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# Making Casts of Animal Tracks

**Purpose**

Direct evidence of the presence of wildlife in natural habitats is sometimes hard to come by. Wild animals do not usually enjoy the presence of people. Thus they take flight or hide at the mere sight, smell, or sound of human beings. Often, all that remains are signs that animals were present at some previous time. It requires great detective skills to find the signs and determine the identity of the animal that was there. Here are the clues that you might look for: [[1]](#endnote-1)

* Evidence that the vegetation has been used as food – twigs browsed by deer, shrubs nibbled by rabbits, and husks of acorns discarded by squirrels.
* The presence of scats (fecal material), which give – through their size, distribution, and composition – an indication of the size of the animals, the time spent in the area, the number of animals, and the nature of their feeding habits (herbivorous or carnivorous).
* Tracks, which are as good as fingerprints in determining the identity of the animal.

Browsing or feeding studies can be carried out by examining the vegetation to determine which species are being used as food and to what extent. This information is useful in managing an area for the production of larger populations of given species.

Fecal material (especially that of herbivores) can be collected in plastic bags and either dried in the laboratory or preserved in a 10% formaldehyde solution. This material can be broken apart and examined under a dissecting microscope to obtain evidence as to the type of foods being eaten.

Tracks made in mud, sand, or snow can be followed to trace some of the animal’s activities. For example, they may indicate feeding or bedding sites. Obvious trails are usually better indicators than a single set of tracks. Interspecific and intraspecific interactions can be investigated by observing the relationships between the trails of different animals using the same area. Territorial boundaries can often be estimated using tracks. Of course you must be able to identify the tracks. You may want to carry along a field guide to animal tracks. Alternatively, you can sketch or photograph the tracks and identify them later. Or you can make a permanent record of track impressions in moist clay or mud, as in this lab.

**Procedure**

 **Materials**

1. Plaster of Paris
2. Mixing container
3. Water container
4. Stirring stick
5. Cardboard strips 2 cm wide and 30-40 cm long (optional)

**Sequence of Steps**

* 1. After locating a suitable track, clear away any leaves, grass, or particles that have fallen into the impression.
	2. Make a circular wall around the print in 1 of 2 ways: Build a mud barrier by placing the mixing container over the print and packing mud around the base or make a collar from the cardboard strips.
	3. Place an appropriate amount of water (enough to nearly fill the impression and surrounding pool) in the mixing cup. Gently sprinkle in an equivalent amount of plaster of Paris.
	4. Stir the mixture. Add more plaster or water to get a thickness similar to that of pancake batter.
	5. The mixture should flow into the crevices of the print as you fill the pool.
	6. Let the cast harden for 20 minutes or more. Then loosen it from the ground. Before removing any soil, wrap it in a newspaper and store it to be returned to the lab.
	7. Let the cast dry completely. Then use a brush to remove any clinging soil particles.
	8. ![C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmf]()You are left with a model of the tip of the animal’s paw or hoof. It is, of course, a negative cast of the original print. It is a simple matter to get a positive track cast. (Hint: use petroleum jelly, soft soap, or melted paraffin to ensure separation of the positive cast from the negative cast.)
	9. Record your observations and complete conclusion questions.

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 **Observations**

1. Describe, using complete sentences, the steps you took to complete this lab. Include the location and type of print from which a cast was made. (Be clear enough so that someone could follow your steps to do this lab again.)

2. What signs did you find to indicate that an animal(s) was present in your study site?

3. What type of animal(s) do you think these signs indicated?

4. Is there any evidence that the animal(s) actually lives in your study site? If not, where might the animal(s) live?

5. How can casts be used to analyze changes in an ecosystem? Give at least one example.

1. (2008).Making Casts of Animal Tracks. *Prentice Hall, Inc.* [↑](#endnote-ref-1)