

# BARN OWL PELLET LAB





## **WHAT DOES A BARN OWL LOOK LIKE?**

**White heart shaped face**

**Whitish belly with dark spots**

**Upper body golden with dark flecks**

**Dark brown eyes**

**Body Length: 15 to 21 inches; long**

**legs Wing span: 43 to 47 inches**

# HABITAT and SENSES OF THE BARN OWL

The Barn Owl is found on every continent except Antarctica. They are found in farm lands, grass lands marshes, deserts and suburbs.

Owls are nocturnal and have many adaptations that enable them to hunt at night.

A two pound owl has eyes the same size as the human eye. Both the eyes and the ears are located at the front of the head which enables excellent depth perception. The feathers around their eyes and ears are shaped to funnel light and sound to their eyes and ears more precisely. Their ears are at different heights which enable them to locate their prey with extreme accuracy. Their sense of hearing is so acute they can hear a mouse's footsteps 30 yards away flying 10 feet over the field in total darkness.



Owls along with hawks, eagles, osprey and other birds of prey are known as Raptors.

# RAPTORS

Hawks, eagles, osprey and owls are types of raptors.

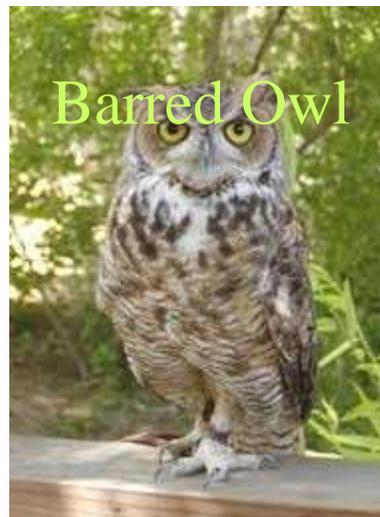
Raptors have hooked beaks and talons (sharp claws) adapted for seizing prey.



Hawks, eagles and osprey tear and swallow small pieces of flesh and avoid swallowing most fur and bones. However, owls swallow prey whole or in large pieces and have a specialized digestive system in which pellets are formed and regurgitated to dispose of the indigestible parts of their prey.



**NOTE! PELLETS ARE NOT OWL POOP!**



# DIGESTION: OWL PELLETS

A crop is a loose pouch inside the throat of most birds that stores food and allows birds to pulverize hair, bones and teeth so that they can be eliminated from the body. Owls have no crop.

The owl's stomach has two parts. The anterior part is called the proventriculus which produces enzymes, acids and mucus. The second part is called the ventriculus or gizzard which compresses the indigestible part of prey (hair, bones, teeth, feathers, etc.) The stomach muscles form the undigested parts into a wet, slimy pellet. The pellet passes into the proventriculus and remains there for up to ten hours before being regurgitated. When an owl eats more than one prey within several hours, the remains are consolidated into one pellet. New prey cannot be swallowed until the pellet is ejected. Barn owls produce one to two pellets per 24 hours.

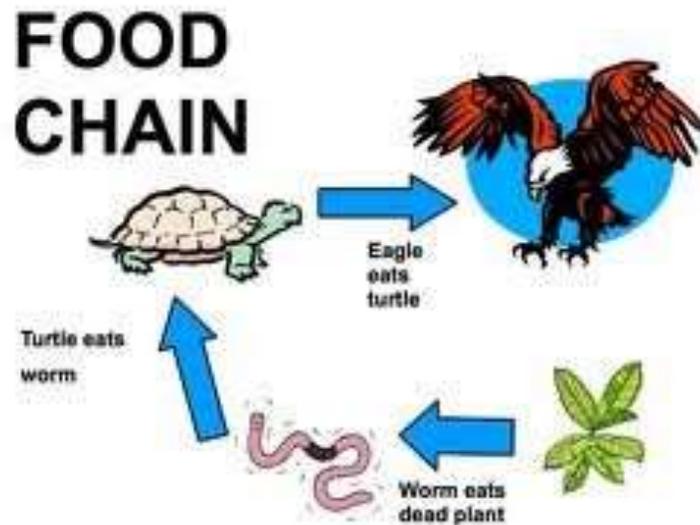
Much can be learned about an owl's diet and environment by examining its pellets. Studies of dissected owl pellets provide information about changes in feeding habits that occur from season to season as well as the different species of animals and/or plants that are found in the owl's habitat. This information allows us to see what role an owl plays in the ecosystem and how they are adapted to their niche.



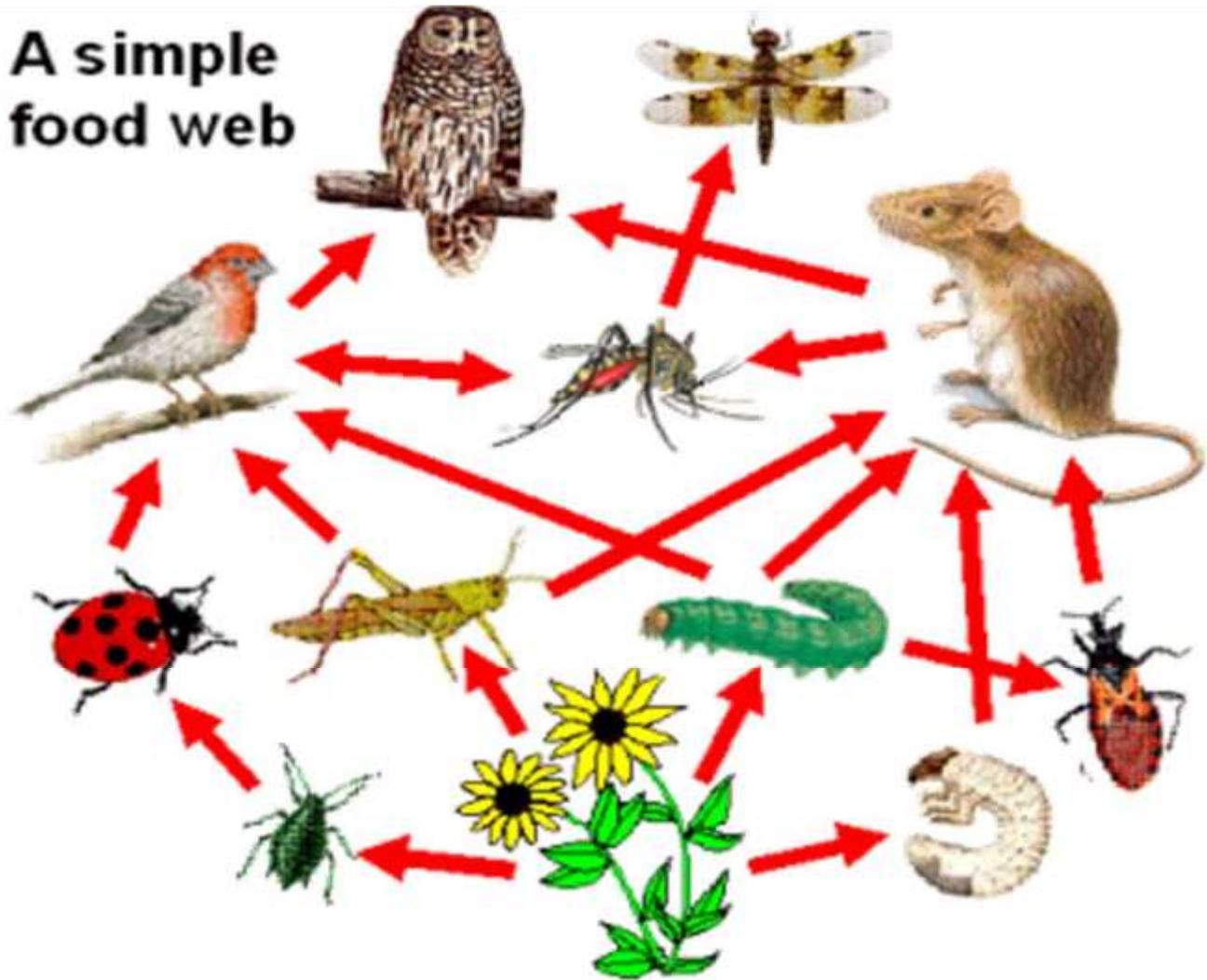
# HOW THE ENVIRONMENT IMPACTS WHAT AN OWL EATS

A **food chain** shows the relationship between *producers* (plants) and *consumers* (animals that eat the plants or that eat other animals).

Food chains only go in one direction. A food chain starts with what gets eaten and has arrows pointing towards what does the eating.



## A simple food web



Food Webs show how plants and animals are interconnected by different paths. In the wild, animals eat more than one thing and can belong to several food chains. A food web is an elaborate version of a food chain.

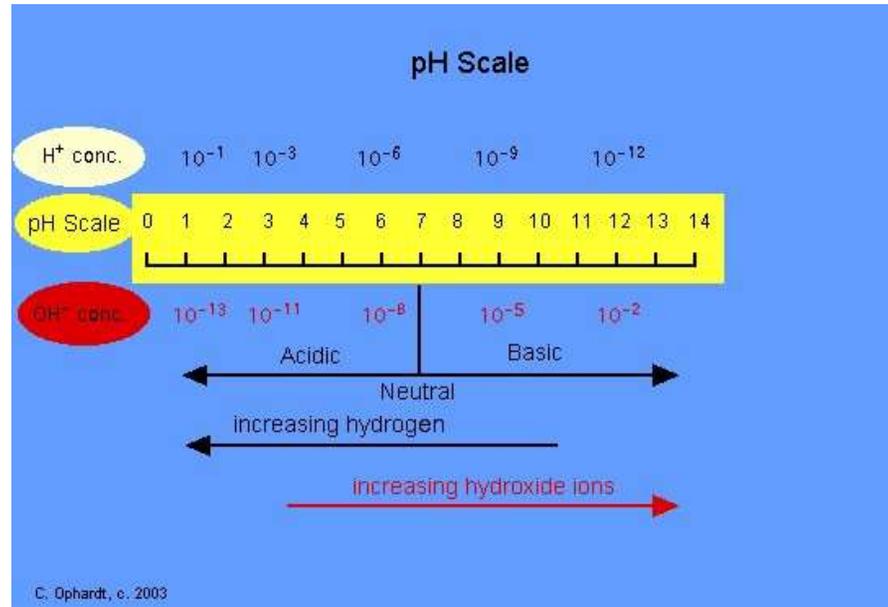
# EFFECTS of ENVIRONMENTAL POLLUTION on pH

Pollution can change a water's pH, which in turn can harm animals and plants living in the water. Not only does the pH of a stream affect organisms living in the water, a changing pH in a stream can be an indicator of increasing pollution or some other environmental factor. Excessively high and low pHs can be detrimental for the use of water and can alter the food sources available.

One quick way of determining the changing pH of water is to use pH indicator paper as seen in the picture to the right.



# POWER of the FREE HYDROGEN and HYDROXIDE IONS



pH is a measure of how acidic/basic water is. The range goes from 0 - 14, with 7 being neutral. pH numbers of less than 7 indicate acidity, whereas a pH of greater than 7 indicates a base. pH is really a measure of the relative amount of free hydrogen and hydroxide ions in the water. Water that has more free hydrogen ions is acidic, whereas water that has more free hydroxide ions is basic. Since pH can be affected by chemicals in the water, pH is an important indicator of water that is changing chemically.

In ecosystems, plants and animals are all connected. If any one part is removed, it can affect the whole ecosystem.

