

# A Species at Risk

Attracting Barn Swallows  
to New Structures

BY ZOÉ LEBRUN-SOUTHCOTT

A few minutes after we started playing recordings of barn swallow songs, two of the birds swooped in. One flew directly to a carved wooden bird and began singing to it. Not getting a response, he flew to another decoy, landing on top of it several times. We heard a slight thud each time he hit the wooden bird; he appeared to be trying to mate with it. Eventually, he flew to a third decoy, then circled the nesting structure. This was exactly the type of response we'd been hoping for.

Barn swallows are a familiar sight in rural southern Ontario. They're a medium-sized songbird easily recognized by their long forked tail and spectacular flight displays. They belong to a group of birds called aerial insectivores—birds that mostly feed on flying insects. Though still quite common, the barn swallow population is decreasing rapidly across Canada. According to recent estimates by Environment Canada, their population in Ontario dropped by approximately 66 percent between 1970 and 2012. In 2012, the Ontario Ministry of Natural Resources and Forestry added the barn swallow to its list of species at risk in Ontario, classifying them as “threatened.”

I first started working with barn swallows in 2011, when I had the opportunity to take part in a long-term barn swallow study led by Antonio Salvadori, a retired professor from the University of Guelph who now dedicates his time to bird research and banding. Antonio began monitoring barn swallow colonies in 2000 and in 2008 the project was expanded with support from Mike Cadman, Songbird Biologist with the Canadian Wildlife Service.

The project tracks the size and reproductive success of nesting colonies in Wellington County. From May through August we visited each colony once a week, checking every nest and counting eggs, banding the young before they fledged, and setting up nets to catch and band the adults. The largest colonies we monitored were in old barns with lots of exposed wooden beams and rough surfaces on which the birds could build nests. Many of these old-fashioned barns are disappearing in Ontario and being replaced with modern structures that provide fewer nesting opportunities for the birds, or none at all. Barn swallows also nest in sheds and other types of out-buildings, as well as under bridges. With the rising concern about the decreasing population, many agencies, organizations and landowners are now building replacement nesting structures for the birds when construction or demolition impacts a structure housing a nesting colony. The difficulty is, there's been mixed success getting the birds to nest in these new structures.

There's a larger issue here, too: we don't know why the barn swallow population is declining. Loss of nesting habitat is only one of several potential factors affecting the species. Changes in food supply (flying insects), extreme weather events, and threats on their wintering grounds are some of the other factors possibly contributing to their decline. However, setting this larger issue aside, if replacement nesting structures are being built, they should provide suitable habitat, but

what kinds of structures will work? And how do we get the birds to nest in them?

In the fall of 2013, an opportunity to investigate these questions came up. My partner and I had just started a small organization called Bird Ecology and Conservation Ontario. Our goal was to focus on important research questions for birds at risk and contribute to the conservation of these species and their habitats. Shortly after receiving non-profit status, we had the opportunity to collaborate with Bird Studies Canada (BSC), a national charitable organization dedicated to bird science, conservation and education.

BSC started a multi-faceted barn swallow project in 2012 to address significant knowledge gaps relevant to the species' decline in order to direct recovery efforts. In the spring of 2013, they began building and testing nesting structures. We approached them with an idea to add a research component to their barn swallow structure work in 2014 and 2015; we wanted to see if social cues could be used to attract the birds.

Kristyn Richardson, Stewardship Biologist at BSC, was already collaborating with the Nature Conservancy of Canada, discussing plans to build nesting structures on two properties in Norfolk County where barns had recently been demolished. Everything was falling into place. We proposed building two structures on each site, one with social cues (wooden barn swallow decoys and a broadcast of barn swallow songs that mimic a real colony as much as possible) and another structure with no social cues. When the birds returned in the spring to find that the barn they usually nested in was gone, they'd have two new structures to choose from, one with social cues and one without. We wanted to see if we could use social cues to get birds to nest in these new structures. The idea isn't new; it's a technique that has been successfully used for another species of aerial insectivore, the purple martin.

Over the winter we worked with Kristyn to design the study and the structures. The structures included nest cups and cross supports to make it easier for the birds to build nests. In early April, working with a local builder, we hustled to get the four structures set up before the barn swallows returned from their wintering grounds in Central or South America.

When the first two structures were complete, we set up the audio equipment and decoys on the one we'd selected for the social cues. The homemade audio unit was set to play barn swallow vocalizations periodically throughout the day for the entire nesting season. We turned it on to see what might happen. We'd spotted a barn swallow in the area the day before, one of the first birds back from the wintering grounds, and we wondered if it would come to visit the structure.

We weren't disappointed as the scene described earlier unfolded before us. I felt a slight pang of guilt each time the male landed on top of the wooden decoy, trying to mate. The social cues certainly appeared to be attracting barn swallows to the structure, but would they

nest in it? I hoped this bird would find a real mate and choose to nest in the structure, now that he'd found this great new nesting place.

Jaelyn Kloepfer, Aerial Insectivore Research Technician at BSC, did most of the monitoring at the barn swallow structures over the summer. Having recently graduated from the University of Guelph, this was Jaelyn's first field job. She was tasked with observing the structures to see how the birds reacted to the social cues and monitoring any nests that were built in them. Three pairs of barn swallows nested in the structures, successfully fledging young from five nests. (Barn swallows are one of many species that often nest twice in a season.) In the structure where we'd observed the male interact with the decoys, a pair nested twice, raising two broods of young. There was no way of knowing if the male from this pair was the one we saw looking for a mate that first day, but I hoped it was.

In August, after the young had fledged, Jaelyn continued observing the structures. Barn swallows sometimes scout out nesting sites for the following year before migrating south for the winter. During one of her surveys, she watched as a flock of about ten barn swallows flew around one of the struc-

tures. This was a larger group than she'd seen at any other time; they were likely from nearby, exploring sites for the following year. It is hoped that some of them will be back and the structures will house even more swallows in the next breeding season.

With the first year of the social cues project completed, the next challenge is to find more sites where we can conduct this research. To really understand how the social cues work, we need to replicate the experiment on several more properties where nesting habitat is being lost. The results of this project and BSC's larger barn swallow project will help us understand how to provide suitable new nesting places for these birds. Mitigating the loss of nesting habitat, however, is just one small piece of the puzzle and there are many other questions to be addressed. When I asked Jaelyn what she thought the biggest hurdle for barn swallow conservation was, she echoed the sentiment of everyone else I know working on this species. "We need to determine what is causing the decline before we develop an effective re-

covery strategy." It's a tall order and a tough question, but one that many researchers across Canada are tackling.

It's difficult to imagine what the rural landscape of Ontario would be like without barn swallows. Many landowners I talk to see the arrival of barn swallows each spring as a telltale sign that winter has finally passed. "When people are so used to seeing so many barn swallows around, they often seem surprised to hear that they are declining," says Jaelyn. "What's really important is getting the message out that they are at risk."

After spending a summer monitoring barn swallows, Jaelyn is hooked and her passion for the

species and for conservation is obvious. It reminds me how inspiring these birds are, with their sleek blue plumage, their graceful acrobatics as they hawk insects out of the air, and their chattering songs. It makes me hopeful about the future of this species because I know there are so many others who feel a personal connection to the barn swallows they see foraging over their fields and gardens each summer, and coming back year after year to nest on their properties.

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Zoé Lebrun-Southcott spent many years working with birds at risk across North America before starting a non-profit organization with her partner, Andrew Campomizzi. She is currently Executive Director and Wildlife Biologist at Bird Ecology and Conservation Ontario. When not out searching for birds, she and her partner can be found in Toronto. For more information about Bird Ecology and Conservation Ontario visit [www.beco-birds.org](http://www.beco-birds.org), or contact Zoé at [zoe@beco-birds.org](mailto:zoe@beco-birds.org).

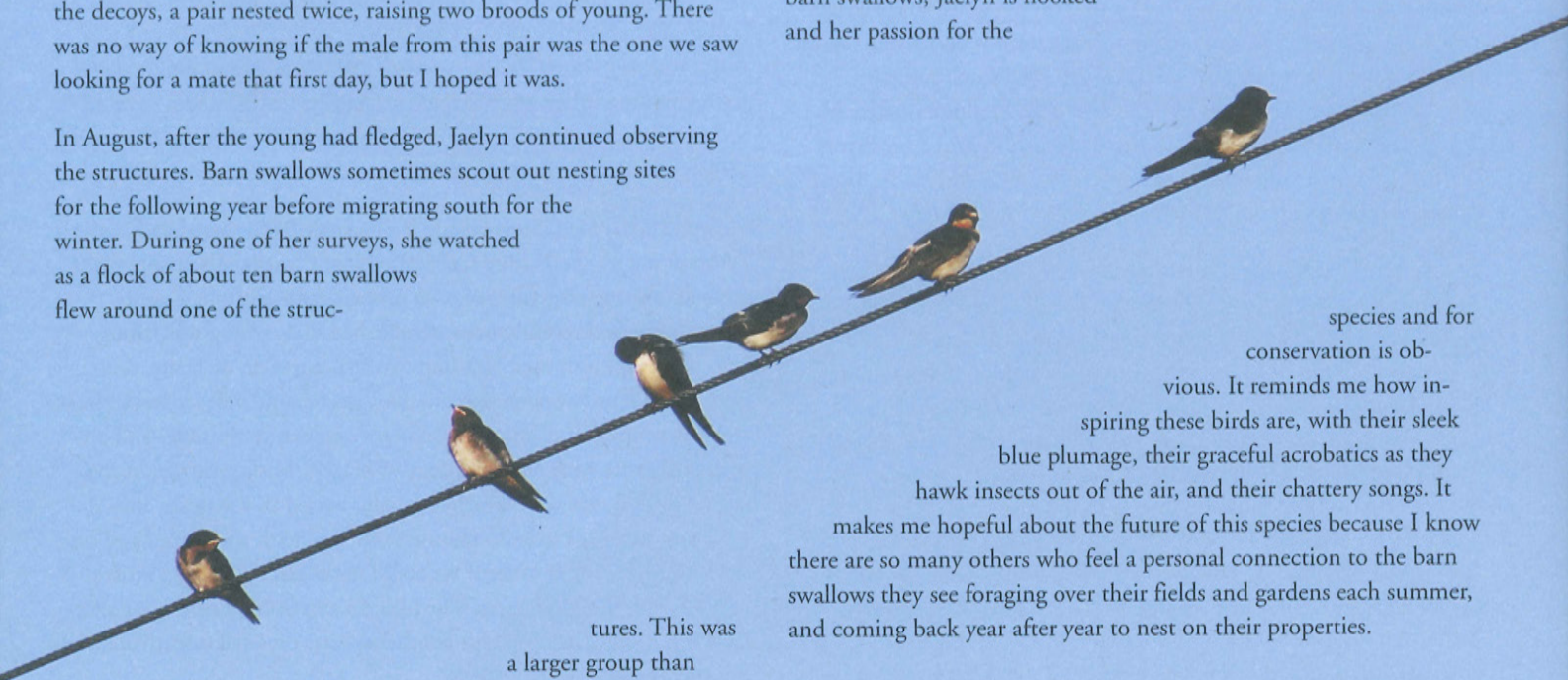


Photo by Jaelyn Kloepfer

If you are interested in hosting nesting structures on your property, contact Kristyn Richardson at [krichardson@birdscanada.org](mailto:krichardson@birdscanada.org) • (519) 586-3531, ext. 127.

You can also contribute to barn swallow conservation by monitoring barn swallow nests on your property and submitting your observations to Project NestWatch at [www.birdscanada.org/volunteer/pnw](http://www.birdscanada.org/volunteer/pnw).


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Photo by Antonio Salvadori



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