

Six Fascinating Facts About Migratory Birds

More than 200 species of neotropical migratory birds nest in North America. These birds breed north of the Tropic of Cancer during the North American summer and spend the North American winter in Mexico, Central America, South America or the Caribbean islands.

Prior to migration, birds transform themselves into "super birds." The secret is eating, eating and more eating. A bird can accumulate fat reserves up to 50% of body weight in preparation for departure. The blackpoll warbler (*Dendroica striata*) does not eat candy bars, but a candy bar containing 14 grams of fat has 1½ times the energy needed to fuel this bird's flight from the northeastern United States, over Barbados and on to South America.

Most migrant birds have longer, more pointed wings than non-migratory birds. This "pointed-edge" design helps to reduce air resistance during prolonged flights.

Ninety percent of birds fly an average of 25-70 kilometres per hour during migration. The flight speed depends on the species of bird; for example, songbirds fly at 15-50 km/hr and waterfowl at 50-80 km/hr. Tailwinds blowing in a bird's direction of flight increase air speed, while headwinds decrease air speed.

Most migrating birds fly at an altitude of 150-4,000 metres. Like airline pilots, birds choose a flight altitude based on the best wind conditions. A high-flying duck holds the record (posthumously) for the highest flight altitude for a bird in North America. It collided with an airplane at 6,400 metres.

A built-in compass helps birds to navigate during migration. In addition to the sun, the stars and earth-based landmarks, a migratory bird's brain contains microscopic crystals of magnetite, an iron-based mineral. The ancient Chinese used magnetite to make the world's first compasses. This mineral enables birds to create a mental map of the flight route.

Amazing Migrants

A Feathered Gallery of Restless Visitors

Each species of migratory bird seen in the Caribbean islands has a special "claim to fame" in the avian world.

The semipalmated sandpiper (*Calidris pusilla*) is an aerial showoff. In flight, a flock of migrating sandpipers is a spectacular sight. "Their flight is swift and well sustained," wrote a 19th century, Caribbean-born naturalist, "and when alarmed or previous to alighting their evolutions through the air are pleasing to the beholder." The highly synchronized flock can quickly change direction during flight, resembling an aerial school of fish maneuvering with military precision.

Bob-o'-link! The bobolink (*Dolichonyx oryzivorus*) holds the long-distance flight record for a transcontinental migration by a *songbird*, from southern Canada and the northern United States, across the Caribbean Sea and islands to the pampas (native grasslands) of Brazil and Argentina. The male's call is the bird's name, as described in a 19th century poem: *Bob-o'-link, bob-o'-link, spink, spank, spink.*

The greater yellowlegs (*Tringa melanoleuca*) is a *stop-and-go traveler* while migrating. It flies a few hundred kilometres, rests and travels again. It likes to fly in tight groups at low altitudes. On the ground, it has a high-stepping gait and often runs with neck extended.

Most migratory birds travel in *flocks*, a common English-language bird word, but the broad-winged hawk (*Buteo platypterus*) migrates in *kettles*. As these hawks soar on high-altitude thermal currents, their swirling or "boiling"

flight behavior is called *kettling* -- it resembles bubbles boiling in a teakettle. According to another *kettle*-name theory, the hawks' in-flight swirling is similar to chopped vegetables (carrots, some say) bobbing in a kettle of boiling soup. Most broad-winged hawks in the Caribbean islands are year-round residents, but migrants from North America supplement local birds.

Lastly, the green-winged teal's claim to fame is truly special. It is the only known species of migrating duck that scratches while in flight. This beautiful (and itchy) duck, *Anas crecca*, also scratches while feeding and resting at Graeme Hall Nature Sanctuary.

Birds as Art

Audubon's Migrant Masterpieces

The Caribbean-born John James Audubon, a 19th century wildlife artist, drew many North American birds that visit Graeme Hall Nature Sanctuary as seasonal migrants and non-breeding residents. Astonishingly, Audubon painted these birds life-sized. The engraved, hand-colored prints appear in his multi-volume *Birds of America*, published in London, England, between 1827 and 1838. It is the largest, and finest, collection of bird illustrations ever printed. Today, these superb prints are among the most widely reproduced images in the history of Western art.

Born in Haiti, Audubon lived in France, then moved to the United States, where he perfected his artistic talent for drawing birds in a natural environment. He paints the American wigeon (*Anas americana*) standing on a rock surrounded by water, the *grand chevalier* or greater yellowlegs (*Tringa melanoleuca*) in winter plumage beside a riverbank near farm houses and the stilt sandpiper (*Calidris himantopus*) by beach and sea. All are depicted in their native habitat in the United States.

Audubon's great blue heron (*Ardea herodias*) is an elegant print depicting the bird feeding on a mud bank by water with grasses. "This heron," writes Audubon admiringly, "is always graceful, so carefully does he place his foot on the moist ground, cautiously suspending it for a while at each step of his progress." Beside standing on a moist mud bank, as drawn by Audubon, this fisher-bird has two in-water fishing motions: *standing* in shallow water and patiently awaiting fish to swim pass and *walking slowly*, carefully treading its way through the water with outstretched neck.

"There is nothing perfect but primitiveness," writes Audubon about his avian artwork. "My efforts at copying nature, like all other things attempted by us poor mortals, fall far short of the originals."

Eskimo Curlew

Columbus's Vanished Shorebird

In October 1492, flocks of southward-migrating Eskimo curlews ("a river of birds") over-flew Christopher Columbus's three "lost" ships. Guided by the curlews to an island landfall in the Bahamas, the Italian-born explorer claimed discovery for Spain of the fabulous New World, including its land, people and birds.

Today, the Eskimo curlew (*Numenius borealis*) is missing from the Graeme Hall Nature Sanctuary's checklist of migrant shorebirds. Because of over hunting in the United States in the 19th century, nowadays the Eskimo curlew is almost extinct. In 1963, on Barbados, a hunter shot a lone Eskimo curlew, the Caribbean's last documented specimen of this historic bird.

A close relative of Graeme Hall's whimbrel, the migrant *Numenius phaeopus*, the Eskimo curlew annually migrated between summer breeding grounds in the Arctic and the pampas grasslands of South America. En route, some birds paused in Barbados to dine on seashore snacks. In the 19th century, enormous numbers were shot during the north-south migration. In 1863, on Nantucket Island in the United States, more than 7,000 were shot in one day. The New England bird-shooters nicknamed the Eskimo curlew the "dough bird" because of the large quantities of fat stored in its body prior to the southerly flight.

This bird, once a proud flier of the Arctic, Caribbean and South American skies, is a sad example of how human ignorance and greed can nearly exterminated a once-thriving species of bird. As the Eskimo curlew has not recovered in numbers since hunting was prohibited, present-day loss of habitat is probably a major factor in the bird's continuing decline.

Avian Fallout

The Dangerous World of Migratory Birds

Like any great journey over land and sea, the annual southward flight of North American migratory birds is a dangerous trip, from start to finish. As birds migrate southward from Canada and the United States prior to the northern winter, their aerial voyage to their tropical range in the Caribbean islands or in South America is filled with manmade and natural hazards.

Large numbers of migratory birds die each year in collisions with human-made structures. In the United States and Canada, Caribbean-bound birds collide with tall buildings and towering power lines. The high-rise towers for television stations and telecommunication networks create navigational obstacles as well as deadly impact zones. In addition, birds may be shot while in flight by hunters or struck by automobiles while resting.

Even Mother Nature can be unkind to migrating birds. Foul weather can disorientate birds or blow them far out to sea, a death sentence if land can not be reached. Avian botulism, a disease of birds caused by a toxic germ, can kill waterfowl, such as ducks, in flyway staging sites in the United States and Canada.

However, the greatest danger to migratory birds is loss and degradation of "stopover" habitats. Stopover sites, such as the Graeme Hall Ramsar Wetland and the Nature Sanctuary, serve as resting and refueling stations for birds en route to South America and island homes for those "wintering" in the Caribbean islands. They are emergency landfalls for migrating flocks that encounter foul weather. They are welcome refuges for birds physically unable to complete the South American flight. The deforestation of stopover sites and stopover-site pollution by pesticides, sewage and other pollutants is harmful to all migrating birds.

What you can do:

- Do not shoot migratory birds.
- Support reforestation programs that benefit migratory birds by "greening" their over-land flyways and stopover sites.
- Educate yourself about the harmful effects of pesticides and what alternative pest-control methods are available.
- Plant a tree or shrub.
- Let government officials know your views about protection of birds and their wild habitats.
- Support organizations devoted to protecting existing migratory-bird habitats, and organizations devoted to establishing new habitats for migratory birds.