



Sara R. Morris, PhD, professor of biology and director of environmental science, holds a Rose-breasted Grosbeak in her wooded, six and a half-acre backyard.



bird's-eye view

Sara R. Morris, PhD, uses her passion for birds to teach students about science and help them develop an appreciation of nature.

Story by Kristin E. Etu '91 • Photos by Eric Frick

Bird watching is a truly spiritual experience for **Sara R. Morris, PhD**.

"I have had some amazing opportunities to sit quietly alone on an island, and just watch birds interact and fly," says Morris. "*When I take in all of the beauty, it is a clear sign to me that a higher power exists.*"

Morris became fascinated with birds when she was just seven years old. Her step-father received a bird book as a Christmas gift but it was Morris who first opened it. Before long, she memorized every species in the book and declared to her mother that she wanted to be an ornithologist. Now a professor of biology and director of the Canisius College Environmental Science Program, Morris shares her passion for the tiny creatures, which she refers to as "miraculous."

"*I am in awe of everything they do,*" says Morris. "Most birds I work with weigh less than one-half of an ounce, yet they fly thousands of miles every year, sometimes non-stop for 80 hours. Even a marathon runner in top condition can only keep up an endurance pace for a short period of time."

Morris' research focus is bird migration, specifically stopover ecology. Birds use stopover sites during migration to rapidly replenish their depleted fat, wait for favorable flying conditions and to avoid predators. The availability of suitable stopover sites is integral to the survival of certain species. Morris explains that research in this area is necessary to monitor avian influenza and to learn how birds carry lime disease. She conducts much of her research at Canisius but the vast outdoors serves as Morris' real lab, as well as her classroom.

"*If the weather is good, I'll tell my students, 'Grab your binoculars' and we'll head across Main Street to Forest Lawn Cemetery to bird watch,*" says Morris.

The Georgia native notes that Western New York is an ideal location to study birds. More than 300 species call the area home although some of the most colorful varieties arrive in summer. Morris' personal favorites include the Baltimore Oriole, the Rose-breasted Grosbeak, the American Goldfinch and the Ruby-throated Hummingbird.

Her students, who are both biology and non-biology majors, are required to recognize up to 20 bird species by sound and 100 by sight. Morris introduces them to the different species through bird-watching visits to the Iroquois National Wildlife Refuge, Bird Island and Tift Nature Farm Preserve. The sights are as thrilling for the students as they are for Morris.

"I recall one instance at Tift Farm when Dr. Morris spotted a particular bird," says **Bethany K. Stephan '09**, an environmental science major. "Even though she had probably seen it 100 times before, she was as excited as if it were her first time. Dr. Morris made sure that each of us saw the bird and then she explained a bit about it."

A Peter Canisius Distinguished Teaching Professorship provides Morris with the resources to take students beyond Western New York to study birds and other vertebrates. They travel to such places as Fort Myers, FL, Ecuador, and the Galapagos Islands, located approximately 500 miles off the coast of Ecuador. The Galapagos Islands are significant, explains Morris, because it is where Charles Darwin began to develop his idea of natural selection.

"The islands are inhabited by Darwin's Finches, a group of 13 species that demonstrate adaptive radiation," says Morris. "Adaptive radiation occurs when a single species gives rise to multiple species as a result of natural selection in different environments." And because the Galapagos Islands are so remote, adds Morris, "*The animals have not developed a fear of humans and in fact are curious about people. They often come very close to the students.*"

Morris' coursework, which includes ornithology and biology of birds, is further augmented by her partnership with the Buffalo Museum of Science. A research associate at the museum, Morris is also a guest lecturer on ornithology and recommends similar experts to speak at the museum, as well.

"*Sara is a wonderful asset to the museum and brings to us vast knowledge of the region and ornithology,*" says John R. Grehan, PhD, director of science for the Buffalo Museum of Science.



In spring 2008, Morris and 14 students traveled to the Galapagos Islands approximately 500 miles off the coast of Ecuador. Each conducted a research project related to birds or vertebrates. Morris' colleague, Julie Ellis, PhD, SEANET Program Director at the Cummings School of Veterinary Medicine at Tufts University, also took the trip.

Morris' work relationship with the museum also provides her Canisius students with full access to specimens from its collection for research. In return, Morris' students share their knowledge and experiences with museum patrons. Most recently, students participated in the museum's Lillian Fairchild Travel Talk, during which they gave a presentation about their spring trip to the Galapagos Islands.

"Sara is a masterful teacher," says **Susan M. Aronica, PhD**, associate professor of biology and chair of the department. "Her students receive a serious appreciation of the natural world around them. At the same time, she shows students what an appropriate control for a study is, how to test a hypothesis and how to think critically."

Morris works particularly close with a select group of biology and environmental science majors, who assist in her bird migration research and bird banding projects.

"Bird banding helps researchers determine how far birds travel, how long they live, where they nest and winter, and whether species' populations rise or fall," says Morris.

She explains that to band a bird, researchers must first catch the bird in a safe netting that is suspended between two poles in the ground. An aluminum band with a numeric identification code is placed around the bird's leg and the bird is then released back into the wild. If it is recaptured at a migration station, researchers are able to enter the numeric code into the North American bird banding database and access such information as the particular bird species, its weight and the bird bander. The database may also indicate the bird's migratory route, if it has been previously caught.

Each summer, Morris' research team travels to Appledore Island Migration Banding Station in Maine, where she is coordinator of bird banding. Her students learn how to carefully handle birds and help collect data that the team will use in later studies.

"When I joined Dr. Morris' research lab, I had little interest in birds," recalls **Maura F. Hanna '08**, a biology graduate. "Now I am constantly aware of and able to point out different species."

Hanna will attend school at the University of New England College of Osteopathic Medicine in the fall but proudly proclaims that she is one of Morris' many bird-watching converts. The group actually refers to it itself as 'The Bird Nerds' and that's okay with Morris. She knows it's rare for students to pursue careers in ornithology. In fact, only one of her students has done so in the past 12 years.

Like Hanna, the majority of Canisius biology graduates go on to attend medical, dental or veterinary schools. But what Morris does hope to pass on to students is a life-long love of the creatures. Given the number of former students who contact Morris to report various bird sightings, it seems many have already found fascination with these wondrous animals.

"Years from now, when my students set out bird feeders in their backyards and teach their children about nature, I hope that they will look back on my classes and be glad that they had this opportunity," says Morris.

And perhaps, as time goes on, they will not only appreciate the birds but also all of what nature has to offer.

"It is not just the little pieces of nature that are so remarkable to me but the whole package," says Morris. "There are so many magnificent things in our environment and birds are one of the easiest things for people to see." ■



The Sparkling Violetear, a hummingbird species, was among the exotic birds Morris and her students observed in the cloud forests of mainland Ecuador.

Sara Morris' Bird Watching for Beginners

- **What You Need:** Binoculars and a good bird book. Morris recommends: *The Kaufman Field Guide to Birds of North America*.
- **When to Watch:** Birds are most active in the morning.
- **Where to Watch (in WNY):** Forest Lawn Cemetery, Tiff Farm Preserve, Iroquois National Wildlife Refuge
- **What to Feed Birds:**
 - Black Oil Sunflower Seed - Attracts many species all year long
 - Sugar Water (four parts water; one part sugar) - Attracts Hummingbirds and sometimes Orioles
 - Suet - Attracts Woodpeckers and Nuthatches (especially in the winter)
- **More Information:** www.birds.cornell.edu

