

Observations Expanded

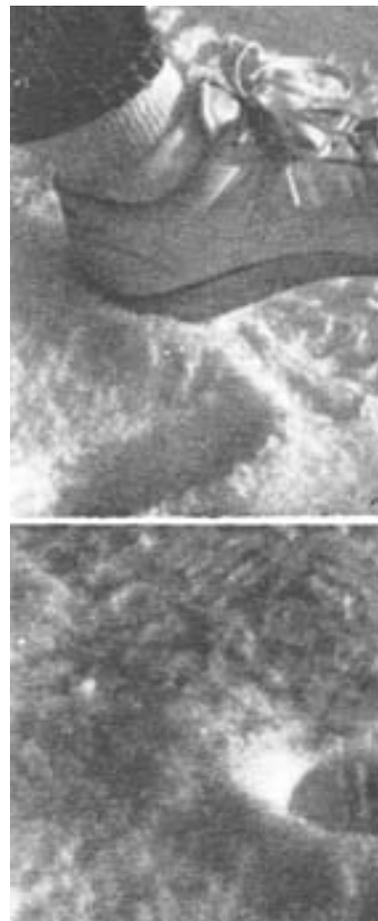
Compression / Flatness - In tracking, it has generally been accepted that only people and hoofed animals can make flat spots on the ground. However, hoofed animals tend to produce smaller disturbances which have a sharp ridge that is deeper around the edge of the print. When in doubt as the producer of certain sign, try stepping next to the flat spot using a normal walking motion. If the disturbance you made does not resemble the flat spot in terms of depth or size, you are probably looking at animal sign. It might also be valuable to know that most flat spots are produced by humans.



Compressed Pebbles and/or Twigs - It usually requires a hard surface when applying pressure, such as with a shoe or hoof, in order to compress a pebble or a twig into the ground. Animal paws are soft and do not cause such a disturbance. If the ground is soft enough to allow soft paws to depress such objects, it is also likely to be soft enough to reveal the entire paw print. Again, try stepping next to the sign yourself. If the sign you produce is similar to that which you see, you could be dealing with a piece of human sign.



Rear Edge of Heel - This is one of the most common pieces of conclusive human evidence. When a person walks on level ground, full body weight is transferred from one foot to the other by, first, contacting the ground with the rear edge of the heel and, subsequently, as the body is propelled forward, the remainder of the foot. If the disturbance will be made on the ground, this initial heel strike is when it will occur. This initial impact is when the greatest weight per square inch is applied to the ground with the sharpest part of the shoe: the rear edge of the heel.



Toe Digs - This is commonly regarded insignificant by the untrained tracker, despite of its accurate indications of human passage. To propel a body forward, the rear-most foot pushes off in a way that either compresses the ground, moves loose material slightly backwards, or digs in. Experience makes this sign easy to interpret.



Bent Low Vegetation (grass, ferns, etc.) - Anything that walks can push down grass or similar vegetation, thus causing the vegetation to reflect light differently. But, there are ways to differentiate human from animal sign in this type of terrain. The larger human foot causes more grass to be depressed than, say, a deer's. So a longer area of flattened grass is probably human. We're relative to the beast. Animals such as cattle leave a wide pushed-down area compressed, and small game leave a narrow disturbance of the grass. Hoofed animals tend to cause a crimping of the grass as they push it down, whereas humans, with longer, smoother soles, simply flatten it. Look for creasing, or folding, of pliable leaves. Creasing, without hoof damage, is a good indicator that some flat foot passed. Hooves tend to cut vegetation because, unlike a flat sole, they have sharp edges underneath. In dried leaves

grasses, also look for crumbling or cracking of dead material.



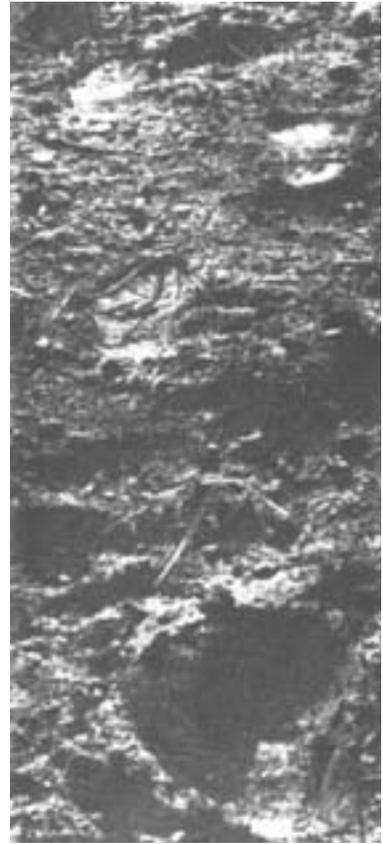
Bruised Vegetation - Vegetation damaged by being stepped on heels at predictable rate. If they are knocked over, plants may become upright within a day of being trampled, although they bear the scars or bruises of the incident far longer. Discolored or flattened areas on the vegetation are not usually caused by small animals, and larger hoofed animals that would damage plants should most certainly cut. As with grasses and ferns, watch for creasing.



Picking Up Mud - "Picking Up Mud", in tracking, means that mud, usually the sticky type, has adhered to the footgear. Unfortunately, as this situation continues, mud accumulates on the soles to such an extent that it completely masks any specific sole patterns that may otherwise be left on the ground. Walking with mud on the shoes like this leaves only numerous, non-distinct marks on the ground at regular intervals and, occasionally, blocks of mud that may have fallen off. When the mud is of the right consistency, the chunks that fall off may hold valuable information regarding the sole pattern from the footgear that produced it.



Shine - Unlike most types of sign, shine can often be easier to see the further the observer is from it. Shine requires an oblique light and a viewing that causes the most subtle flattening of an area to reflect light differently. A tracker viewing from close up can overlook shine, but a stepping back and viewing from low angle or viewing far ahead can sometimes bring to notice what otherwise might be missed. This can be especially true on hard ground or when tracking through grass which tends to lay down when walked on. Close up, any sign may be difficult to distinguish, but shine becomes evident when the area is viewed from a distance. Flat ground is probably the most difficult type of terrain on which to track, but it is perfect for seeing shine. When sign is imperceptible on flat ground at close inspection, look ahead for shine. Sometimes this may be the only way of finding anything. Because distance aids so much in seeing this type of sign, tracking by shine can be effective from aircraft as well.



Transfer - When a subject walks from one type of terrain to another, material from the first is often transferred to the second. For instance, a person walking from mud to asphalt almost always leaves some mud, often in the shape of a print, on the asphalt. As the falls off of the shoes, the prints will diminish and eventually disappear. Usually not before a direction of travel is indicated. This type of transfer can also occur when traveling from dust to pavement, from wet to dry, from fresh cut grass to pavement, from snow to pavement, or from any terrain where some material can be picked up by footgear and deposited later. The problem lies in the fact that this type of sign is almost always short lived and soon disappears.



Displaced Twigs on the Ground - Fallen twigs and small sticks can cause an imprint or leave an outline on the ground over time. A moving person or animal can easily travel by and move the twig from its resting place, leaving the imprint or outline behind. The direction a twig is displaced is not always an accurate indicator of direction of travel, so don't be fooled. Keep in mind also, that animals can cause this type of sign; so other evidence must be discovered in the area to be corroborated the initial sign.

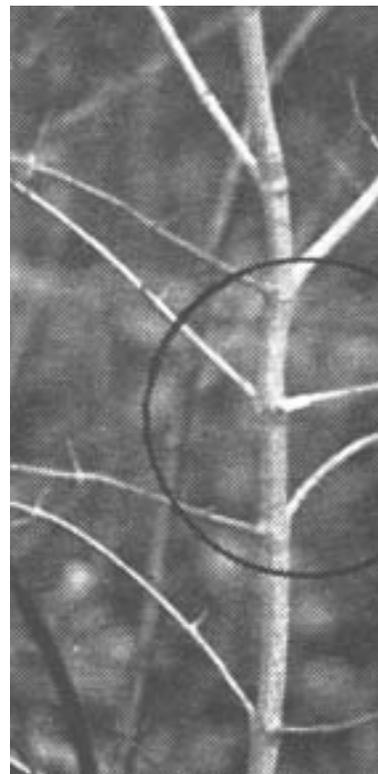


Fallen Leaves / Petals - Living plants do not usually discard their leaves or pedals. They must either be pulled off intent jarred from their attachment by a substantial stress. The presence of fresh leaves or pedals on the ground and next to a plant indication that someone or something of fair size has passed by, hitting it. This is also true of green limbs and twigs. If the ma trod on, watch for creasing. If the pedals are dead and dried, and you suspect they have been walked on, look for crumbling a of the plant material on the ground.

Dislodged Rocks / Pebbles - Pebbles and rocks behave the same as twigs in that they make a home for themselves, too, by settling into a depression in the ground over time. Similarly, a person or animal can disturb the objects, but it tends to need more pressure than is required for twigs. The dislodgement of larger rocks from their resting places is rarely caused by animals; so, the larger rocks and the more they are displaced, the better the chance it was caused by a human. In addition, pebbles and rocks almost always tend to become dislodged in the direction of travel.



Broken Branches and Twigs - A person walking on a twig, particularly a small one, will often break it. In addition to breaking the twig, hoofs usually cause splintering and an impression of the twig in the ground. On its own, splintering is not peculiar to animals. Generally, the larger the diameter of the broken branch, the more likely something the size of a human was responsible for the damage. Branches broken while still attached to their parent plant can indicate direction of travel (broken in the direction of travel); and where a branch has been broken above the height of about three feet from the ground, especially a larger branch, then a taller animal, often human, is probably the cause of it. Look immediately below such sign for evidence of hoofed animal. If none is found, it is more probable that a person was responsible. Whenever broken twigs and branches are discovered, look for other corroborating evidence that it was caused by human.



Plant Leaves Close to the Ground - Broad leaf plants that grow low or close to the ground appear in almost all terrain often, a person walking over or near this type of vegetation will cause some type of disturbance. One of these is called 'Flagging' caused by the lighter-colored underside of one or more leaves being turned up. Generally, the more unnatural the position of leaves, the more recent the disturbance occurred. This is because all plants tend to mend themselves over time. Exactly how for a leaf to return to its normal position differs from plant to plant: but unless completely killed, they will all heal. Other disturbance type of plant include bruising, and picking up small pebbles. bruising is caused by a person or animal stepping on a leaf and it is best seen on the lighter underside of the leaf. It looks dark green wound when fresh, eventually turning even darker, and the scars, turning a light brown or gray. This damage can be invisible from standing position and often requires close scrutiny and leaf over for for discovery. When soft, most leaves are compressed by someone walking on them, small pebbles, and particles the ground often stick to their undersides. Brush off the clinging sand and soil and look for bruising caused by particles being the leaf. Don't forget to look for creasing and cracking and crumbling if leaves are dead and dried.

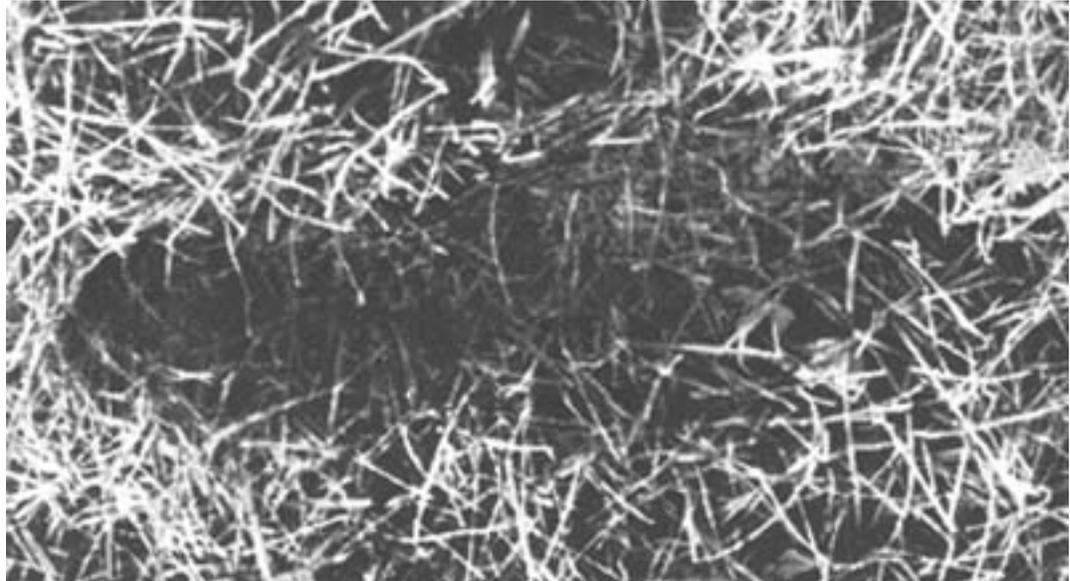
Intertwined Vegetation - Some small bushes and grasses grow close together, their leaves or branches overlap. When passes through an area with such plants, the limbs or leaves are often pulled apart in the direction of travel. Because of close the limbs, they can catch on each other, interlace, and do not return to their natural state until they are disturbed again. Inspection type of vegetation can show not only something has passed by, but also its direction of travel. The thickness of the branches height from the ground can suggest how big the animal or person was that caused the disturbance.

Lichen and Moss - Lichens and mosses are soft materials that tend to yield readily when pressure is applied to them, then return to their normal state upon release. However, when either is compressed between two hard objects, such as between a shoe and a rock or tree on which the material may grow, some damage usually occurs. Like other plants, these can bruise or discolor to indicate some type of disturbance. They can also be easily damaged or displaced by friction of a passer-by. Moss or lichen can grow high above the ground on a tree or rock: When damaged, the height from the ground and the amount of disturbance may suggest a human traveler. Moss or lichen may also be the only way to get sign from a rock on or near the ground. So, inspect carefully any mass or lichen on rock in the path of a traveler. Both can be sensitive indicators of a passing person.



Dew and Frost Trail - These trails are disturbances found where dew and frost cover an area. This type of sign is most commonly discovered on manicured grass such as that found in city parks or on golf courses, but can also be found on tall grasses and weeds. When a large animal or a person passes over an area that has frost or dew on it, the pressure from their feet causes the dew to disappear or the frost to melt; or an impression to be formed. In any case, the light-colored, covering material (dew or frost) is removed or flattened, revealing the darker vegetation underneath. This dark on light contrast is easy to discernible and often reveals, if discovered quickly, the outline of the foot which caused it (conclusively human). In essence, then, dew or frost trail is actually a trail where the dew or frost is absent.

Dew and frost, depending on ambient temperature, are caused by moist air coming into contact with a cold object, such as a plant, forming condensation. This condensation will remain until either it is knocked off, or the ambient temperature or sunlight increases and it evaporates or melts. The obvious trails left on short grass have been mentioned, but tall grasses, weeds, wheat, and corn can also indicate disturbance by lack of dew or frost. Close inspection of vegetation early in the morning when dew and frost are common may indicate disturbance, and is often the only type of sign available on a lush forest floor where vegetation quickly returns to its normal position once trodden. A continuous line of such sign could, of course, be caused by an animal. Somewhere along the line there is bound to be some other evidence that would indicate who or what has passed.



Because of the nature of this type of sign, it must be sought early in the morning. Fortunately, this is also a good time for protection from the sun. Dew and frost disappear quickly in most regions, so to use them effectively a tracker must get at it early and know what to look for.

Excrement -Most people are reasonably familiar with the usual consistency and amount of feces produced by humans. If a material is discovered while tracking and there is doubt as to its producer, be aware that human feces does not usually contain hair. However, animals that might produce similar types and amounts of droppings do contain hair. A gentle probing of any discovered matter with a stick can be worth the trouble and associated nausea. The information available from human feces when considered should not be underestimated, no matter how difficult the subject is to address.

Color, content, consistency, temperature, odor, and insects can all convey substantial information about the materials produced. Black feces, for instance, can indicate a great deal of iron in the diet or a substantial intake of certain medications. If the color is yellow, anemia is likely to be a problem. Certain foods, such as corn, orange pulp, and some vegetable products, tend to pass through the digestive system relatively unchanged and can be seen in the feces after passing. In general, medications can turn feces a different color, depending on the chemicals involved. So, knowing what the subject has been ingesting can be beneficial in identifying the source, and, conversely, the droppings can help indicate what the subject has ingested. The temperature of fresh excrement is always warm and tends to cool and dry out as time passes. Fresh feces requires little weight to cause an imprint on it. The older it gets, the more weight is required. Another fact that can be of interest to a tracker is that fresh excrement tends to draw flies, whereas older feces (usually more than a day) will not. You may be able to catch more flies with honey than vinegar, but fresh feces can do a better job than both. As excrement ages it grows a crust on its exterior and gets darker in the sun. The older the material, the thicker the crust and the darker the sun-exposed side becomes. Rolling it over may offer clues as to its age.

The most valuable excrement to a tracker is produced by rabbit, deer, sheep, and other animals capable of excreting small, soft droppings which dry quickly and easily reflect that they were stepped on. On the hardest ground, this type of clue may be all that is found. Urine, when discovered by a tracker, can also be helpful. Determining that urine is of human origin is a problem that would require more evidence to confirm. But, after confirming the sign is from the person being sought, the color can be useful in determining some information about that person's health. The darker the urine, for instance, the more hypo-hydrated the person is likely to be. The deeper the orange color of the urine, the less likely the tracker is to find the subject healthy. Urine is easiest to see in snow, but it can occasionally be discovered in other environments.

Discarded Material - Relevant discarded materials, in reality, are not found frequently while tracking. However if found near the trail being followed, they should certainly not be ignored. If some information is available about the person being tracked, like what they were carrying, what kind of gum do they chew, then certain discarded items could be conclusive sign. Most of the time litter is everywhere, and the problem lies in determining which material is relevant. Good sign subject profile is necessary for just that reason. This profile would tell what the subject was carrying, if possible, and what habits might produce discarded materials (chewing gum, smoking, chewing toothpicks, candy, etc).



Identifying Marks - Every type of individual footwear has unique characteristics that distinguish it from other similar gear. Every person is built differently and, therefore, walks differently. This walk, unique to every individual, causes wear on the sole of the footgear to vary in a similar fashion. The older a shoe and the more it is worn, the more the distinctive the differences become. Two shoes of identical make will cause subtly different impressions on the ground depending on the wearer. When a tracker comes across a clear (complete or partial) print, they should make every effort to determine what distinguishes this print from others similar to it. It may be cut, a specific wear pattern, or anything, but try to find something. When you, as a tracker, find several prints of similar design, you need to know which one is the one you seek.

Sometimes all the visible on the ground are patterns that obviously do not occur naturally, such as herringbone, lines, circles, etc. These are conclusively human, but may require other evidence to determine if they belong to the person being tracked.



Co-Habitants and Information - The sudden movement in the areas of co-habitants, such as the flight of birds or bark are good information during the tracking process. For example, you hear rustling of bushes, dogs barking or the sudden move something in the area just ahead of you; this is information that is giving possibly to the whereabouts of your victim. Informatic heard during radio traffic could also be of benefit, such as, other teams findings. People, campers, hikers, hunters, equestrian people sharing the area, might have seen something. Just take the time to talk to witnesses that have been in the area for so could lead you right to the person you are looking for.