Survival and Food
Animal Food Identification 2

Background

Now that you know you *can* lure a potential food source to an area of your choosing, it is time to figure out exactly *what* you lured in and how much food it would supply.

Let's Talk Nutrition

In the end, finding food is all about finding the nutrition needed to stay alive with enough energy to either self rescue or carry on survival activities for an extended period of time. This means that what you find with your signpost is just as important as the fact something walked in there at all. The good news is that wild meat (sometimes referred to as bushmeat) is often higher in nutritional value than the meat from domesticated animals since it is both higher in vitamin content and lower in fat content. For comparison, here is some nutritional information for a 6 oz. serving size of a variety of woodland animals found in the U.S.

Species	Calories	Protein	Fat	Cholesterol	Vitamins (daily allowance)
Whitetail Deer	268	52 g	6 g	190 mg	42% Iron, 60% Riboflavin, 58% Niacin
Elk	274	46 g	2 g	134 mg	34% Iron
Mallard Duck	204	32 g	8 g	128 mg	42% Iron, 30% Riboflavin, 46% Thiamin
Canada Goose	202	48 g	24 g	162 mg	24% Iron, 36% Riboflavin, 12% Thiamin
Wild Turkey	326	52 g	2 g	110 mg	50% Iron, 10% Riboflavin
Quail	290	46 g	4 g	188 mg	44% Iron, 26% Riboflavin, 12% Thiamin
Cottontail Rabbit	294	56 g	6 g	210 mg	46% Iron, 8% Riboflavin
Gray Squirrel	294	52 g	8	206 mg	64% Iron, 28% Riboflavin, 6% Thiamin
Opossum	376	52 g	18 g	220 mg	44% Iron, 36% Riboflavin, 12% Thiamin
Raccoon	434	50 g	24 g	164 mg	68% Iron, 52% Riboflavin, 66% Thiamin, 236% B12
Black Bear	440	56 g	22 g	166 mg	102% Iron, 82% Riboflavin, 12% Thiamin
Groundhog	264	30 g	14 g	90 mg	6% Iron, 20% Riboflavin, 54% Thiamin
Snapping Turtle	150	36 g	0 g	84 mg	12% Iron, 12% Riboflavin, 12% Thiamin

Identifying A Visiting Animal

Admittedly, signs of certain animals (especially hoofed ones) is pretty straight forward in the northeastern U.S. with the white tailed deer the only common species. However, in other parts of the U.S., multiple hoofed species could easily walk through a baited area and some of them are actually quite dangerous (right). However, most of the time, identifying and especially tracking a wild animal is a learned skill and relies heavily on what trackers call "art of seeing".


A keen awareness of exactly *what* kind of animal you lured into a tracking pit would be valuable information as this feral pig in Texas demonstrates.

Because humans usually walk through an area without fear of predation or death, we tend to miss subtle details that can help us learn about where we are, where we are going, and who else might have been in a spot already. Even a casual glance at a wild animal will quickly show you that the rest of the animal world is much more acutely aware of its surroundings since death is often just around the corner. To not only recognize what animal walked through a tracking pit but also to consider how large it is, how fast it was moving and even it was suffering from an injury, we need to look harder.

Track Components

For identification of mammal prints, the print should be broken down into several components:
- Nails - Usually *not* referred to as claws
- Toes - Self explanatory
- Palm (metacarpal) Pad - The pad closest to the toes if there are two pad prints (like the ball of a human foot)
- Heel Pad - The pad closest to the rear of the foot (like the heel on a human foot)
- Negative Space - the configuration of space between parts of the print. Often used to identify a species
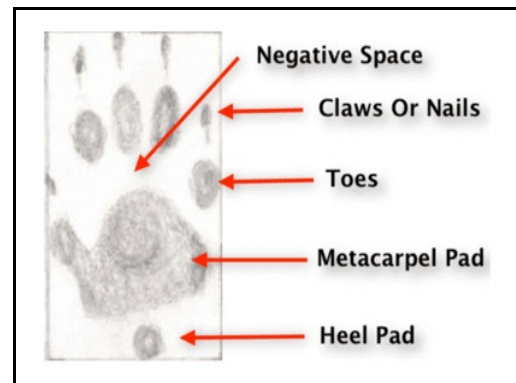
Note that some mammals (canines and felines) only have one pad print. This single print is still usually referred to as a heel pad.
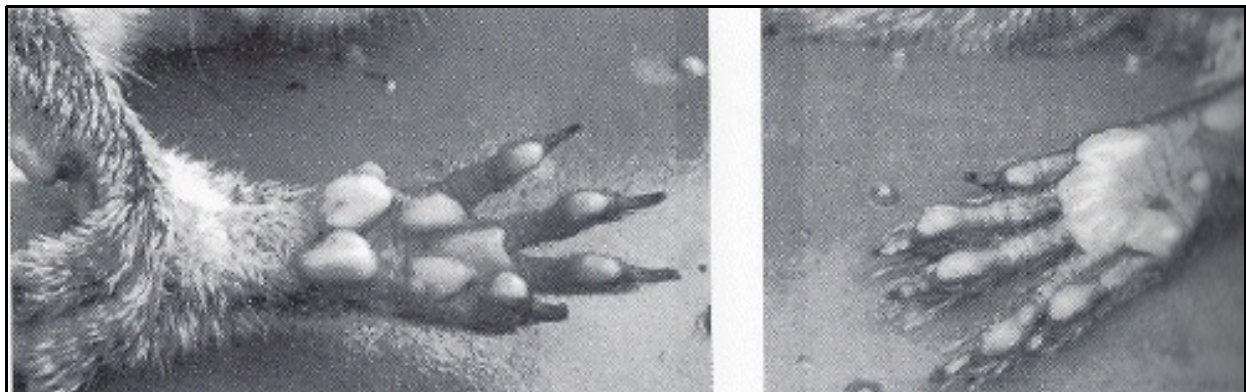

The print pattern of the grey squirrel. The front foot (left) features four long, clawed toes with three palm pads and four heel pads. Its rear foot, however, has five elongated toes with four palm pads and two heel pads. This configuration is common among rodents.

Trail Patterns

One track is useful but limited in what it can tell us about the animal that left it. However, multiple tracks (a trail) can tell us much more about not only how the animal was moving but how big it is and can even help with species identification. The first benefit of a trail is that *both* front and hind feet should leave prints which is extremely useful for identifying species. Second, it can help to determine the size of the animal.

Most animals will exhibit certain patterns of trail making based on the speed of their walk. Larger animals will have a tendency to walk when feeling safe but smaller animals like squirrels, chipmunks and rabbits may exhibit a bounding pattern. Take a look at the following trail patterns for comparison. In the diagrams below, F stands for forefoot (front) and H stands for hindfoot (rear). The bottom chart shows typical trail patterns for bounding/hopping animals
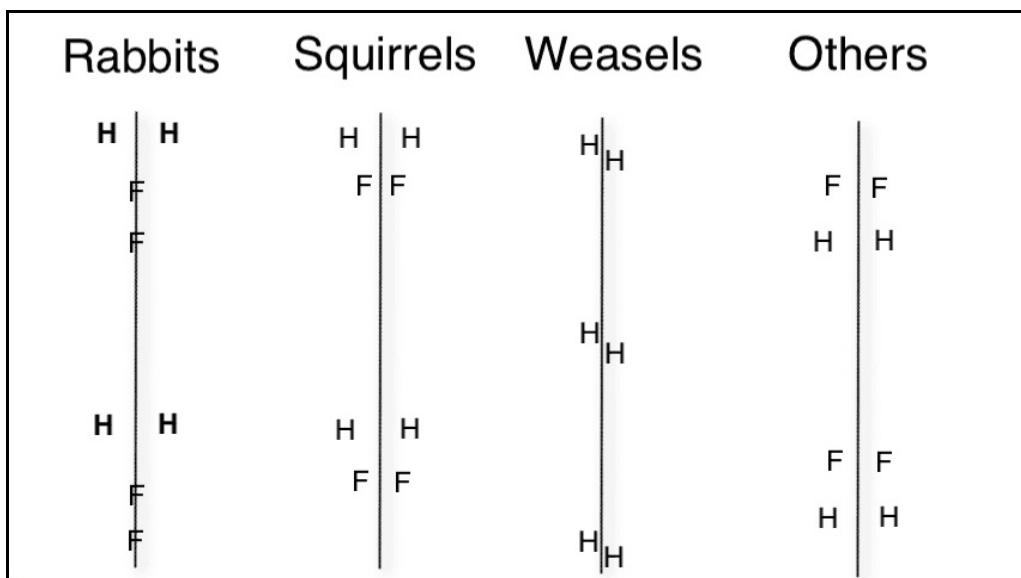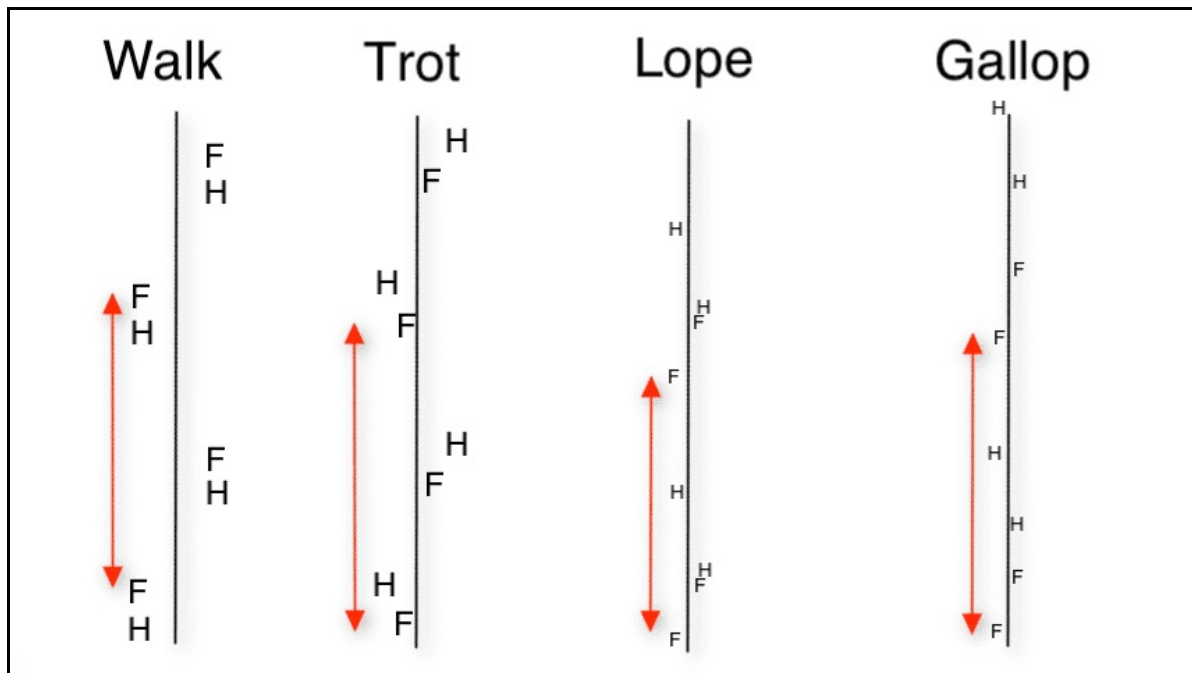
To further assist with identification, it is useful to look at both track and trail patterns together since most mammals have a preferred means of locomotion. Consider the following:

Mammal Group	Toe Pattern	Nails Visible?	Movement Style
Canines (dog, coyote, fox, wolf)	4 toes	Yes	Usu. walking but often trotting domestic dogs often show irregular patterns, symmetrical track
Felines (cat, bobcat, lynx, mountain lion)	4 toes	Usually not (retracted)	Usu. walking, asymmetrical track
Rodents (squirrel, mouse, chipmunk, groundhog, porcupine)	4 toes front, 5 toes back	Usually yes	Usu. bounding/hopping for smaller species, walking for larger, front and rear feet side by side with front "inside" rear
Raccoon	5 toes front and back	Usually yes	Usu. walking with 2-2 alignment (one front foot next to a rear foot in a pair)
Opossum	5 toes front and back	Usually yes except for opposable toe on rear foot (no nail)	Usu. walking with front and rear prints often overlapping
Rabbit/hare	5 toes front and back but rear feet noticeably larger than front	No	Usu. bounding/hopping, rear feet side by side, front feet one in front of the other or a single track
Weasels (skunk, mink, otter, ferret, badger)	5 toes front and back but inside toe often does not leave mark	Sometimes, often points only separated from print	Usu. bounding for smaller species, walking for skunk and badger
Bear	5 toes front and back	Yes, long nails on front foot, short on rear	Usu. walking
Hoofed (deer, goat, elk, moose, hog, sheep)	2 hooves but certain species will leave second impression of "dewclaws"	No	Usu. walking with front and rear prints often overlapping

Measuring Trail Patterns

In Part One of this lab, you learned how to measure a single track's dimensions. Now, we need to add measurements for multiple prints together. When measuring an animal's trail, three basic measurements are included:

- *Stride* - the distance between two consecutive steps of the same foot, measured from the heel of one foot to the heel of the same foot the next time it hits the ground
- *Straddle* - the distance between the animal's left and right footprints, measured by a line created between the innermost heel mark of the right and left foot.legs
- *Pitch* - the angle an animal's prints angle in or out from straight ahead, measured by bissecting the track lengthwise
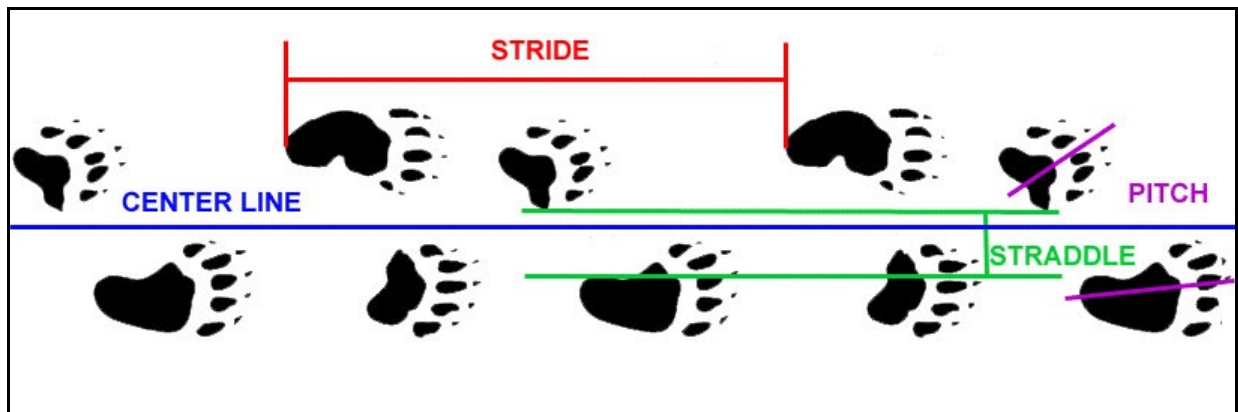

Diagram describing the various aspects of trail measurement. In this case, the trail is from a bear.

Grading

In order to receive full credit for this lab, clear documentation of an animal trail through a tracking area equipped with a baited signpost must be provided. Species identification and accurate measurements for track and trail must also be taken.

Species Identification Help

There are numerous Internet-based websites devoted to tracking and, if available, field guides at UDHS. Your instructors will be happy to help as well provided a complete dataset is available. Here are two sources to get you started:

Wilderness Arena - https://www.wildernessarena.com/overviews/animal-tracking-signs-guide
Animal Track Identification Guide - https://www.greenbelly.co/pages/animal-tracks-identification-guide

Instructions

1. Revisit the tracking area used in Part One and prepare it so that it will be able to provide the necessary evidence to complete this lab. This might mean increasing the tracking area's size or the material used (wetting it, smoothing it out, etc.). As a last resort, a new location should be chosen that offers better chances for animal evidence

2. Rebait your tracking area. Remember, smell is typically the best way to entice animals in to the tracking area. Sight is a distant second place.

3. Return to your site periodically and examine any print evidence. This time, photograph both front and rear prints (with measurements). Take photos top-down to eliminate distortion. Measuring devices should be in the photos.

4. Next, place some type of markers at prints located along a trail, step back and take a photo of the trail so its general pattern can be seen in the photo. The markers are to help you determine exactly where the prints might be since, once you step away, they might not be as obvious in the photo. Take the measurements indicated above in Measuring Trail Patterns.

5. Fill out the lab sheet inserting all data where appropriate.

6. Identify the species of animal(s) that walked through the tracking pit.

Name_____Period_____

<u>Survival and Food</u>
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Date/Time Set_____ Date/Time Checked_____

Attractant/Bait_____ Location Description_____

Front Foot		**Photo w/measurements and description***
Length		
Width		
# of Toes		
Nails Visible?		
Approx. Pitch Angle		***Include details on print components, including nails, pads, etc.**

Rear Foot		**Photo w/measurements and description***
Length		
Width		
# of Toes		
Nails Visible?		
Approx. Pitch Angle		***Include details on print components, including nails, pads, etc.**

Trail		Photo w/measurements and description*
Stride Length		
Straddle Width		
		Provide a key for any markers, note front vs. rear foot, etc.

Species Identification _____

Supporting Evidence: