

The Biology of Migration

By Celeste Silling

Migration allows birds to reach areas with more or better resources. In the Northern hemisphere, birds tend to migrate north in the spring, moving towards blooming plants, burgeoning prey populations, and preferable nesting locations. Then in the fall they make their ways Southward again

to reach warmer climates and more food. Birds can travel thousands of miles to reach these locations and the journeys can be not only taxing and stressful, but also very dangerous.

Migration is a phenomenon that humans are still baffled

by. Researchers are learning more and more about it, but there is still a great deal that we don't know. Birds can fly the same route for years with little to no changes from the course. Some juvenile birds can migrate alone and find their winter grounds and then nesting grounds without ever observing other adults doing the same. So how do these creatures find their way?

Several migratory navigation methods have been discovered and each one seems to be stranger than the last. Birds often use landmarks to recognize where they are and where they should go. Some birds can judge which direction to go using the sun, stars, and moon. Pigeons use smells. Some songbirds see polarized sunlight. Other birds use a magnetic mineral called magnetite that is embedded in tissue above their beaks to feel magnetic fields. There might be even more senses at play when it comes to navigation.

The routes that the birds take are interesting in themselves. Waterfowl, cranes, and many other species take specific pathways each time they migrate. It is thought that this is because they can stop at preferred locations along the way for food and rest. Other birds take a more direct approach, following a direction more than a pathway. Studies have shown that some birds take different routes in the spring and fall, following seasonal bumps in resources.

Some birds, like whooping cranes, need to learn their way from others of their species. Young birds can get lost on their first few trips and need to observe their elders. Occasionally, if a bird gets lost, it can retrace its steps (or flaps) and find its way back to the path. Pigeons are particularly good at this.

Even the most experienced birds can get lost or die sometimes when there are unexpected changes along the path. The loss of landmarks or gaining of new landmarks can be confusing. Weather conditions



Photo Caption: The Blackpoll Warbler flies nonstop for nearly 1,800 miles during its fall migrations from Canada to South America.

Photo Credit: Mike Williams

can blow them off track or make the going rougher. Absence of prey can cause birds to stray from their normal paths to find more resources. Plus, there are always vigilant predators present during migrations season.

Now there are even more obstacles to migration as we construct buildings and other structures. Some species of birds are attracted to light and can be led astray by lighthouses, cell towers or lights in tall buildings. Wind turbines are another hazard, as birds are hit by the moving spokes. Even resting in some areas can be dangerous with house cats on the prowl and cars driving on the beaches.

The next time you see a flock of birds pass over head, take a moment to appreciate this amazing phenomenon!