Man-Tracking 101: How To Find And Follow Tracks For Search And Rescue

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Learn To Follow Human Footprints And Clues In All Types Of Terrain
The main purpose of man-tracking is to determine the lost or missing person's direction of travel, which can greatly reduce the size of a search area. So wouldn’t it be nice if all prints were as obvious as this one?

But obviously they're not. And that's where some tools, tips, and a grab bag of tricks come in handy, not to mention a lot of practice for those involved in man-tracking for law enforcement, Search and Rescue, the military -- anyone who wants to find someone who's passed through an area.

Here I'll cover some of what I've learned about tracking as a Search and Rescue volunteer, both in the classroom and in the field during trainings and actual missions, and provide some additional resources for reading and workshops.
Man-Tracking Topics You'll Find Here
• Tracking Tools
• Documenting And Marking The Track
• Man-Tracking: Measuring Stride
• Finding The Next Footprint or Partial Print
• Remember To Look Up From the Ground
• Visual Cues To Locate A Track
• The Best Lighting For Man-Tracking
• The Man-Tracking Team
• Cutting For Sign
• Some Trackers Drag Their Sticks
• Rock Displacement
• Shine
• Toe Digs
• Other Clues To Look For While Tracking
• Read More About Man-Tracking

Tracking Tools : To Measure And Mark
Most trackers use some type of stick to measure stride and footprint length. I've found that an adjustable, telescoping trekking pole is a great multi-use tool for this purpose. You'll also want to have some tape to wrap around the tracking stick to indicate your measurements.

Additional tools to have at your disposal are:
• measuring tape (ie. a flexible one like sewers use) to measure the actual length of the print, the width and length of the heel and the toe
• flagging tape to mark and protect the track so others don't step on it and to make it easily seen by other field teams that might come along later
• Sharpie pen to write on that flagging tape (ie. the date, your team's initials, your unit number or name, etc.)
• GPS and map to mark the coordinates of tracks or clues
• notepad and pencil to make a drawing of the print and take additional notes
• small mirror (which can double as a signal mirror) to redirect natural light across sign when the sun is high
• artificial light for tracking at night
All of this gear should be carried in addition to the rest of your 24-hour pack gear.

The Best Tape To Use on a tracking stick is electrical tape. It adheres well and won't slip. Rubber bands, for example, can move up or down and throw off your measurements, but the tiny bands do well enough.

Documenting And Marking The Track
As soon as a reliable (or at least probable) track is located, it should be encircled, a sketch should be made of the print, and certain notes should be taken by all members of the tracking team. Because you
may have to describe the track to others, or even eventually in court, this documentation should be very
detailed, including the following information:

• Is it a right track or a left?
• Is it a flat track without a heel, or is there a heel and toe?
• What is the shape of the track?:
  o Is the toe rounded, pointed or square?
  o Is the leading edge of the heel straight or curved?
  o Is the instep high or low?
• What is the sole pattern?:
  o Does it have a border? Does it have labels, numbers, nails or stitching?
  o What is the pattern type? Plain (no pattern), regular or irregular?
  o Are there bars, ripples, diamond, herringbone or other shapes?
  o Does the pattern have circles or semi-circles, arcs, stars, suction cup circles, bars
    (straight, curved, diagonal)?
• What is the size of the print?:
  o Take measurements -- heel to toe, across the widest part of the toe and across the
    widest part of the heel
• Are there any unique features, like worn spots for example? (Anything that makes the track
  stand out)
• Can you tell anything about the person’s gait?:
  o Toes in or out?
  o Deep heel or toe dig?
  o A limp?
• Does the print look like a tennis or deck shoe, a boot, a gym shoe, etc.?

Track Identification Form
A "Grandma" Track is the track searchers will begin with. It is a clear track that is easy to follow.

Man-Tracking: Measuring Stride
Measuring stride is important in finding and following additional tracks. You can take this measurement by using your tracking stick and tape.

Here's how:
- First, find two good prints and put the tip of the stick on the center of the front track.**
- Then, put a piece of tape around the stick at the point where the heel begins on the rear track.
- Next, put another piece of tape around the stick at the toe of the rear track. This way, you’ve got two pieces of tape defining the length of the print and, from there, the tip of the pole defines the length of the stride.
- Once the first person has measured the print and stride with their tracking stick, the other tracking team members can adjust their sticks and apply the tape by going off of the first stick. This will speed up the process.
Finding The Next Footprint or Partial Print: Using A Tracking Stick
What you want to do is place your stick near the ground with the two pieces of tape framing the last known print. Then move the tracking stick back and forth in an arc. The tip of your pole or stick should be passing over the next print, so study the ground ahead at that point as it moves and see if you can pick it up.

If the next track is a left foot, try moving your tracking stick slightly to that side, and vice versa to the right.

Be careful not to touch your tracking stick to the ground. This can cause a disturbance or make even a faint impression that can confuse you when looking for obscure sign.

Remember To Look Up From the Ground
I've learned this lesson more than once, when I've been so focused on finding the next print that I've failed to raise my eyes from the ground just a couple of feet ahead of me. In those instances, I've cost myself time going print to print when I would have seen a clear print several yards or more ahead.

So, make it a point to look up when you're man-tracking and scan the area for what could be your subject’s print (or even the subject!) in the distance or perhaps another type of clue.

If you're not sure what you're seeing, you can either mark the current print you're on and come back to it if what you find ahead proves not to have been made by your subject, or, better yet, send a teammate to check it out. By marking the last known track with flagging (and a GPS), you're ensuring that you'll be able to return to it if you find you've deviated and followed the wrong path. Or another team can come along and pick up the track.

Visual Cues To Locate A Track

An outline or perimeter, delineating it from the surrounding surface. This might be a small line or a complete track outline.

A shape, large enough to have been made by a human. This may involve "flattening" and not an actual print.

Contrast--a difference in color, texture or shape from the surrounding surface.
The Best Lighting For Man-Tracking
Lighting is so important when tracking. In fact, it can make the difference between seeing a very clear track and seeing no track at all. Actually, I should say "lighting and shadows," because the shadows really make a track stand out.

For me, tracking is easier at night than it is in full sun, because I can hold a flashlight at a low angle to the ground, creating significant shadows on any track that's in or near my path. By the same token, it's pretty much impossible at night to look ahead for tracks or clues in the distance.

A lower intensity flashlight helps maintain night vision and reduce eye strain, but on a brightly moonlit night, a brighter flashlight might be necessary.

When tracking during the day, early morning and late afternoon are the best times to do so, when the sun is at a lower angle thus creating more shadows. Positioning yourself towards the sun can help you see the shadows more easily, or you can try using a wide-brim hat to shade the track and then use a flashlight or a mirror (from a compass perhaps) to redirect light onto it. It's amazing how this can make a track just pop right out, when it might otherwise be invisible.

The Worst Time To Track is at high noon.
With the sun overhead, you don't have as much--if any--shadowing to make the track pop out.

The Man-Tracking Team
One common method of tracking is done with a three-person team, consisting of a Point person and two Flankers. (The team leader can be any of the three.)

The Point is the person on the track, while the Flankers are to the left and right of the Point. The distance between the Point and the Flankers will depend on things like terrain, vegetation, weather, and the quality of the track itself.

When the Point gets tired -- or even before then -- a Flanker can take over that position, and the Point can take the Flanker's spot. I know from experience that our eyes can tire faster as the Point, when we're really focused on those prints and clues, than as a Flanker, so it's good to keep the Point position fresh.

Flankers can be helping the Point by looking ahead, trying to spot prints or clues (or the subject) in the distance, which can enable the team to jump ahead and therefore move more quickly. But the Flankers should move ahead ONLY if instructed to do so by the Point. The Point person should remain with the last known track.
Flankers should also keep their eyes out for obstacles or dangers that the Point may not notice while so focused on the track. For example, when recently tracking in the desert, I didn't notice that I was about to walk right into a cactus until one of my Flankers alerted me just in time.

Of course, this isn't a perfect world, and a three-person team won't always be possible. Tracking can certainly be done by two people, with a Point and one Flanker, or by a single person if necessary. The same principles will apply. It just may be a bit more difficult with fewer sets of eyes to do the work.

**Cutting For Sign: when man-tracking**

In the event the Point person loses the track, he or she can request that a Flanker move ahead to "cut for sign." The Flanker should make a wide arc away from the Point and then back around in front, coming full circle to the other side of the Point if necessary. If that Flanker finds nothing, the other Flanker may be directed to cut for sign, circling around in the other direction.

If a Flanker finds a track or clue, then the rest of the team should move up. The Flanker may, at that time, take over as Point.

Note: Some tracking teams use different patterns to cut for sign, including an S-pattern or a box pattern. The objective is to try to cut across the subject's path and intercept sign up ahead. The Flanker wants to minimize the chance that he or she will be walking right over the track.

**Some Trackers Drag Their Sticks: Not a universal practice but acceptable**

Obviously, as the tracking team is following prints and clues, they too are leaving behind the same, which can confuse matters. The way some trackers indicate their own prints is to drag their tracking sticks alongside as they walk. I've heard this called the "international sign of a tracker," so it should be recognized by everyone involved.

Obviously, this practice would be viable in more of a desert environment than in a thick forest or grassy area, which is one reason this isn't done by all trackers. In dirt or sandy terrain, however, it makes much more sense, and, for that reason, this practice is often taught in areas like the desert southwest, where I live and train.

If dragging sticks is done in your area, flankers who are asked to cut for sign should remember--or be reminded--to drag their sticks as they go.

It's easier on the arm, by the way, to drag your stick slightly behind you.

**Rock Displacement: a sign of an "invisible" footprint**

Sometimes there will be no print at all, but if you're using your tracking stick to find the next footfall, it may be evident by a disturbance or displacement of a rock.
Flanker cutting for sign may also notice rock displacement, thereby allowing the tracking team to move ahead.

A displaced rock may still be embedded in its original spot, but you might find that it's been pushed slightly away from the dirt that was once right up against it. The location of this resulting space caused by the person pushing off as he or she walked will indicate direction of travel.

In this photo, the larger rock in the center has been pushed back slightly, resulting in a space at the top. This indicates that the person was walking towards the top of the photo.

There are other indications of a footstep here, as well, including flattening of the small pebbles and pieces of vegetation and a disturbance on the other side of the larger rock, towards the bottom of the photo.

**Shine**
"Shine" is a type of track left behind by the flattening of vegetation or another surface, leaving behind no print design. The track is evident only by the way the sun or other light source reflects on the flattened surface.

**Toe Digs**
Sometimes all that might be left behind from a footstep is the depression made by the toe of the subject's shoe, made when pushing off to take the next step. This will often be the case in deep sand or other soft surface that won't hold a print.

Repetition is one indication that you're looking at a series of toe digs.

**Other Clues To Look For While Tracking**
In addition to actual tracks, shine, disturbances or rock displacements, keep an eye out of additional clues. For example, if you know the person you're tracking is a smoker, watch for cigarette butts. Trail bar or candy wrappers are another type of clue. There may be blood droplets if someone has been injured. Look for broken twigs or branches, water splashed on rocks, pieces or threads from clothing, dried mud that's fallen off someone's shoes, dew or frost trails, toilet paper or even human waste. The possibilities for clues are great, so watch for anything that "doesn't belong."

And don't forget to listen too! Any sound out of the ordinary may lead to your subject, including the sound of breaking twigs, a person moving through brush, or maybe even their voice or a whistle in the distance. Sometimes birds make a lot of noise when something or someone has invaded their territory.

**Read More About Man-Tracking**
- Professional Trackers blog: [http://blog.professionaltrackers.com/](http://blog.professionaltrackers.com/)
- Man Tracking: [http://www.vcsar1.org/tracking1.html](http://www.vcsar1.org/tracking1.html)