



Reading Handout: Globetrotters of the Bird World

Each year millions of birds fly thousands of miles, stay for sometimes only 6 weeks, and then begin the journey back again. **Migration** is a behavioral adaptation that boosts a bird's chances of both survival and successful reproduction. However, migration presents many risks. Headwinds and storms, unseasonal temperatures, disease and **predators** (especially cats) are all natural hazards faced along the way.

Human-made dangers include automobiles, trains, airplanes, power lines, high buildings, and windows. On a larger scale, the development of roads, buildings, new communities contribute to the **fragmentation** (cutting up) and loss of natural habitat.

Birds are supremely adapted for migration. Some species migrate further than others, but size is not necessarily an indication of how far a bird will travel (e.g. the tiny hummingbird migrates farther each year than many larger birds). Physical adaptations for flying long distances include long pointed wings, large lungs and heart, air sacs, large chest muscles, hollow lightweight bones and a streamlined body shape.

Bird feathering is also related to different migratory strategies. Some birds that migrate long distances, **molt** their flight feathers each year and grow fresh ones to maximize flight efficiency. Birds that migrate shorter distances may molt their flight feathers slowly over several years and use remaining energy for other purposes.

Birds often migrate at night, which reduces the chances of overheating, dehydration and predator attack, and allows for use of favorable winds. To some degree migrating in a **flock** protects individual birds from predators, and formation flying reduces energy loss. They migrate in a community and then disperse. Birds must also feast before migration on berries or insects and other high-energy foods to build-up fat reserves for the journey ahead. How birds navigate during long migratory journeys is not completely clear. It is believed that they find their way using a combination of methods: position of the sun and stars, Earth's magnetic field, and natural landmarks such as mountains and habitat areas.

To avoid the stresses of migration, some bird species (e.g. American robin) have adapted to the point where they keep long distance travel to a minimum and do not migrate each year (depending mostly on weather and the availability of food).

We can all do our part to help migrating birds. Since migration requires large amounts of energy, and birds must be able to find adequate food and safe areas to rest, we must focus on protecting their natural habitats. Community **conservation** programs, wildlife refuges, wilderness clean-up initiatives and public education are just a few of the positive factors that can enhance migration success.