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Birds on the Move

Rufous Hummingbird

On an early-fall day in the foothills of the Rocky Mountains, a tiny copper-colored bird zooms around a backyard garden, attracted by the nectar-filled flowers growing there. It's a Rufous Hummingbird, pausing to refuel on its annual journey south from Alaska to Mexico—a trip of almost 4,000 miles.

Every year billions of birds migrate north in the spring and south in the fall. For some, it's a relatively short trip. Others travel thousands of miles, sometimes flying for days without landing. Not all birds migrate, but for those that do, it's a challenging and often dangerous journey.

Migratory birds come in all shapes and sizes, from shorebirds and seabirds to raptors, songbirds, and hummingbirds. They eat different foods and live in different places. Birds migrate to take advantage of warm weather and enjoy a good supply of food to feed their families. How do they know when to travel, where to go, and how to get there? Bird migration is a fascinating story that scientists have been studying for many years. Get ready for an Audubon adventure into the lives of migrating birds!

HOPE'S LONG JOURNEY

This map shows the migration journeys of a Whimbrel that scientists have named "Hope." Whimbrels are shorebirds that live in many parts of the world. Thanks to a tiny solar-powered transmitter attached to one of Hope's legs, scientists were able to track her migration in 2009 and 2010. On one part of her journey, from Southampton Island off the east coast of northern Canada to the island of St. Croix in the Caribbean, Hope flew 3,500 miles without stopping.

"Mi-greats!" Amazing Migratory-Bird Facts

Arctic Terns hold the record for the longest migration among birds, traveling between the Arctic tundra and Antarctica. The longest trip was recorded at almost 60,000 miles in one year.

The Ruby-throated Hummingbird is only about 3.5 inches long. Its eggs are the size of a pea! Yet this tiny bird can fly nearly 600 miles nonstop across the Gulf of Mexico—a journey of about 20 hours.

Millions of raptors migrate to Central and South America in the fall. This includes as many as 845,000 **Swainson's Hawks**.

Wood Thrushes raise their young in the forests of the eastern United States. They migrate between the U.S. and Central America, flying nonstop across the Gulf of Mexico.

Difficult and Dangerous, But Worth the Trip

Migration is very hard work, but the work has big benefits, such as food—lots of it! Many birds that migrate north in spring arrive just as huge numbers of insects are hatching. It's a buggy banquet full of protein for both hungry arriving adults and the young birds soon to be hatched. Growing chicks especially need lots of insect protein to grow big and strong. Spring also brings new seeds, fruits, and nectar-filled flowers. Thanks to all this food, many migratory birds raise more young than birds that stay in warm places all year long.

Migration is also dangerous. Storms can kill birds or send them off course. Many migrating birds crash into windows and brightly lit tall buildings.

One of the biggest problems for any migrating bird is the loss of habitat. Birds need healthy habitats everywhere they spend time throughout the year. That includes the places they nest and raise their young, the places they spend the winter, and the places they stop along their migratory journeys to rest and feed. They need wild unbuilt places like woods, beaches, grasslands, and wetlands. When natural areas are replaced by roads, homes, shopping centers, farms, and other human-made structures, there is less of the healthy habitat birds need throughout the year. A healthy habitat is also a place where there are plenty of native plants—the kinds of plants that grow naturally in a particular area. Those plants provide more nutritious fruit and host many more insects than plants that are from other places. When people replace native plants with nonnative plants, the amount of the right kind of food available to birds is reduced.

These young people are helping to protect natural habitat for birds that feed, nest, and rest here.

Many people want to help migratory birds. In all kinds of communities, people are planting native plants that provide food and places for hummingbirds and songbirds to nest and rest. They are working to protect grasslands for the hawks that hunt there and other birds that nest there. Beaches, wetlands, and bodies of water are being cleaned and protected to provide healthy habitats for shorebirds, wading birds, and swimming birds like ducks and geese.

How Do Birds Find Their Way?

Migratory birds don't have navigation systems like airplane pilots do to tell them when to turn. They must use other clues to help them find their way. First, they need to know where they are and which direction is the correct way to go. This is called orientation. Next, they need to follow the correct route. This is called navigation. Scientists have learned a lot about how birds orient themselves and navigate.

Instinct: A bird is born with built-in knowledge called instinct. Some species instinctively know where to go when they migrate.

Experience: A bird learns more about its migration route every time it migrates. Some species learn routes by traveling with their parents.

Smell: Some birds may use their sense of smell as a clue when they are getting close to their destination.

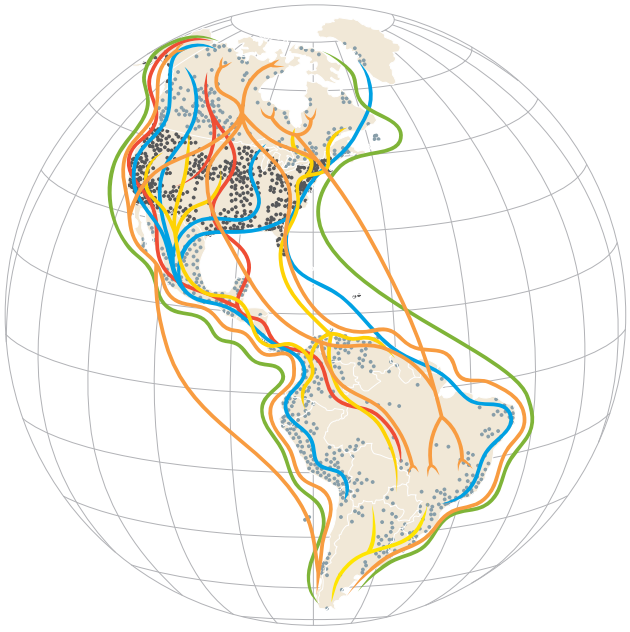
Sound: Birds may use the sound of waves on coastlines and winds flowing over mountains as guides.

Landmarks: Mountains, rivers, and other large landmarks help point the way for birds.

Sense of timing: Birds may have a built-in "program" in their brains that instinctively causes them to fly for a certain amount of time in a certain direction before changing course or stopping to rest.

The sun and stars: Many birds use the sun's position and patterns of sunlight during the day and patterns of stars at night to orient themselves.

Magnetism: Birds can sense Earth's magnetic field and use it as a compass.



How to Welcome Migrating Birds

No matter where you live, birds that migrate are in your neighborhood at some point during the year. Some are just passing through, while others are there for a season or two. This map shows some of the routes different kinds of birds take through North and South America each year.

To help all birds, whether they are in your neighborhood year-round, part of the year, or briefly as they migrate to another place:

- Grow native plants to provide fruit, seeds, and protein-rich insects and nesting and resting places for birds. By typing your zip code into Audubon's online database at audubon.org/native-plants, you'll discover plants for your area that will attract all kinds of birds.
- Make your yard or schoolyard bird-friendly with these do-it-yourself projects: provide a birdbath as a source of clean water, put up bird feeders, and place decals on the outside of windows to help prevent bird-window crashes. You'll find instructions for these projects at audubonadventures.org/TakeAction.htm.
- If you go to the beach, don't litter, and be careful not to disturb shorebirds that might be nesting there.
- Switch to reusable grocery bags and refillable water bottles instead of throw-away plastic ones. A lot of plastic ends up in the ocean or other bodies of water and birds mistake it for food.
- At night, close curtains and blinds so lights inside don't confuse birds that are flying by your home.
- Keep cats indoors, because cats are very good at catching and killing large numbers of birds.

Climate Change Is Changing Migration

Science has shown that climate change is affecting birds because it is changing birds' habitats, the weather conditions birds face, and the food sources available to them during migration. A warming climate alters the life cycles of plants and insects that migrating birds depend on for food wherever they are. It stirs up more severe storms that can kill migrating birds or throw them off course. A big study by Audubon found that more than half of the bird species in the United States and Canada could be in trouble. But there's hope because there's much we can do right now to protect the birds we love. The most important thing is to take action. When our individual actions are added together, we can make a big difference.

Make Yourself Count!

People everywhere are measuring, counting, and watching birds—and most of them aren't professional scientists! They're called "community scientists" or "citizen scientists"—people who volunteer to collect information that can be used in scientific studies.

See if one of these projects is right for you!

Submit bird sightings to **eBird** year round.

Get out and count birds twice a year as part of Audubon's **Great Backyard Bird Count** and **Christmas Bird Count.**

Identify and count birds at a home feeder or at school for Cornell Lab of Ornithology's **FeederWatch.**

Live in a city? Try **Celebrate Urban Birds.** Volunteers watch birds in an area about half the size of a basketball court for 10 minutes and then report their data online.

You can get more information about all of these projects at audubonadventures.org/TakeAction.htm.

The Birds Next Door

No matter where you live, you can find birds. They may be birds that live there year round or for a season, or birds that just visit during migration. Go on a bird search in your neighborhood, your schoolyard, or a park. See if you can find everything on this checklist. (Don't see any birds? Listen hard—maybe you can hear them!)

Can you ...

find a bird about the size of a mouse?
☐ **YES** ☐ **NO**

find a bird about the size of your shoe?
☐ **YES** ☐ **NO**

find a bird as big as a chicken—or bigger?
☐ **YES** ☐ **NO**

find a bird that's flying?
☐ **YES** ☐ **NO**

find a bird that has a white chest?
☐ **YES** ☐ **NO**

find a bird that has some red feathers?
☐ **YES** ☐ **NO**

find a bird that has some yellow feathers?
☐ **YES** ☐ **NO**

find a feather on the ground?
☐ **YES** ☐ **NO**

find an insect (a favorite bird food)?
☐ **YES** ☐ **NO**

find a place where a bird can sip water (a fountain, a puddle, a pond, a birdbath)?
☐ **YES** ☐ **NO**

find a bird feeder hung on a branch, a pole, or a window ledge?
☐ **YES** ☐ **NO**

If you hear a bird, try writing what it sounds like here:

_____

_____

_____

_____

Lights Out, Please!

Most birds migrate at night, when temperatures are cooler, the air is calmer, and it's easier to avoid predators. Birds also use the moon and stars to navigate

But there's a modern-day problem for night-flying birds: brightly lit buildings. Birds confused by lights can crash into windows or circle buildings until they're exhausted.

Every year, more than 100 million birds die from hitting windows. Lights Out urges cities to dim or turn off lights at night during spring and fall migration. Since 1995 Chicago has saved more than 210,000 birds' lives this way. New York City, Charlotte, North Carolina, and many other large and small cities across the U.S. are now clicking off the lights.

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