

Birds and Their Environment

How do birds shape our world?

The Value of Birds

Birds provide many vital services in the environment. They control insects and rodents, pollinate, spread seeds, provide clean-up services, and more. Although we often overlook them, the planet would be in trouble without birds.

In order to survive, birds need healthy **habitat** where they can find food, water, shelter, and nesting space. These habitats are part of a larger **ecosystem**, where living organisms (like plants and animals) and non-living things (such as water and soil) interact and exchange energy. Many organisms within ecosystems are **interdependent**, relying on each other in different ways to survive. For example, in a forest, many birds depend on trees to find food and nesting space, while trees often rely on birds to spread their seeds in order to reproduce. Different organisms living together in the same habitat create a **community**, where each species fills an important role.

The Flow of Energy

Birds must find food to survive. **Food webs** illustrate who eats whom and how organisms exchange energy. Each organism fills a **trophic level** in the web based on how it obtains energy (or food). There are five trophic levels, each with a different relationship to the sun, the main energy source for all food webs.



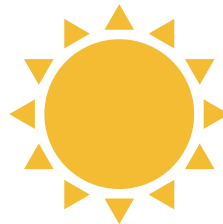
Summer Tanagers are secondary consumers. They eat insects and spiders, as well as seeds and berries.

Instructions: Read the definition of each trophic level below, and then label each organism with the correct term. Complete the food web by drawing an arrow from each organism to its energy source(s).



Oak Tree

Food webs begin with the sun, which provides the energy for plants to grow.



Turkey Vulture



Great Horned Owl



Downy Woodpecker



Mourning Dove

- **Producers** make their own food using sunlight.
- **Primary Consumers** eat plants or algae.
- **Secondary Consumers** eat primary consumers and may also consume producers.
- **Tertiary Consumers** are at the top of the food chain and have no natural predators.
- **Decomposers** feed on and break down dead or decaying matter, recycling nutrients back into environment.

Next time you're outside, pay attention to the trophic interactions around you. Energy exchange is happening everywhere!

We're All Connected

As both consumers and decomposers, birds provide important environmental services that help people and the planet. Their trophic interactions are happening everywhere, creating interdependent threads in the food web. If the population of one organism rises or falls because of environmental change, other species are also affected. Look closely at the image below and answer the following questions.



What wildlife-friendly features are pictured in this habitat?

What producers and consumers can you identify? Be as specific as possible.

What trophic interactions may be taking place? Do any of these interactions benefit people?

Consider this: How would removing one organism from a habitat affect the rest of a food web? What might happen if an invasive plant or new predator was introduced? Or if poisons are used?