

Maritimes SwiftWatch

Survey Protocol

(Updated May 2016)



www.birdscanada.org/volunteer/ai/chsw



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BIRD STUDIES
ÉTUDES D'OISEAUX CANADA

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Introduction

Famously referred to as a “cigar with wings”, the Chimney Swift (*Chaetura pelagica*) is an aerial insectivore (a bird that specializes in eating flying insects while in flight) that is regularly seen and heard flying over towns and cities across eastern North America. During spring and fall migration, Chimney Swifts congregate at communal roosts (predominantly chimneys) at dusk and it is possible to observe large numbers of the birds entering these roosting chimneys. During the summer months, swifts disperse from these roosts to find nesting sites. A single breeding pair, sometimes with the assistance of one or two unmated individuals, can raise up to five young. Non-breeding birds will continue to roost communally throughout the summer.

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 provides participants with a consistent approach to monitoring Chimney Swifts at roost and nest sites and serves as a centralized database to store and share information about new and existing sites. We use this information to educate landowners and communities and encourage the protection 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 drawing a broader, more informative picture of Chimney Swift population dynamics, behaviour and ecology, which will help to inform 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 2016, participants will watch roosts on the following dates:

- 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, in bad weather Chimney Swifts often return to the roost early or may remain in the roost 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 6). 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** because swifts often return early in bad 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. We have included printable business cards that you can print, cut out and give to curious passersby who approach you during your survey.

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.

Filling in your Roost Count Form: Please fill out 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.

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

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 (above; 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 6).

When the number of Chimney Swifts entering the roost drops off to zero, record the 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.

Additional Roost Counts: We encourage you to keep track of Chimney Swift roost activity throughout the season. Each roost site sees peaks and ebbs in migration at slightly different dates, and Chimney Swifts use each site differently. Information such as date of first spring arrival, date of departure in fall, and counts of non-breeding roosting swifts during summer months, etc. are all very useful in learning more about this little-studied bird. You can keep track of your observations throughout the season using the extra rows provided on your Roost Count Form (please use one form per roost location).

Chimney Assessments: We are interested in learning more about how the dimensions and structure of a chimney may influence its suitability for Chimney Swifts. Please consider filling out the attached Chimney Assessment Form and returning it with your other forms.

Nest Site Observations: If you see Chimney Swifts entering and exiting a chimney or other structure



Photo: Ontario SwiftWatch

(barn, camp, silo, *or a tree*) during the day, congratulations: you have likely discovered a nest site! Very few nest sites have been identified in the Maritimes, so we strongly encourage volunteers to look for and report nest sites, in both man-made and wilderness habitats. For nest sites discovered in a chimney, please complete a Chimney Assessment Form. During the breeding period, you can expect to see Chimney Swifts making frequent entries and exits during the daylight hours, as they bring nesting material to their nest and deliver food to their nestlings. Make note of any interesting nesting behaviour you observe (e.g. carrying twigs). Be aware that nesting Chimney Swifts are often silent and stealthy when returning to the nest, and tend to enter the nest site quickly and suddenly!

Because so little is known about Chimney Swifts, *every* observation you submit is a useful observation! Please make note of Chimney Swifts observed away from roost or nest sites as well, including information about the location (UTM, or Latitude and Longitude coordinates in dd.dddd format), number of swifts seen, date and time of day, *tree species and diameter at breast height (dbh) if applicable*, and any other details on behaviour or habitat.

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> . 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 Bird Studies 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, Roost Count Form and scrap paper
- Mechanical pencil (bring spares!)
- Clipboard
- Wristwatch
- 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

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 possible, bring a friend. This not only increases your safety, it can also be more enjoyable and your assistant can help fill out the data sheet as you conduct the watch.
- 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.

Weather and sunset times:

- <http://www.theweathernetwork.com/>
- http://www.weatheroffice.gc.ca/canada_e.html

Project Partners:

- Bird Studies Canada <http://www.birdscanada.org/>
- Blomidon Naturalists Society <http://www.blomidonnaturalists.ca/>
- Environment and Climate Change Canada <http://www.ec.gc.ca/>
- Kespukwitk 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>
- Pictou County Naturalists Club (no website)

SwiftWatch Chimney Assessment Form

Town/Province: _____ Street address of building containing chimney: _____											
How many chimneys does this building contain? This is chimney # _____ of _____ total chimneys at this address											
Has this chimney been used by Chimney Swifts in previous years? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If yes, then for how long? _____ years											
Building Type (Circle only one): <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">1 House</td> <td style="width: 50%; border: none;">5 School</td> </tr> <tr> <td style="border: none;">2 Low-rise Apartment (≤ 5 storeys)</td> <td style="border: none;">6 Hospital</td> </tr> <tr> <td style="border: none;">3 High-rise Apartment (≥ 6 storeys)</td> <td style="border: none;">7 Commercial Building</td> </tr> <tr> <td style="border: none;">4 Church</td> <td style="border: none;">8 Factory/warehouse</td> </tr> <tr> <td colspan="2" style="border: none;">9 Other (describe): _____</td> </tr> </table>		1 House	5 School	2 Low-rise Apartment (≤ 5 storeys)	6 Hospital	3 High-rise Apartment (≥ 6 storeys)	7 Commercial Building	4 Church	8 Factory/warehouse	9 Other (describe): _____	
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4 Church	8 Factory/warehouse										
9 Other (describe): _____											
Habitat Surrounding Chimney (within 250m): <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input type="checkbox"/> Residential</td> <td style="width: 50%; border: none;"><input type="checkbox"/> Industrial</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Open/Agricultural (rural)</td> <td style="border: none;"><input type="checkbox"/> Commercial</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Regional Facility/ School</td> <td style="border: none;"><input type="checkbox"/> Downtown</td> </tr> <tr> <td colspan="2" style="border: none;"><input type="checkbox"/> Other (describe): _____</td> </tr> </table>		<input type="checkbox"/> Residential	<input type="checkbox"/> Industrial	<input type="checkbox"/> Open/Agricultural (rural)	<input type="checkbox"/> Commercial	<input type="checkbox"/> Regional Facility/ School	<input type="checkbox"/> Downtown	<input type="checkbox"/> Other (describe): _____			
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<input type="checkbox"/> Other (describe): _____											
Chimney Material: <input type="checkbox"/> Brick <input type="checkbox"/> Stone <input type="checkbox"/> Cinder Block <input type="checkbox"/> Concrete <input type="checkbox"/> Other (describe): _____											
Chimney Modifications (circle one): 1 Building does NOT contain a chimney 2 No visible modification 3 Terra Cotta Liner (clay flue pipe visible) 4 Metal liner with cap 5 Animal Guard/Spark Arrestor (wire mesh) 6 Other (describe): _____											
Flue Material: <input type="checkbox"/> Clay tile <input type="checkbox"/> Metal <input type="checkbox"/> Unknown or other (describe): _____	Number of Open Flues (if multiple flues in one chimney): _____										
Chimney Shape and Size: <input type="checkbox"/> If round → Diameter (cm): _____ <input type="checkbox"/> If square → Width (cm): _____ <input type="checkbox"/> If rectangular → Width (cm): _____ Length (cm): _____											
NOTE: Measurements can sometimes be estimated by counting bricks. Standard bricks have the following measurements: 20cm x 9 cm x 6 cm (L x W x H)											
Estimating Chimney Height: Total Chimney Height (m) = _____											
$ \frac{\text{_____}}{(\# \text{ of storeys in building})} \times \frac{3 \text{ m}}{\text{(approx. height of one storey)}} + \frac{\text{_____ m}}{\text{(Height above roofline)}} = \text{_____ m} $											
Chimney Placement (check one box only): <input type="checkbox"/> Chimney is on an interior wall <input type="checkbox"/> Chimney is on an exterior wall											
Additional Comments: _____											

Submit completed forms online or by post, email, or fax to:

**Maritimes SwiftWatch
 Bird Studies Canada
 PO Box 6227, 17 Waterfowl Lane
 Sackville, NB E4L 1G6**

Tel: (506) 364-5196 Fax: (506) 364-5062
marswifts@birdscanada.org

Or enter data online at:
www.birdscanada.org/birdmon/ai/submitdata.jsp