

Conservation Corner:

The Amazing Flight, and Plight, of the Purple Martin

By Niki Wilson



There's something about purple martins that captures the imagination of wildlife lovers, making them one of the most loved neo-tropical migrants to breed in Alberta. They have the Tie-fighter-like deftness of a swallow and the social affability of a raven. The males are handsome – their purple-black-blue sheen flashing in the light.

Their appeal to humans is a good thing. The eastern population, of which Alberta martins are a part, relies heavily on the installation of purple martin houses to survive. Historically, purple martins nested in woodpecker holes and natural tree

cavities, but the loss of this habitat means they are reliant on bird lovers with carpentry skills.

Like other migrants that spend their winters in South America, purple martins are known to travel extraordinary distances over the course of a year. But it wasn't until recently, through the work of Dr. Kevin Fraser at the University of Manitoba, that it became apparent just how extraordinary the Alberta members of the eastern population of purple martins are.

Working out of the Ellis Bird Farm, a conservation area near Lacombe set aside

primarily for cavity nesting birds, Fraser affixed tiny geolocators to the backs of several martins that were in Alberta for breeding season. The locators use an electronic sensor to record light levels, which can be correlated to specific locations, providing Fraser with the birds' travel coordinates for a year.

The results were astounding. "I almost fell off my seat when we were tracking the first ones from Alberta," says Fraser. "Some of them go a little farther south than where the average martin winters, and they move around a lot, so the migration distances for the Alberta [birds] was astounding – it was not uncommon for some of those birds to migrate over 20,000 kilometres."

Of note, one of the martins, aptly named Amelia, traveled previously unheard of distances – over 21,000 km on her round trip journey between Brazil and Ellis Bird Farm. She crossed the Gulf of Mexico, spent almost a month in Belize, and then spent the remainder of the winter in three different roosting sites in the Amazon Basin.

Perhaps what's most impressive is the speed with which she returned. Amelia arrived back at Ellis 21 days after leaving Brazil, averaging 600 km a day. Some martins are even quicker, says Fraser. "It's amazing that when travelling 10,000 to 12,000 kilometres, one or two of them were getting back in two weeks."

Marco Polo, another purple martin tracked by Fraser, has been tagged twice, providing two years of data. Fraser says that these repeat customers allow him to



Kevin Fraser with one of the intrepid travelers from the Ellis Bird Farm. PHOTO: © K. BELL

see how consistent birds are from year to year, what kinds of environmental factors might change their patterns, how precisely they time their migration, and how their migration changes with age.

“Marco’s timing was really consistent, and that’s what we find with a lot of the southern birds we’ve been tracking. Timing is a lot more consistent than space,” says Fraser.

In fact, *where* Marco went varied greatly between year one and year two. He went to the central Amazon in year one, along a tributary to the Amazon and spent most of his winter there. Then he migrated north to Suriname. But in year two, he went all the way to Bolivia, then moved into two different places in the Amazon, and then came back to Alberta.

“There’s something driving those movements in the winter that we’re not quite clear on,” says Fraser. “It could be weather related, or if they are tracking food changes over the winter, that might affect where they are spatially.”

There’s good reason to find out. Purple martins are aerial insectivores (birds that feed on flying insects). This group of birds is experiencing the fastest decline in North America, according to Environment Canada’s *State Of Canada’s Birds* report. It cites a combination of contributors including reductions in insect numbers, habitat loss, pesticide use, and climate change.

“We know that martins are declining at a more rapid rate at northern latitudes than southern,” says Fraser, explaining that a current analysis of 40 years of breeding bird survey data will hopefully help his team understand population trends. He and his colleagues would like to see the purple martin federally assessed under COSEWIC.

In the meantime, Fraser wants to understand what can be done here in Alberta. This year, he and his team will try to figure out what the range size is for foraging purple martins while in the prairie provinces during the breeding season.

“I wouldn’t be surprised if they forage

for insects over agricultural fields,” Fraser suggests. “If you have lots of insecticides and insect suppression on nearby fields, that can really have an impact on the amount of food available to martins.”

With each piece of the puzzle in place, more opportunities emerge for collaborative conservation of purple martins, and other aerial insectivores. Given the mammoth effort this bird expends traversing

the continents every year, Fraser hopes Canada will play an important role in ensuring great explorers, like Marco and Amelia, fly safely into the future. 🐦

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Amelia's 2012/13 Flight Plan MAP: © K. FRASER AND M. PEARMAN