12.25: Bird Ecology

Where do birds live?

Practically anywhere they want. From some of the coldest regions on the planet to the warmest. Look at these penguins and where they live. Would you want to live there?

Ecology of Birds

Birds live and breed in most terrestrial habitats on all seven continents, from the Arctic to Antarctica. Because they are endothermic, birds can live in a wider range of climates than reptiles or amphibians, although the greatest diversity of birds occurs in tropical regions. Birds are important members of every ecosystem in which they live, occupying a wide range of ecological positions.
Bird Diets

Some birds are generalists. A generalist is an organism that can eat many different types of food. Other birds are highly specialized in their food needs and can eat just one type of food.

Raptors such as hawks and owls are carnivores. They hunt and eat mammals and other birds. Vultures are scavengers. They eat the remains of dead animals, such as roadkill. Aquatic birds generally eat fish or water plants. Perching birds may eat insects, fruit, honey, or nectar. Many fruit-eating birds play a key role in seed dispersal, and some nectar-feeding birds are important pollinators.

Bird beaks are generally adapted for the food they eat. For example, the sharp, hooked beak of a raptor is well suited for killing and tearing apart prey. The long beak of the hummingbird in Figure below co-evolved with the tube-shaped flowers from which it sips nectar.

Hummingbird Sipping Nectar. A hummingbird gets nectar from flowers and pollinates the flowers in return. What type of relationship exists between the bird and the flowering plant?

Birds at Risk

Hundreds of species of birds have gone extinct as a result of human actions. A well-known example is the passenger pigeon. It was once the most common bird in North America, but overhunting and habitat destruction led to its extinction in the 1800s. Habitat destruction and use of the pesticide DDT explain the recent extinction of the dusky seaside sparrow. This native Florida bird was declared extinct in 1990.

Today, some 1,200 species of birds are threatened with extinction by human actions. Humans need to take steps to protect this precious and important natural resource. What can you do to help?

The Golden Eagle

Although not as famous as its bald cousin, Golden Eagles are much easier to find in Northern California - one of the largest breeding populations for Golden Eagles. The largest of the raptors, Golden Eagles weigh typically between 8 and 12 pounds, and their wing span is around 6 to 7 feet. These eagles dive towards earth to catch prey, and can reach speeds of up to 200 mph!
The Great Horned Owl

Owls are amazing creatures. They have many adaptations that allow them to thrive in their environments. Their claws are enormous and powerful, they have excellent hearing, and fantastic vision in low light. And the Great Horned Owl can fly almost silently due to “fringes” on their feathers that help to break up the sound of air passing over their wings.

Summary

• Birds live and breed in most terrestrial habitats on all seven continents. They occupy a wide range of ecological positions.
• Raptors are carnivores; aquatic birds eat fish or water plants; and perching birds may eat insects, fruit, honey, or nectar.
• Some birds are pollinators that co-evolved with plants.
• Human actions have caused the extinction of hundreds of species of birds, and some 1,200 species are threatened with extinction today.

Review

1. What is a generalist?
2. Why did the hummingbird pictured sipping nectar above evolve such a long, pointed beak?
3. What bird would eat insects, fruit, honey, or nectar?
4. Draw a sketch of a hypothetical bird that preys on small mammals. The bird must exhibit traits that suit it for its predatory role.