

Owl Pellet Analysis

OBJECTIVES:

- o Learn about predatory bird digestion and diet.
- o Learn skeletal identification techniques.
- o To gain interesting insight into the local food web.

Owls typically swallow their prey whole or in large pieces. Bird stomachs include an anterior pouch called the proventriculus and a muscular posterior portion called the gizzard. In owls, the gizzard compresses indigestible parts of their prey (hair, bones, teeth, and feathers) into matted pellets that pass into the proventriculus where they remain until something stimulates the owl to spit them out (regurgitate).

Pellets are not exclusive to owls. Hawks and related birds of prey also regurgitate undigested remains, and so do some gulls and herons. Even some robins have been seen ejecting parts of their food.

Scientists study pellets to discover any regional, seasonal, and habitat differences in owl prey. Pellets also reveal information about the relative numbers of small animals found in an owl's feeding area.

The owl pellets used in our study will be from Barn owls, Great Horned owls, or Great Gray owls. The majority of the pellets are collected from the wild. These pellets have been autoclaved and are, therefore, sterile.

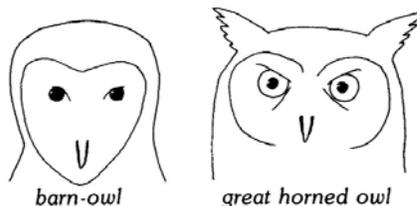
MATERIALS:

- Owl pellets (sterilized)
- Owl pellet bone charts for identification.

CAUTION: Please let me know if you suffer from asthma or have strong allergies to animal hair. The animal hair found in many owl pellets could aggravate your condition.

PROCEDURE:

1. Find a lab partner.
2. Obtain an owl pellet from your instructor.
3. Select some dissection tools and gloves.
4. Carefully dissect your pellet.



TO HAND IN
Lab 9

Name: _____

QUESTIONS:

1. How many skulls and how many different kinds of skulls did you find?
 - SKULLS-

 - DIFFERENT TYPES-

2. Record the number of each of the animals that your owl ate in forming your pellet:
 - RODENT-

 - SHREW-

 - MOLE-

 - BIRD-

 - OTHER-

3. How many other bones did you find?
 - Ribs
 - Jaws
 - Pelvis
 - Scapula
 - Humerus
 - Vertebrae
 - Other

4. What other undigested material (if any) did you find? Describe:

5. Assume that an owl forms one pellet each day and that your pellet is average. How many animals would an owl eat:

In a week?

In a month?

In a year?

6. How close did you come to finding a complete skeleton?

7. Record the class findings on the chart below and use it to construct a **WELL-LABELLED bar graph**, which describes the types of owl prey in our area. Use the 'Class Totals' for your graph. As with all graphs, remember to label the X and Y axes, AND the graph itself.

Prey Type	Your Total	Class Total
RODENT		
SHREW		
MOLE		
BIRD		
OTHER		



8. Looking at the histogram (your bar graph), what can you say about the mammal population in our area?

9. Last but not least, sketch a food web, with an owl at the top, for our area. Try to include at least two items you would expect to find in the PREY's diet, too! You may need to do an internet search, or text book search to find out what these items might be for our area (think about plants and insects!). You should also include organisms that help recycle organic nutrients (see your text book) and you may choose to include any owl predators you can think of. Please don't worry about the artistic quality of your food web (if you're 'not an artist', you should feel free to use "OWL" in place of an owl cartoon!)