the *original* copies to Birds Canada (find our address on the front page of this document and on each form). This is important to guard against data loss in the unlikely event that your data sheets are lost in the mail!

### Tips for Counting Chimney Swifts:

At highly-populated roost sites, it can be hard to keep track of the number of Chimney Swifts entering (and sometimes exiting!) the chimney. Here are a few suggestions to keep you from losing count of all those birds:

1. 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 something goes wrong with your video (e.g. the battery or memory card runs out!).
2. Try mentally “grabbing” **groups of 5, 10 or 20** swifts as they enter the chimney instead of attempting to count individuals. This can be highly effective at sites where swifts are entering together at high speed.
3. There may be an occasional lull in activity during the watch. Without taking your eyes off the chimney, periodically write down your current total (your “**subtotal**”) on the back of your data sheet, and then start counting again from zero. At the end of your watch, add up all of those sub-totals to come up with your grand total.
4. Do the best you can! Swift watching can be challenging, but don’t forget to **have fun** and enjoy this natural phenomenon!

## Equipment Checklist

- ☐ Maritimes SwiftWatch Protocol and data forms, and scrap paper
- ☐ Mechanical pencil (bring spares!)
- ☐ Clipboard
- ☐ Watch
- ☐ Headlamp or flashlight (optional but helpful for packing up)
- ☐ Foldable lawn chair (optional)
- ☐ Video camera and tripod (optional; bring spare batteries!)
- ☐ Insect repellent
- ☐ Warm clothing, including windbreaker and rain gear
- ☐ Cell phone in case of emergency
- ☐ Map of the area
- ☐ Personal protective equipment (following public health guidelines for COVID-19))

## Safety Protocols under COVID-19 (Updated April 2021)

Below are the safety protocols that Birds Canada Maritimes SwiftWatch volunteers must follow to conduct surveys at this time:

- All existing provincial, national, and regional health guidelines and orders, etc., must be followed at all times (e.g., 2 metre social distancing, masking, practice careful hygiene, etc.)



- **If you have any symptoms (cough, fever, sore throat, headache, runny nose, breathing difficulties), stay home**
- Stay-at-home orders or other restrictions in some locations may mean that doing Chimney Swift or swallow surveys is not possible; it is your responsibility to know, understand, and obey any guidelines or orders that apply to your situation
- Surveys and travel to survey locations are to be conducted only by individuals already regularly living in the same household to avoid moving the virus between households (unless official restrictions in your area allow otherwise)
- Travel to survey locations should be limited to your local area only to avoid interregional movements of the virus and undue potential strain on more distant health services; a suggested rule of thumb that may be useful is to please not travel longer than about 1 hour or ~75 km straight line distance to survey locations
- All food and any other required supplies should be taken from one's household and surveyors should go to all extents possible to not interact with anyone or anything, except to obtain gasoline, in which case careful precautions to avoid spreading or contracting the virus must be followed
- If you require landowner permission to survey, phone or email in advance of each survey and await confirmation before entering the property, as permission that was granted previously may no longer be valid due to evolving COVID-related restrictions
- All regular safety procedures must be followed (Working in the sun/heat, ticks and Lyme disease, working near water, etc.)
- As always, do not undertake any activity that you regard as unsafe, and please feel no personal pressure whatsoever to complete surveys

Follow advice of the [Public Health Agency of Canada](https://www.canada.ca/en/public-health/services/covid-19/) and of the provincial governments at all time:

Government of New Brunswick: <https://www2.gnb.ca/content/gnb/en/corporate/promo/covid-19.html>

Government of Nova Scotia: <https://novascotia.ca/coronavirus/>

## Keeping Safe during Your Swift Watch

- Always ensure that you are situated in a safe place out of the way of pedestrians, cyclists and vehicle traffic.
- Unless you have received prior permission from the property owner, conduct your swift watch from the sidewalk or other public place.
- If your roost site is in an unfamiliar area, obtain a map and study it before you visit your roost site to familiarize yourself with the area. Let someone know where you are going.

## Project Partners and supporters

- Birds Canada - <http://www.birdscanada.org/>

- Blomidon Naturalists Society - <http://www.blomidonnaturalists.ca/>
- Clean Annapolis River Project - <https://www.annapolisriver.ca/>
- Environment and Climate Change Canada - <http://www.ec.gc.ca/>
- Kespukwitk's Species at Risk Program
- Mersey Tobeatic Research Institute - <http://www.merseytobeatic.ca/>
- Nova Scotia Bird Society - <http://www.nsbirdsociety.ca/>
- Nature NB - <http://www.naturenb.ca/>
- Nature Sussex - <http://www.naturesussex.caP>
- New Brunswick Department of Energy and Resource Development - [https://www2.gnb.ca/content/gnb/en/departments/erd/natural\\_resources/content/wildlife/content/SpeciesAtRisk.html](https://www2.gnb.ca/content/gnb/en/departments/erd/natural_resources/content/wildlife/content/SpeciesAtRisk.html)
- Nova Scotia Department of Lands and Forestry - <https://novascotia.ca/natr/>
- Pictou County Naturalists Club

## More Information

Species at Risk Public Registry: [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)