

Learning_To_Read_Animal_Tracks_1993.txt
Learning to read Animal Tracks
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Successful hunting and trapping depend on a great many skills. Tracking is essential for knowing the habit of wildlife and being able to identify the areas different species or even individual animals habitually frequent. If you set a fox trap in an area where fox never visit, you're wasting your time.

Tracking is more than merely identifying and following footprints. Tracks may reveal an animal's size and weight, sex, age, even its motivation as it passed through a given area. Understanding the tracks you find is not easy, but I'd like to pass along some of my experience in hopes it might make your initial efforts easier or add to your already developed tracking skills.

After learning to identify the tracks of the animals in your area (most field guides and trapping instruction books illustrate these), one of the first things you can do to improve your tracking skills is to understand the relationship between animal gaits and the track patterns they leave behind.

Most of the tracks you find in the field fall into definable categories. However, when an animal moves at different speeds, the same animal may leave radically different track patterns

Diagonal walkers move the feet on the opposite sides of their bodies at the same time; as right front foot moves forward, left rear foot moves forward; as left front foot moves forward, right rear foot moves forward. Instead of moving opposite sides of the body at the same time, pacers move both feet on one side of the body at the same time. Bounders walk by reaching forward with the front feet and bringing the back feet up just behind them. Gallopers push off with their back feet, hit with their front feet, then bring their back feet forward of the front. Tree dwelling gallopers, such as the gray squirrel, leave front footprints that

are side by side. Ground-dwelling gallopers, such as rabbits, leave their front footprints on a diagonal; that is, one foot is more forward than the other when the prints are made.

Most of the tracks you find should fall into these classifications. However, when animals vary speed, some interesting things occur. As diagonal walkers move faster they become bounders, and faster still, gallopers. For example, when a deer is startled, it shifts from a diagonal walk to a bound. But if it is frightened, it may run away at a full gallop. This is true for all diagonal walkers except mule deer, which bound at high speeds.

When pacers pick up speed, they move from a pace to a diagonal walk, then to a bound, and on to a gallop. Bounders rarely change their gait, but the distance between their patterns, or sets of prints, increases as their speed increases. Gallopers also usually maintain the same gait with only the distance between patterns changing.

All of this is useful for interpreting the animal's actions and not just for species identification. For instance, the diagonal walking pattern of a coyote indicates a normal walk, but the diagonal walking pattern of a raccoon indicates the animal was in a hurry.

While an animal's normal gait is its slow speed, there are times when animals slow down even more. When stalking, for instance, most animals leave a track pattern that looks just like a diagonal walk.

However, the movements used to make it are about midway between a diagonal walk and a pace.

Most animals use a slow pace when being antagonistic or when trying to appear threatening. Pacing makes them look broader and more imposing. Let's use humans as an example. We would normally be classified as diagonal walkers; our arms move as a diagonal walker's front legs move. If, however, the person walking toward you changes to a slower pace (moving one whole side of the body at a time in a threatening swagger) it might be wise to beat a hasty

exit.

There are more than 30 different recognizable gaits for diagonal walkers, each indicating a particular speed and state of mind. The best way to learn these is to watch the animals and then examine their tracks. But the basics covered above should get you started thinking about the behavior of the animal that left the tracks behind.

The weight of an animal is quite often 1 what we mean when we ask, "How big was it?" Determining weight accurately from tracks takes a lot of practice, but there is a systematic way to go about it that helps us make better estimates.

Fill a small box with dirt and place it on a bathroom scale. Using your knuckles, make depressions (tracks) in the dirt, noting the weight registered, and remember how it felt. Practice with the dirt until you can look away from the scale and accurately estimate five pounds, 10 pounds, 15 pounds, etc. Check your estimates by looking back at the scale.

Then, when you find a clear track in the woods, make a depression near the track and estimate how much weight you're exerting on the ground. You want this depression to be about the same depth as the track. Multiply this number by four (legs) and you have a weight approximation for most animals.

You can experiment with this by filling the box with harder or softer soil. Also, you may use a postal scale to experiment with lesser weights. This is very important in tracking smaller animals. It should also make you more aware of tiny nuances in the soil. For instance, lightly touching your box of dirt to produce a half-ounce increase of weight on the scale should make you realize how useful a magnifying glass is for seeing such tracks. This also starts laying the groundwork for seeing the nuances in tracks that indicate animal behavior, age and health.

The sex of the animal is very often difficult to read because of the hardness of the soil or the length of time the track has been exposed to the elements. The biggest misconception is that a

big track is that of a male. This is not always true.

A better way to determine the sex of diagonal walkers is to note where the rear track is placed relative to the track of the front foot. Let's assume you've found the walking tracks of a deer. Look at the tracks of either the right or the left side of the deer. The rear foot of a diagonal walker usually falls a little behind and to the right or left of the front foot. If the prints overlap, the rear track was made last and is on top. If the rear foot has fallen to the outside of the front, it's a female. If the rear foot is inside, it's a male. If the two prints are in a direct line, it's probably an immature animal. This is generally true because males are usually broader at the shoulders than the hips. Females have larger pelvic girdles, so their rear feet register to the outside of the front feet. This method won't work, though, for cats and foxes, as their prints are directly registered; i.e., the hind foot is placed directly in the print of the front foot. To use this technique, check several good sets of prints. Fluctuations in an animal's gait and in the terrain can cause prints to appear where they shouldn't.

A method of determining sex that can be used for any animal is based on the fact that male animals tend to walk a little more on the outside edge of their hind feet. This is to make room for their external sex organs. The rear tracks of males are consequently a little deeper on the outside, especially in the heel area. This can be difficult to read and often requires feeling with the fingers. A good way to begin practicing this is to go to a wet sandy area, such as a beach, and spend some time looking at human tracks. After a while, you begin to notice these pressure differences in the various male and female tracks. Move on to animal tracks and eventually to harder soils until you become familiar with it.

Determining when a track was made is useful to the trapper and hunter since mammals are creatures of habit. The various deer trails, fox trails and rabbit trails you find in your wanderings attest to this. Knowing when a track was left on an animal's

feeding circuit is a good indicator of when it should be passing through the next day, or for some animals, the next week.

Understanding how the weather deteriorates tracks in different soils is a key to determining when a track was made. To become effective at this, you must become intimately familiar with the weather. Keep a log of the weather in your area for at least two weeks. Changes in the weather are most important: when rain began and ended, how long temperatures stayed below freezing, when the prevailing wind direction changed, etc. Eventually you won't need to keep a written record. Your awareness increases and you automatically log these things in your mind. I would suggest keeping a notebook for some time, though. You must know exactly when changes occurred to decipher when a track was made.

Besides an accurate record of the weather, you also need a lot of practice in understanding how time and weather change tracks. The harder the soil, the slower the tracks deteriorate. Also, tracks exposed to the weather deteriorate much more quickly than those located in protected areas.

To improve your identification skills, I suggest making tracks and watching them deteriorate over hours, days and weeks. Other than keeping a weather log, there are no easy estimation methods. Patience and practice are the only techniques to learn the effects various soil and weather combinations have on similar tracks. For instance, in clay, one of the hardest soils, the size of a track decreases during its deterioration process. Conversely, the effects of weather and gravity in wet sand cause tracks to increase in size. Tracks in snow can sometimes move several inches from where they were placed when temperatures fluctuate above and below freezing.

To read the information contained in tracks, you need to know how the pressure of the animal's foot leaves deformities inside and around the track. If you "read" these correctly, you can tell much about what the animal was doing when it made the track. Flats, pitches, rolls and depressions are all found in the bottoms of

tracks.

A flat is used as a reference point for determining depressions, since a flat is any flat and featureless part of the track. Depressions include any area in the bottom of the track that is deeper than the average depth. Pitch refers to the lengthwise angle of the track, while roll refers to the lateral angle. Pitch shows how an animal's weight was distributed. A good example occurs when an animal bends to walk under a branch; the weight is shifted to the toes, providing a deeper depression there. A roll is often seen when an animal makes a turn.

A cliff is a vertical edge where the soil is compressed at a right angle. This usually occurs at the sides of the feet and indicates the animal was traveling in a straight line. Overhangs are most common with deer and other hoofed animals. However, they may also show up with other animals. Overhangs indicate a sudden stop or sidestep. A slope indicates where the foot came in or went out, as it usually occurs at the front or back of the track. A drag mark at the front or back of the track is called a gouge. This can indicate fatigue, injury, heavy weight, high speed or maybe even foot protrusions. Gouges may also be left in deep snow as an animal normally plants its feet. A plume is loose dirt spread beyond the track. When in front, it indicates a fast gait. If a plume is behind the track, it indicates rapid acceleration. There are many more individual traits than these. Once again, a good way to learn is to make tracks yourself and determine which actions produced the marks that remain.

Detecting information from a clear set of prints can tell you an incredible amount about an animal, but following tracks can reveal even more. You may find it takes some practice to be able to follow tracks through leaf litter, grassy areas and across hard-packed ground. Look for patterns in the leaves and grasses. Feel the ground below the leaves and grasses. If it is soft, you may uncover a perfect track.

On hard-packed ground, it can be easier if you use a viewing

technique called "sideheading" to keep the track between you and the light. Sideheading is simply getting down on your hands and knees and lowering the side of your head to the ground. Close your top eye and use just the lower eye. This helps because your view foreshortens the track, emphasizing shadows, compressions and irregularities. I have done this to examine the tracks left in the dust of a barn floor.

If I had to recommend just one tool to take with you when tracking, it would be a magnifying glass. So many of the depressions, scuffs and marks are too tiny for the untrained eye to fully note. Some other items I use include scotch tape, plastic film canisters and sealable plastic sandwich bags. The scotch tape is used for the keeping hairs I find. I place these in the film canisters. Hairs, once you've acquired the knack of finding them, can tell you which animals are in the area even if there are no clear tracks. To do this, you need to start a collection of hairs from known animals. Tape these into a notebook. Since we are talking about single hairs here, you can get these by pulling them from the animals you trap. I would suggest pulling hair from several different parts of the body, as the hair on an animal does vary. Record the species, part of the body, size, age, time of year and any other information you may later find useful. When you pick up hairs in the woods, you can bring them back and compare them with your collection.

The sandwich bags are used for collecting scat. Yes, you can even assemble a fine collection of animal droppings to amaze and impress your friends. When you find a good specimen and have determined from the tracks what animal left it, you need to preserve it. Poke two pinholes in the top and bottom to let moisture escape. Using tweezers, place the dropping in the sun to dry.

Once dry, hold it on the end of a pin and let it soak in alcohol for 10 minutes or so. After drying again in the sun for about eight hours, spray it with a matte or varathane solution to

seal it. These solutions are available at craft stores.

You may also be interested in preserving tracks. The best way is to make a plaster casting; then you have a track you can press into wet sand at home to study whenever you like. For this, you need plaster of Paris, water and a container to mix them.

Once you locate a clear track you want to preserve, use tweezers to carefully remove leaves, sticks and debris from it. Spray the track with lacquer or varathane to prevent soil from sticking to the casting. Mix the

water and plaster. Stir with a stick until the mixture is as thick as motor oil. Pour the mixture into the track slowly, until the track is filled and the plaster overflows slightly. Protect the casting, and allow it to set for about 15 minutes. You may need more time if the weather is humid or cold. When dry, the plaster should feel hard and produce a ceramic sound when lightly tapped. Lift the casting by digging it out of the ground. To be safe, let it dry another 15 minutes or so, then carefully clean off the debris. To preserve the casting, spray it with lacquer or varathane.

Animals leave tremendous clues to their passage. Your ability to notice these expands with the amount of time you spend in the woods. Stay alert and ask yourself questions.

The books I recommend to help answer these questions include: A Field Guide to Animal Tracks, by Olaus J. Murie; and Tom Brown's Field Guide to Nature Observation and Tracking, by Tom Brown Jr.

Brown operates a school that teaches tracking and wilderness survival, which I also highly recommend.

You can use tracking skills year-round to improve your knowledge of the game animals and furbearers in your area. Knowledge like this is impossible to acquire without firsthand experience. It's not something you can purchase over the counter or learn in a classroom. The more you know, the more you realize you have yet to learn.