

**Bird Studies Canada**  
**Annual Report for Nova Scotia Habitat Conservation Fund 2016-2017**

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**Project Title:** *Strengthening Landowner Stewardship of Aerial Insectivores*

### **Background**

Aerial insectivores (swifts, swallows, flycatchers and nightjars) are declining more rapidly than any other bird group in Canada<sup>1</sup>. Their dependence on human-influenced habitat for foraging and nesting provides a unique opportunity to engage the public as citizen scientists and environmental stewards. Through this project, Bird Studies Canada worked with Nova Scotian landowners to address threats and develop a network of aerial insectivore stewards and citizen scientists across NS. Specifically, this project took place in communities hosting significant populations of roosting and nesting Chimney Swifts, including Bear River, Caledonia, Falmouth, Oxford, Mabou, Middleton, New Glasgow, Truro, Weymouth, and Wolfville. Additional surveys (comprising landowner questionnaires and barn assessments) took place in areas of Nova Scotia with high prevalence of aerial insectivore species (identified using data from SwiftWatch, NestWatch, Breeding Bird Surveys and the Maritimes Breeding Bird Atlas)

Bird Studies Canada acknowledges the support of the Nova Scotia Habitat Conservation Fund (contributions from hunters and trappers) for supporting this ongoing project.

### **Project goal**

The goal of the proposed project was to address threats to declining aerial insectivores (specifically Chimney Swift, Barn Swallow, Tree Swallow, and Cliff Swallow) by (1) increasing awareness for the plight of aerial insectivores amongst key stakeholder groups and (2)

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<sup>1</sup> State of Canada's Birds, 2012

promoting stewardship and restoration of breeding and foraging habitat for these species on private land.

**Outline of the work completed and Results:**

We targeted landowners and community members in communities that have the greatest capacity to impact aerial insectivores and their habitats. We interviewed landowners to identify existing attitudes towards, and knowledge about our focal species, and surveyed properties to identify characteristics that might influence nesting and foraging decisions. Landowner concerns and questions were addressed through distribution of a Landowner Info Package and ongoing contact with interested participants, and a follow-up survey allowed us to measure the effectiveness of our surveys on improving awareness and attitudes towards aerial insectivores.

We also contacted landowners of Chimney Swift-occupied chimneys to notify them of the presence of swifts and to provide stewardship and monitoring expertise. To monitor regional population trends, we coordinated a network of SwiftWatch volunteers to participate in National Roost Monitoring surveys (in conjunction with similar monitoring programs across Canada) and held multiple outreach events in communities hosting large roost sites to raise awareness of Chimney Swift biology, threats, population status and ways that Nova Scotians can help protect this species.

**2016-2017 Project activities, objectives, and achievements**

Activities	Objectives	Achievements
<p><b>Conduct targeted outreach</b> through "Swift Night Out" community events and/or presentations to local naturalist clubs, and town councils in communities with roosts (e.g. Bear River, Middleton, New Glasgow, Wolfville, Mabou)</p>	<ul style="list-style-type: none"> <li>- Increased public awareness of Chimney Swift biology, threats, and how to help protect them</li> <li>- Increased ability to identify Chimney Swifts and locate nest and roost sites</li> <li>- Broad participation in stewardship and monitoring activities</li> <li>- Increased reporting of Chimney Swifts</li> </ul>	<ul style="list-style-type: none"> <li>- 5 "Swift Night Out" public events were held (Bear River, Middleton, Wolfville, New Glasgow, and Mabou). Attendance at each event was ~30 people. On average, prior to presentation 75% of participants could identify CHSW. By end of presentation, 100% of participants could identify CHSW.</li> <li>- 8 new potential nest/roost sites reported in NS</li> <li>- 5 new volunteer participants conducting monitoring</li> </ul>

<p><b>Coordinate standardized volunteer-based surveys</b> at known roosting sites following the national monitoring protocol.</p>	<ul style="list-style-type: none"> <li>- Fill knowledge gaps related to population dynamics through tracking regional and national trends</li> <li>- Volunteers engaged in conducting citizen science and Chimney Swift conservation</li> <li>- Threats to roost chimneys identified and addressed before sites are damaged or lost</li> </ul>	<ul style="list-style-type: none"> <li>- 151 roost counts submitted</li> <li>- 47 volunteers engaged</li> <li>- 9 of 10 roosts monitored on synchronized roost counts</li> </ul>
<p><b>Coordinate nest searching</b> in communities with significant roost chimneys (e.g. Annapolis Valley) to locate Chimney Swift nests in these communities.</p>	<ul style="list-style-type: none"> <li>- Volunteers engaged in nest searching</li> <li>- New nest sites identified and material provided to homeowners</li> <li>- Long term protection of nest sites</li> <li>- Landowners engaged as citizen scientists and environmental stewards</li> <li>- Fill knowledge gaps related to population dynamics through tracking regional and national trends.</li> </ul>	<ul style="list-style-type: none"> <li>- 8 new potential nest/roost sites reported in NS</li> <li>-3 new nest sites confirmed in Lawrencetown, Truro, and South Milford.</li> <li>-3 landowners at new nest sites contacted to inform them of CHSW presence, answer questions, provide stewardship advice and resources, and gain more information about site history.</li> <li>-Followed up on reports from local volunteers regarding known sites potentially under threat from building renovation or new owners unaware of CHSWs. Contacted and received informal commitment that chimneys would not be altered during ongoing renovations from: 1) developers doing renovations on Kentville Library, and 2) new owner of two buildings with four known nesting chimneys in Wolfville.</li> </ul>
<p><b>Promote Aerial Insectivore website</b> through announcements on listservs, social media, newsletters, prior to migration and during</p>	<ul style="list-style-type: none"> <li>- Increased usage of website to report aerial insectivore sightings and submit monitoring data</li> <li>- Standardized data collection, submission and sharing of results</li> </ul>	<ul style="list-style-type: none"> <li>-6791 unique page views on Aerial Insectivore website (<a href="http://birdscanada.org/volunteer/ai">birdscanada.org/volunteer/ai</a>) and 7510 unique page views on NatureCounts data portal for aerial</li> </ul>

<p>migration/breeding; updates on social media; and TV or radio interviews</p>		<p>insectivores (Naturecounts/ai) between April 1, 2016 and March 31, 2017.</p> <p>-3157 unique page views on Maritimes SwiftWatch website and 196 unique page views on SwiftWatch newsletter link from April 1, 2016-March 31-2017.</p> <p>~50 aerial insectivore sightings and nest records reported via phone, email and Aerial Insectivore online reporting tool</p> <p>-Press coverage included 3 newspaper/newsletter articles, 1 magazine articles, 100+ posts on Facebook, Twitter, and listservs for nature groups in NS and NB, and 3 items in Bird Studies Canada's Latest News e-newsletter.</p> <p>-Presented information about Chimney Swifts via one-on-one conversations and brochure distribution at Atlantic Canada Organic Regional Network Conference.</p>
<p><b>Expand Aerial Insectivore Survey</b> (landowner questionnaires and property assessments) to identify potential barriers to stewardship and understand nest site selection.</p>	<ul style="list-style-type: none"> <li>- Identify properties serving as aerial insectivore “hotspots” hosting multiple species</li> <li>- Better understanding of nesting and foraging behaviour of aerial insectivores on rural/agricultural properties</li> <li>- Ability to engage landowners as citizen scientists and environmental stewards by identifying and addressing barriers to stewardship, providing “best management practices” advice, and information/resources for monitoring nesting birds through Project NestWatch</li> </ul>	<ul style="list-style-type: none"> <li>- 66 properties surveyed</li> <li>- 97 landowners provided with stewardship and monitoring resources</li> <li>- 73 landowners agreeing to follow best management practices advice</li> <li>- 14 landowners indicating (in follow-up survey) that they intend to submit NestWatch data in 2017</li> <li>- Technical report written summarizing survey results (2015 + 2016 compiled; see attached supplementary information)</li> </ul>

<p><b>Adapt Aerial Insectivore Survey for use by volunteers</b></p>	<ul style="list-style-type: none"> <li>- Volunteers engaged in surveying for aerial insectivores in rural/agricultural areas of NS</li> <li>- Ability to troubleshoot prior to broader volunteer involvement</li> <li>- Landowners informed of the presence of aerial insectivores on their properties</li> </ul>	<ul style="list-style-type: none"> <li>- 2 field technicians and 1 BSC staff member surveyed 66 sites in rural/agricultural areas of NS and engaged 97 landowners in face-to-face interviews. The aerial insectivore survey was adapted based on feedback from the 2015 field season, but it was still a very long, detailed survey and we found that it was still more efficient for technicians to facilitate the surveys with landowners, rather than engaging volunteers to do so.</li> <li>-Results of the 2016 survey allowed us to more definitively identify which survey questions are critical for evaluating aerial insectivore habitat, allowing us to develop a more streamlined, volunteer-friendly survey for next year.</li> </ul>
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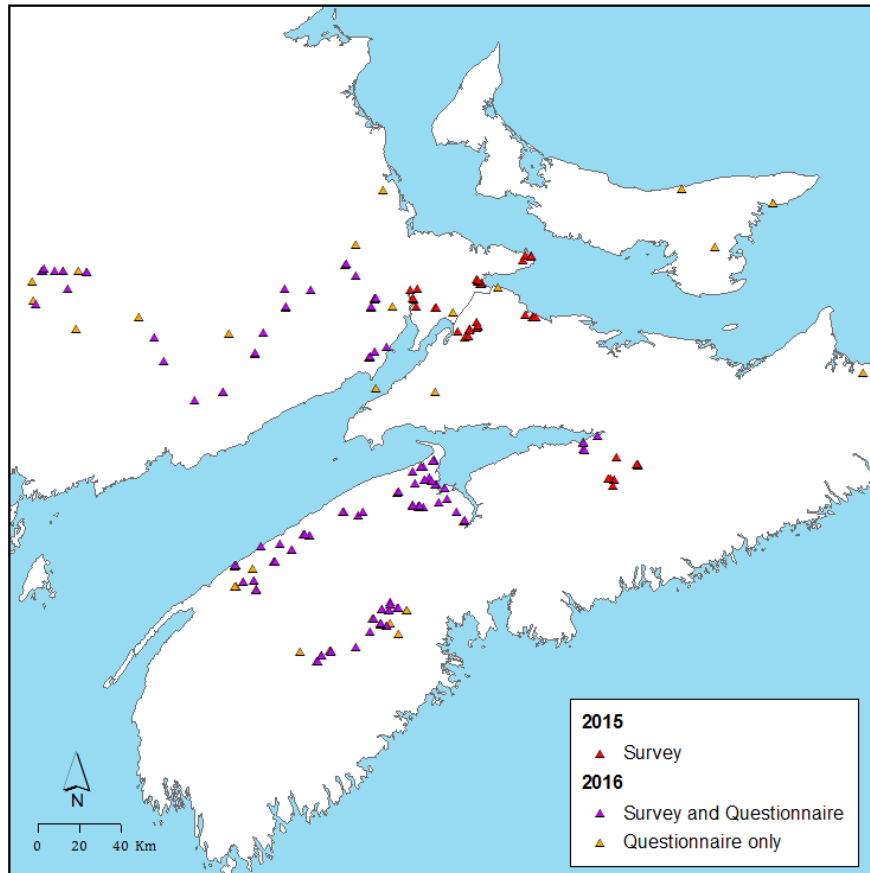


Figure 1. Map of 2016 Barn Survey addresses (red and purple triangles) visited to interview landowners and conduct property assessments (areas shown in NB were supported by separate funding sources).

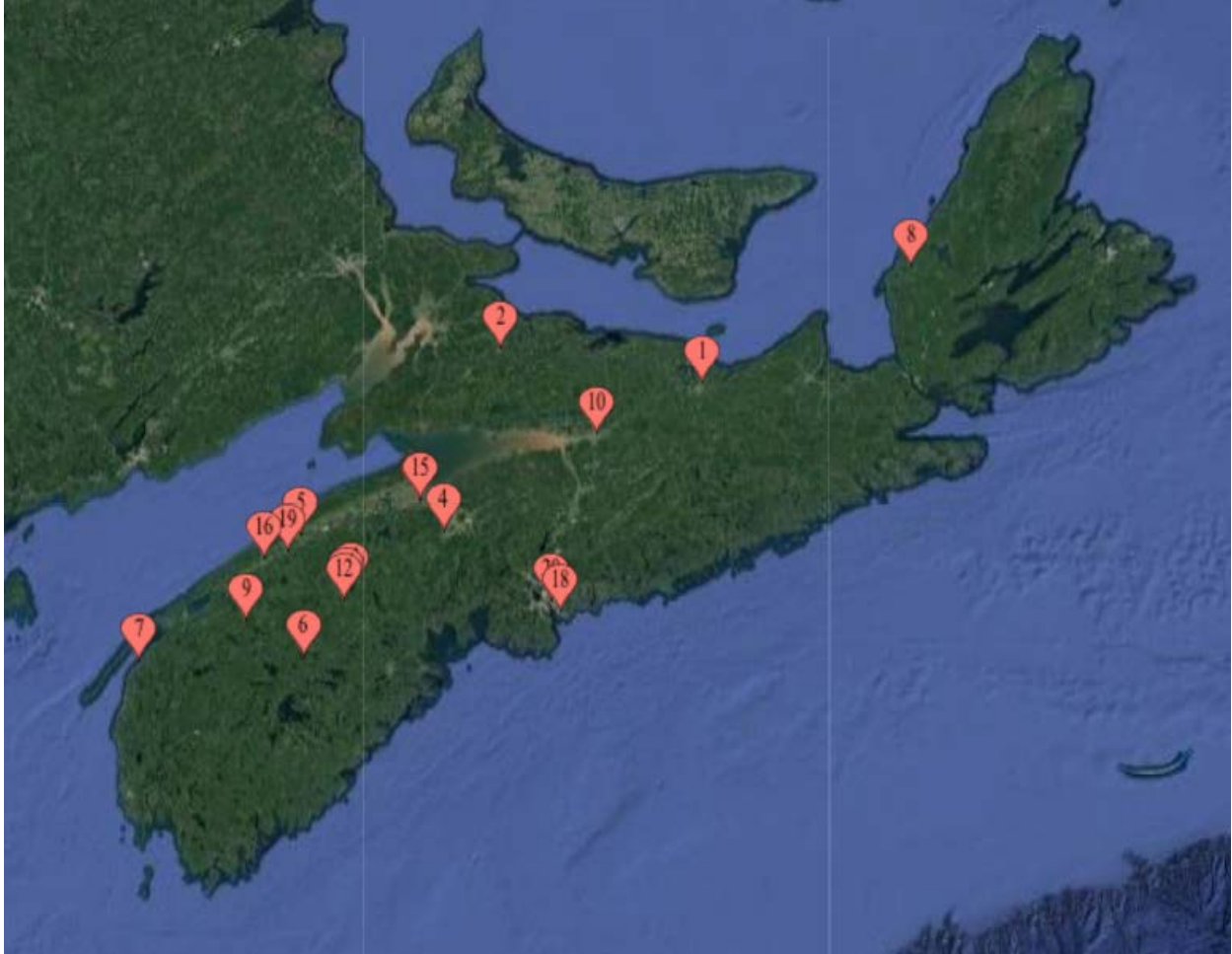


Figure 2. Map of Chimney Swift roost and nest sites in NS. Landowners of newly-identified swift-occupied chimneys were contacted to notify them of the presence of Chimney Swifts and provided with stewardship advice. Landowners or stewards of known Chimney Swift sites were contacted to confirm nesting/roosting in 2016.

Table 1. Nova Scotia swift numbers on official SwiftWatch Roost Count dates.

Site	Building Type	25-May	29-May	2-Jun	6-Jun
St. Bernard (Weymouth)	Church	111	147	151	100
McGowan Lake	Unused smithy	126	214	230	253
Bear River	House	113	267	216	154
Middleton	School	173	363	513	289
Wolfville	Freestanding chimney	45	106**	95	53
Upper Falmouth	House	n/a	n/a	n/a	n/a
Truro	New town library	16	100	72	140
New Glasgow	School	142	364	469	480
Oxford	Freestanding chimney	0	2	2	1
Mabou	Church	8	25	33	0
<b>Total</b>		<b>734</b>	<b>1588</b>	<b>1781</b>	<b>1470</b>

"n/a" means no count was done on this date. \*\*Estimated number. No count was done on May 29, but 102 swifts were counted on May 28 and 110 swifts were counted on May 30.

### Recommendations for follow-up steps to the project

This is an ongoing project for which we have a long-term commitment. We plan on following up this project with continued outreach and stewardship for aerial insectivores, including annual Swiftwatch Roost Counts and support for Chimney Swift hosts; promotion and continued use of our Aerial Insectivore data portal and Project Nestwatch; searching for new Chimney swift nests and better outreach/stewardship for individual nesting chimneys; strengthening our relationships with rural landowners in agricultural areas where swallows occur; and working with agricultural associations to improve the flow of stewardship information to farmers and understanding barriers to conservation for swallows on agricultural lands.