



Tracking

23

Tracking in Perspective

Tracking, by simple definition, is following signs of track left by someone or something. It is used to detect the path (direction, movement) of someone or something. However, tracking, when applied to SAR missions, becomes a more complex skill. It now not only concerns itself with detection, but with interpretation of clues as well. Tracking is both an investigative (strategy) and an operational (tactics) SAR tool.

Unfortunately, tracking is under-utilized in SAR situations. More often than not, SAR workers ignore sign and track because they are unaware of its potential. SAR workers and managers prefer, it seems, literally to walk on the very evidence for which they search while staring at their computers and reference books. A story has been printed on the ground and we, as "track aware" searchers, must discover its existence, then learn to read it. This is not to say that once tracking is applied to SAR situations, every lost subject will be found. Rather, tracking will give the subject a much better chance to survive and it can help to prove (or disprove) that a lost person is within a designated search area.

Reading this manual will not make anyone an expert tracker. Tracking is an acquired skill, and it takes determination, patience, and a willingness to learn. Becoming a highly skilled tracker takes thousands of hours of practice. A high price to pay, but when the consequences involve human life, no investment of time seems enough.

Why Track?

In SAR, tracking has many uses. It can be a highly specialized skill that is applied early in a search; it can be used to supplement the existing skills of field searchers; and, tracking training can help make searchers more aware of the possibilities in terms of clues.

Whatever its specific use during an incident, tracking is a valuable and effective method of enhancing the operation and management of any SAR situation.

Consider the potential of a lost subject that can travel 2 mph. If direction of travel is unknown, but a last known point has been determined, theoretically, the subject could have traveled as follows:

Travel Time	Travel Distance	Theoretical Search Area
1 hour	2 miles	12.6 square miles
2 hours	4 miles	50.3 square miles
3 hours	6 miles	113.1 square miles

Imagine the effect on search management planning of being able to determine the direction of travel by using tracking to find the first few foot prints. If the initial theoretical search area has a 2 mile radius, the total possible search area is quite large. However, the area of a 30 degree section of the total area that reflects the direction of travel is far smaller and more manageable. When tracking is used as an initial resource, the search area is substantially reduced and other resources, usually at a premium, can be more efficiently applied by an astute SAR manager. Isn't it worth investing 30 or 40 minutes at the last known point to eliminate 85% of the potential search area?

Initially, tracking can be used effectively to find clues. When prints have not yet been discovered, searching for a starting point from which to track is sometimes called "sign cutting." Sign cutting is a type of searching developed by the U.S. Border Patrol (U.S.B.P.) which emphasizes finding every type of clue, no matter how small or seemingly insignificant. If the subject was at the "point last seen" or the "last known point," they must have left evidence. Sign cutting will find that evidence, if possible, thereby getting perhaps the first solid evidence of the search.

As an investigative tool, tracking is the best insurance a search manager has to either verify or disprove information obtained from witnesses. In addition, sign cutting may be employed later in a search when new evidence is discovered. Sign can be "cut" around the new evidence in order to determine a direction of travel, or to find new prints from which to track. The idea is to have searchers looking for all evidence, not just certain evidence.

This, then, is the ultimate goal in training SAR workers to track. Not to become an expert, but to become track aware. To become aware that it is virtually impossible for a person to pass through an area without leaving substantial evidence of his or her passing. Simply put, we must know enough to, first, look for and recognize evidence; and, second, find and act on it.

History of Tracking

Many scientists claim that Homo Erectus was the first true "man" to inhabit the earth. A million years before Homo Erectus, in the Pleistocene period, a man-like creature called Australopithecus Africanus (African southern ape) existed; A.A. for short. It had an ape-like face, a human-shaped head, a body very similar to modern man's, and it walked erect. A.A. is important to us because, according to the theory of evolution, it was the earliest of distant human ancestry to leave remnants of tools. These tools lead scientists to believe that A.A. was a carnivore (meat-eater), which distinguishes A.A. from its predecessors who are believed to have been primarily vegetarians. The fact that A.A. ate meat indicates that it had to hunt food. Similar to many lower animals, A.A. most probably used its sense of smell for stalking prey. We can only speculate, but as A.A. evolved, it probably began to notice how prey would leave evidence of its passing (sign). A.A. was able to associate this sign with food and began to look for it when hunting. Soon, A.A.'s skill at tracking developed into a valuable survival tool, and smell was used less and less. Tracking, then, it seems, could be older than all humankind.

As some humans became more civilized and began to search for food in the ice box rather than the wilderness, their tracking ability as a survival skill deteriorated. It never completely disappeared, however, and we know of frequent use of tracking in North America as recent as 100 years ago by native American Indians and their contemporaries. This common use in the middle to late 19th century also diminished as more "civilized" methods of food procurement were employed by North American settlers.

Before the early 1900's, the last trackers in America were probably the Indian scouts often employed by the U.S. Cavalry. These mystical characters were vividly depicted in movies as quiet, magical, and never wrong. From one mark on the ground, a "Hollywood" scout could tell you everything from who had made the mark (including their family

tree) to the position of the stars when it happened. Hollywood's portrayal of these last practitioners of a dying art is firmly embedded in the memories of anyone who has ever watched a western movie, but its accuracy is questionable at best. Our present mythical regard for tracking is well based in the portrayal of the trackers of that era, but occasionally some truths filtered through. Entertaining movies have taught us that the Indians and the early settlers of North America used tracking to follow each other. They used footprints and other sign on trails and such areas to determine the whereabouts of their friends as well as their enemies. Both Indians and settlers relied on evidence of tracks to indicate if game was available and how plentiful it was. As the need for such skills lessened, however, so did the trackers themselves.

Perhaps the last remnants of tracking skills in the early 1900's in America were found in the western United States where cattlemen and cowboys had to find, follow, and corral their animals from large open ranges. Fence technology as well as other methods of manipulating animals improved quickly and threatened to relegate the art of tracking to a few ancient practitioners. And worse, the few with this unusual skill would be out of work due to increased technology and the dawn of the machine age.

Most people are amazed to learn that tracking is performed every day in other countries and cultures as well as by people who are paid to do it here, in the U.S. This forgotten art has been practiced daily by members of the United States Border Patrol (U.S.B.P.), primarily at selected stations near the southern border of the U.S., to apprehend aliens who try to enter the U.S. illegally. In 1911, the cattlemen and cowboys that had used tracking for their ranching duties, began applying what they knew to their new jobs in the U.S. Border Patrol. Although most members of today's U.S.B.P. are not expert trackers, a solid core have been following sign through difficult terrain to track aliens for many years, maintaining skills that might have disappeared otherwise. It is estimated that, from 1960 to 1969, the U.S. Border Patrol El Cajon Station apprehended nearly 60% of the 1000-3000 illegal aliens per month through the use of tracking. Today, the largest, most skilled pool of trackers in the world could very well exist in the U.S. Border Patrol.

Tracking, as used in search and rescue, is based primarily on the efforts of a few Border Patrolmen from the El Cajon Station in Southern California,

initially lead by Albert "Ab" Taylor, and working with the San Diego Mountain Rescue Team. In the early 70's, Ab and his colleagues realized that if tracking could help find elusive aliens, it could also be used to find lost persons. Ab, and several other Border Patrolmen, began volunteering their off-duty time to train SAR personnel in the skills that they had fine-tuned over many years of practice. The training program that evolved from these efforts has become known as the **Step-by-Step Method**.

According to Mr. Taylor, "The Step-by-Step Tracking Method has to be the fastest, most effective method to teach tracking to a group of people in a relatively short time." Today a major effort is underway to teach the Step-by-Step Method to SAR workers so they become more conscious of clues (sign) and, therefore, become better searchers. It is a sad fact that SAR workers destroy more evidence during a search than they discover. Most believe that if searchers were simply conscious of the possible clues and aware that sign (discoverable evidence) existed, searchers could be far more effective.

When and Where to Use Tracking

It cannot be overemphasized that tracking is best utilized in the early stages of a search when evidence (sign/clues) is least contaminated by well-meaning, anxious searchers. Early application of trackers also allows them to find the evidence as soon as possible, possibly preserving some of its time- and weather-sensitive components.

Tracking can also be used as a search progresses. All searchers can utilize tracking and the awareness that it entails to find clues. Any enhancement of clue consciousness by searchers will improve a search, and increase the number of successes.

Can tracking be useful in all environments? What about while its raining? How about at night? No one blanket statement can cover all situations where tracking may be called for. Sometimes it will be possible to track in the rain and sometimes it will not. Each situation, and each tracker, is different. Consider, however, that an experienced tracker can detect sign that many could not see, and much of this sign could endure a driving rain or a snowy night. A complete print is not always

the only evidence of human passage. Depending on the environment, a tracker may look for bent grass, broken twigs, flattened soil, disturbed brush, compressed stones, and many other pieces of evidence that may not be affected by inclement weather. A skilled tracker will improvise. If one approach does not work, he or she will try another. If rain has washed away a good print, other evidence may still be discoverable.

Since weather does not necessarily preclude the use of tracking, how about difficult terrain or highly traveled areas? The same principle applies. **Let the tracker decide when and where tracking can be effective.** Having a non-tracker decide whether tracking will work, is like having a house painter decide whether or not surgery is required. Trackers look for, and often find, sign that frequently eludes the untrained searcher. Even the most difficult terrain can produce a clue that might eventually lead to a successful search.

Definitions and Terminology

A **track or print** is an impression left from the passage of a person that can be positively identified as being human. Further, a track may be complete, meaning that the entire impression is visible; partial, meaning that it is not visible in its entirety; and/or identifiable, meaning that, complete or partial, it has at least one characteristic that differentiates it from others similar to it.

Tracking is simply defined as following someone, or something, by stringing together a continuous chain of their sign. **Sign** is any evidence of change from the natural state that is inflicted on an environment by a person's passage. A track, whether complete or partial, is many individual pieces of sign combined in such a way as to form a print. The technique is first to find some sign, then interpret it, and ultimately act on it. Simply put, tracking is the ability to put sign together, after investigation, in chronological order over a large area.

In order to be of any use, sign must be discovered. Seeing it is usually fairly easy because there is so much of it. A walking person leaves sign approximately every 18-20 inches, or over 3000 times per mile, so catching even a small percentage of it shouldn't be much trouble. The problem lies not in finding sign, but in determining which is relevant and which is not. The novice tracker, for example, often sees plenty of relevant sign, yet

disregards it because he or she felt it to be insignificant. The experienced tracker sees the same information but has learned to glean its meaning.

If sign is considered evidence, then common law enforcement terms can be applied to distinguish different types. Sign can be separated into two categories: conclusively human, and corroborant. **Conclusively human** sign is a disturbance which, on its own, can positively be said to have been caused by a person and not an animal. **Corroborant** sign is disturbance that is not decisively human and could have been caused by an animal. This type of sign may corroborate other evidence but, when considered on its own, is not conclusive. It cannot be positively determined to have been caused by a person, but may confirm or substantiate other evidence with which it may be found.

Sign cutting is looking for sign in order to establish a starting point from which to track. Tracking involves following a chronology of sign, or consecutive tracks, step-by-step. Sign cutting is searching for the first sign or track. Another principle difference between tracking and sign cutting is that tracking is done by traveling the same direction as the person who laid the track, sign cutting is done traveling perpendicular to the direction of travel of the person being followed. Sign cutting is done by looking for sign in a path that would intersect that of the person who laid the track. It is most effective when performed in an area where the sign being sought is most visible and easily seen. An area that is particularly good for finding sign, such as wet sand, mud, soft dirt or snow, is sometimes called a **track trap or cuttable area**. Track traps are often man-made by scraping an area clean so as to show sign easily.

Sign cutting can substantially reduce the search area by detecting sign that indicates direction of travel. This can be a very efficient application of resources, particularly at the onset of an incident when urgency is high and manpower is low.

Jump tracking is a form of tracking that involves finding a big, obvious footprint, then proceeding along the presumed direction of travel until another obvious track is found. Jump tracking involves guesswork, luck, essentially no skill, and can be dangerous when a life depends on skillful tracking. One of the biggest problems in tracking has always been the destruction of sign by unknowing, yet energetic, searchers. Jump tracking offers great potential for this type of clue erasure.

Since virtually all humans can jump track without training, this is not the type of tracking that will be discussed here.

Step-by-Step tracking is a disciplined teaching system, where a tracker sees each step in sequence and proceeds no further than the last visible track, using the stride to determine where next to look for sign. This system, above all, makes searchers of all types clue conscious and track aware (aware that track and sign exist). It is the standard for which an experienced tracker will strive at all times. In theory, a tracker will attempt to find every piece of evidence left by his or her quarry. In a real situation, this is not always possible and even the best trackers must accept small gaps in the continuous chain of evidence. The words "small gaps" best distinguish the Step-by-Step method from jump tracking.

Bracketing is an occasionally acceptable method of interpolation between tracks that can be used when standard Step-by-Step approaches fail to produce. Bracketing is meant as a stop gap measure that uses a predetermined stride to skip one step in sequence in order to find the next, and then use it to find the one skipped. In terms of the Step-by-Step approach, bracketing is cheating because it involves moving past the last visible sign in order to continue the track. Bracketing, however, is not a license to jump track and should be used only infrequently to maintain continuity on an important track. Students may come to this on their own but will never receive permission to do it.

Programs that teach the Step-by-Step method do not teach tracking, per se. They teach an approach that offers the tools to teach yourself tracking. Anyone can learn to track. All it takes beyond learning the basics of the Step-by-Step approach, if you are motivated, is practice. Hours and hours of practice. You may not ever become an expert tracker; but, at the very least, the Step-by-Step approach will make you track and sign aware and, therefore, a better searcher.

As stated earlier, anyone can learn to track. It simply takes a willingness to learn, patience, determination, hard work, and practice. Not unlike any important endeavor. But, keep in mind, everyone does not have to become a tracking "guru." Just having the interest and open-mindedness to attend a Step-by-Step program will probably improve your value as a searcher. The world does need expert trackers and everyone

with the aforementioned characteristics is strongly encouraged to pursue such a vocation. But, take the Step-by-Step training first before deciding to sell everything and live the tracking life. It will offer what most SAR personnel desire by simply making them track aware.

Equipment for Tracking

Tracking, essentially, requires very little equipment. A pair of eyes which, aided or not, provide nearly 20/20 vision is tracking's only prerequisite. However, experience has indicated that some items can be quite helpful.

1. **CLOTHING** should be appropriate for the terrain and weather, and durable enough to withstand ventures into dense brush and rugged terrain. A broad-brimmed hat may be handy for protecting the eyes from the sun, or shading tracks when the sun is high in the sky. Above all, the tracker must be able to work comfortably in whatever environment he or she is thrust.
2. A **WALKING OR SIGN CUTTING STICK** is a must, especially for novice trackers. A light, durable stick, approximately 40 inches long is best but longer may be preferred. This stick, which is used to focus the attention of a tracker, should have at least two "O" rings or rubber bands on it for measuring distance and stride (some use many more than two rings).
3. A **MEASURING DEVICE** such as a tape measure can be valuable when measuring print size or stride. Some attach a measuring tape to their stick, but most simply carry a metal, carpenter's-type, tape measure in their pocket.
4. A small **NOTE PAD** and **PENCIL** are needed to record measurements and fill-out track reports. A good drawing of a print will be indispensable.
5. **TRAIL TAPE** can be carried to cordon-off evidence or sign, or to prevent the trampling of a good track. Plastic surveyor's tape works well, but care must be taken to see that it is retrieved after it has served its purpose. Royal blue is the best color for this purpose.
6. A **FLASHLIGHT** can be important when light is not at an optimum. Since light plays such an important part in seeing, it's easy to appreciate how an artificial light source could be helpful.

7. A **MIRROR** can be used to redirect natural light low across sign when the sun is high in the sky.

Tracking is not an equipment-intensive pursuit. Sight, patience, perseverance, and determination are what is required to be a tracker. The above mentioned specific equipment is helpful, but the brain and the body are the primary tools of the trade.

Credo of the Novice Tracker

The fundamental principle on which tracking is based is sound training. The rules upon which all future tracking experience is based lie within the following credo. These very basic rules also serve as the "ABC"s of the Step-by-Step method of tracking.

Any track or sign is considered evidence until proven otherwise. Treat all track and sign as if it were positively identified as being that of the person being sought. Once a track or sign has been destroyed, it cannot be reconstituted. It is lost forever. The destruction of a track, clue, or any sign not only chips away at the finite body of available information, it reduces the chances of meeting your objective. If that objective is finding a lost person, destroying tracks, clues, or any sign can literally mean the difference between life and death.

Beyond simply finding and interpreting sign, a tracker is obliged to protect it. Remember, any clue is important, no matter how small or seemingly insignificant. Do not move from one place to another without being track aware. An untrained person stepping on good sign or track is unfortunate. A tracker or searcher doing the same is inexcusable.

Light

Since tracking is an intensely visual skill, it's easy to see how light plays an important role. Tracking is far simpler when the light is of the proper intensity and from the right direction. However, Mother Nature does not always supply the optimum lighting conditions required for tracking during a SAR incident. When learning to track,

using the sun properly is one of the most important things to learn. Tracks are easiest to see when the sun is at a low angle, e.g. early in the morning and late in the afternoon. When it is so, it causes longer shadows that bring out the details of any depression on the ground making sign easier to see. Clouds, diffuse light (through pollution or clouds), and the sun high overhead all diminish the shadow effect. Put simply: Sign and track are usually easier to see while facing the light source, and with that source at a low angle to the ground.

Since facing the light source can make tracks easier to detect, moving around into a position to optimize the angle to the sun is to be encouraged. Be careful, however, that you do not trample evidence in your search for the proper angle from which to view. The angle will not matter if you have nothing to look at but your own foot prints.

Tracking at Night

Because light plays such an important role in tracking, it is easy to see how tracking can be performed at night when the light source is completely under the control of the tracker. An artificial light source can be rotated completely around the track from a low angle to allow for the best view, thus emphasizing otherwise unnoticed sign. An additional benefit of tracking at night can be realized if the lost individual stops moving (to sleep, for instance), thereby allowing night trackers to catch up.

In addition, since darkness at night hides most of the distractive nuances seen during the day, your light source can serve to focus your attention and concentration where it should be.

A diffuse hand lantern works best when tracking at night. Some success has been achieved with Coleman lanterns with deflectors that keep the light out of the tracker's eyes. Also, the battery-powered fluorescent lanterns have been used effectively. The key, however, is not brightness. The flashlights commonly carried by law enforcement personnel that serve as attitude adjusters and fire starters (with light beam only) are generally worthless as tracking lights. These bright lights diminish night vision and are too intense to bring out subtle sign on an otherwise dark night. The ideal night tracking light should not be so bright as to ruin night vision, yet last a long time (good battery life), be light and durable, and offer a diffuse beam.

Some experienced trackers have attached head lamps to their lower legs, just below the knee, or to their tracking sticks to obtain the best angle while

walking. The U.S. Border Patrol often uses lights attached low on a vehicle for cutting sign on a road. The proper light attached at the correct angle can allow a driver, or observer/spotter, to follow track on the side of the road for a great distance at a faster speed than could be achieved on foot.

Be imaginative, and try night tracking yourself. You will be amazed at how well it works.

Sign Cutting and the Step-by-Step Method

Occasionally something comes "down the pike" that you must see to believe. The sign cutting stick is just such an item.

Most trades have their specialized tools. In tracking it is the sign cutting stick. It is hard to believe that such a simple tool can be so effective, but it's true. When properly used, a sign cutting stick can seem to make sign pop out of thin air. In reality, all it does is force you to look where you want to be looking, instead of everywhere else.

The Step-by-Step method of tracking is stride-based. That is, a tracker gets from one track to the next by determining stride (distance from heel of rear print to heel of front print) then searching one stride from the last track found. This requires some type of device for measuring stride and, for this, the sign cutting stick works well.

When the stride length is indicated on the sign cutting stick by placing the "O" ring or rubber band one stride length from the end, the marker can be placed at the heel of the last track and the end of the stick pointed in the direction of travel. The end of the stick, then, becomes a pointer towards where the next sign or track is expected to be found. The stick causes the tracker's attention to be focused on a small piece of ground rather than a large area. Finding sign is easier when the "search area" is limited. A sign cutting stick does just that.

To use the sign cutting stick, do the following:

1. Find or make a stick that is approximately 40 inches long, or longer. On it, place at least two rubber bands (or rubber "O" rings) that can be moved on the stick, but will stay in place if desired. For one-time uses, a large twig can be procured from the environment and marked with a knife, pencil, or other marker.

2. At the earliest opportunity while tracking someone, determine their stride by measuring the distance from the heel of the rear print to the heel on the front print. Position a marker on your sign cutting stick (either rubber band, "O" ring, or other mark) so that the distance from the tip of the stick to the marker is the same distance as the stride.
3. On the last print found, hold the stick so that the stride mark is held close to, but above, the rear of the heel. Move the tip of the stick through an arc which covers the area where the next track should occur.
4. While sweeping the stick very slowly, study the area directly in front of the tip for sign. Take about twenty seconds to sweep from 10 o'clock to 2 o'clock. Somewhere during the sweep the tip of the stick should be pointing to the heel of the next print. It may be obvious or it may be difficult, but it is there. If you don't find anything during the first sweep, make the next sweep even slower. Constantly be alert to the possibility that the subject being tracked may abruptly change direction or alter his or her stride.

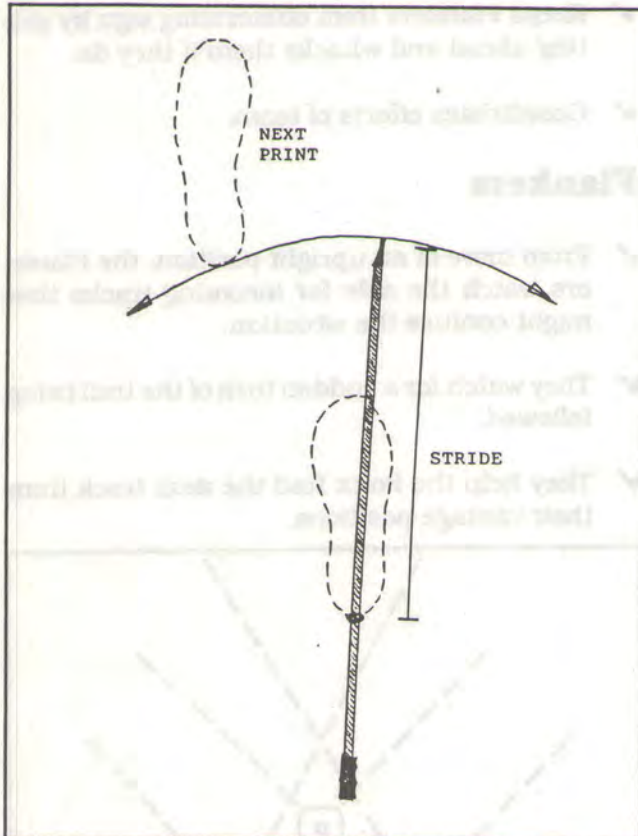


Fig. 23-1 Using the sign cutting stick. Mark the stride on the stick using an "O" ring or rubber band. Then place the band at the heel of the rear print and swing the stick in an arc, focusing attention in the area at the tip of the stick. (above)

The principles of "vision" are dealt with in some detail in a later section, but it is important here to note that a person's eyes are accustomed to wandering as they choose, without the owner/operator being consciously aware of the mechanics involved. Basically, the eyes will do as they please unless directed to do otherwise, which is why we need the assistance of our most valued tool (and friend), the Sign Cutting Stick. This potent tracking aid assists us in training the eye to concentrate on the small piece of real estate, about one square foot, where the next track will fall. As simple as this procedure seems, it is extremely difficult to learn because the eyes are in intimate contact with the brain which (for most) is capable of performing several functions at once. The eyes, however, are capable of looking only at one spot at a time. While most of us will use and move the stick as we're taught, we too often allow our eyes to nervously dart several steps ahead or to the side hoping to get lucky and find that big, easy sign (proving that you are related to Daniel Boone after all). The point is this: you are probably cursed with a cheating mind and a wandering eye, and as long as you let them control your actions, you will never learn to track. Force your eyes to return to finding that difficult sign in front of the stick and concentrate there ONLY. This is where you will learn the trade.

Labeling Tracks

It is important when using the sign cutting stick to know if the track being sought is a right footprint or a left one. By marking the last track found, a tracker can immediately tell which (left or right) should be next.

Tracks should be marked in two ways: indicate whether they are right or left, and circle them if they are fully identifiable. To mark a track, or partial track, left or right, start by using the sign cutting stick to etch a semicircle to the rear of the track. To a tracker, this arc should indicate that there is a track immediately ahead, STAY OFF. A short hash-mark is placed at the right end of the arc to indicate right, and at the left end of the arc to indicate left.

Trackers are rarely lucky enough to get a series of full prints to follow. They must depend on chaining together a collection of sign. When a print is found that is positively identifiable, that is, there is enough print visible to indicate shoe type and sole pattern, it should be completely encircled. This should indicate to others that they are to stay away so that a drawing can be made and the evidence preserved.

Dealing with Facts

It is easy, when attempting to solve a mystery, to search only for solutions that substantiate a pre-conceived idea or theory. In tracking, trackers search for clues (sign). It can be quite easy to search only for clues that will substantiate a theory that has been developed to explain unanswered questions. Trackers must be careful to deal only with the facts. Search for all clues, not just those that would substantiate a theory. Be careful not to look for what you think you will find. Look for what is there.

A good example of "tunnel vision" occurred when a tracker tried to figure how much his quarry weighed by comparing the print he was following to his own. He stepped next to the existing print and deduced that his quarry weighed less than he because the fresh print made a deeper impression. One of the possibilities was indeed that the person who made the first track was lighter than he. However, the fact is that the fresh print was deeper than the old print. That is all. Many explanations could account for the discrepancy. Is the ground softer now? Perhaps the old print had rolled off of a rock, decreasing its impact with the surrounding soil? The point is that the fresh print is deeper, anything further is speculation. Be careful not to confuse the facts with conjecture or speculation. This can lead to searching for clues that fit an erroneous presumption. Worse, it can lead to disregarding sign that is incorrectly deemed irrelevant.

When you find yourself tiring or becoming frustrated because you cannot see any sign, rest. Look away for a few minutes. Check out the scenery before returning to what you were doing. Very often, you will now be able see that what was once apparently invisible.

The Tracking Team

A common approach to following a track by the Step-by-Step Method is with three-person teams. The three-person team, comprised of a Point Person and two Flankers, has several advantages:

1. It allows for consultation in difficult situations because three heads are better than one. If you can convince another hard head that what you are seeing is sign, then you are twice as likely to be right.

2. When training, it builds confidence, reduces errors, and benefits students by allowing a verbal exchange of the details of what is seen rather than just mutual observation a clue.
3. It allows rotation of the Point Person who is physically on the ground searching for sign. Point is a tiring position, especially when sign is limited.
4. It allows the team to split up if several trails diverge. Any team member can call the team back together when one finds that he or she is on the correct track. Actually, this is sign cutting and can lead to bad habits during learning phase, so be careful.

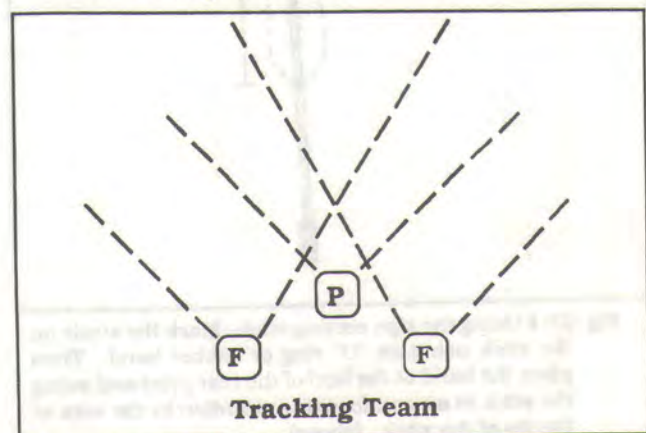
The general responsibilities of the team members are as follows:

Point

- ✓ Stays just behind the last track found, uses a sign cutting stick to search for the next one and mark the tracks as the team progresses.
- ✓ Keeps Flankers from obliterating sign by getting ahead and whacks them if they do.
- ✓ Coordinates efforts of team.

Flankers

- ✓ From more of an upright position, the Flankers watch the side for incoming tracks that might confuse the situation.
- ✓ They watch for a sudden turn of the trail being followed.
- ✓ They help the Point find the next track from their vantage positions.



Tracking, like other types of searching, is not something that can be done all day long without rest. For a tracker to be effective, he or she must rest at regular intervals and rotate through the Point position with other trackers. Searching for anything while exhausted and fatigued is actually detrimental to the search effort. Sign or track, like all evidence in a search, must be discovered to be useful. Pressing on while fatigued is admirable, but a tired tracker may miss things that could affect the entire effort. When lives may weigh in the balance, this is unacceptable.

A component of the tracking team that is often misunderstood is the continuous exchange of ideas and information that should take place between team members. An interplay of opinion between the Point and Flankers allows ideas that one may have to be filtered through the thoughts of the others. This interaction could be as simple as the Point continuously talking about what is seen, and can include each of the Flankers challenging the Point so that all opinions on any discovery can be considered. After everyone has spoken their piece, a consensus can be achieved. This ends up being an efficient way of preventing an overbearing individual from pushing the team in an undesirable direction. When everyone is involved in what is going on, there is a better chance that the team is heading the right way. Do not construe this to mean that silence is never desirable, however. Occasionally, when great concentration is required, silence may indeed be golden.

If you take the time to describe, in detail, what you see and why you think it relates to your subject's track, you'll be much less likely to con yourself into moving to the next step without just cause.

Detecting Sign

Whenever a person walks through an area, whether it be at home or in the wilderness, evidence is left of that passage. A person must contact his or her environment in order to travel by foot. In fact, walking, the most common type of unaided travel, requires a person to come into contact with their environment approximately once every 18 to 20 inches. Some disturbance (sign) is made through

Common Visual Cues		Outline	Shape
		Contrast	Texture
		Color	

that contact and the first phase of tracking incorporates detecting this sign. The next phase of tracking includes following a track after finding the initial sign.

Vision†

Before jumping right into what sign looks like, the acts of "looking" and "seeing" need to be addressed.

Every day we all participate in the act of looking. We look at each other, we look at traffic signs, we look around, we look forward to going home after work, and we look funny on occasion, too. But, what do we actually see when we look? Most people in an urban environment, frankly, don't see much at all. They simply look. The sights they view are stark and consistent, usually full of color, rarely require close scrutiny, and are easily discernible from their surroundings. Let's face it, most folks in today's world are passive viewers, seeing only what they need to see to get by. In tracking, as in most natural settings, this type of vision—passive, non-aggressive, unconscious—will not work.

When tracking, a tracker must not only know what to look for, he or she must also know how to look, and subsequently, "see." In a natural or wilderness setting, colors are not as stark and bold as they are in an urban environment. Nature has a way of using milder tones with uneven boundaries, rougher textures that tend to blend objects into each other, and weaker contrasts that make delineating one object from another more difficult. An unconscious, urban approach to looking will not lend to a successful tracking career. In the natural environment, what we see is not always what we are looking for. Therefore, we must adjust our viewing skills to interpret more clearly what nature has to offer, and learn to see what once we only sought.

If a tracker looks for certain signals or visual cues (cue: a stimulus that guides behavior) that catch the eye, rather than tracks or prints, then, in the end, far more will be seen. When a tracker has a preconceived notion of what he or she is looking for, much of what could be of help is disregarded. A tracker must keep an open mind and look at everything that might possibly be of assistance. From there, bits of information can be objectively disposed of, rather than unintentionally ignored.

† C.E. Worsham, *Techniques of Tracking on Various Ground Covers* (private publication, 1989), pp. 2-3, 11.

Common Visual Cues

To see a track or print, a tracker first needs to be able to discern one or more of certain common visual cues. These cues not only offer a specific attraction to seek, they serve well as general categories of sign. These items are what a tracker should be seeking:

1. **Outline** - boundary or perimeter line around an area, delineating it from its surroundings. May be a small line or a complete track perimeter.
2. **Shape** - large enough to be human; i.e., usually involves flattening, unusual for environment.
3. **Contrast** - difference in color, texture, or shape from its surroundings. The greater the difference, the more compelling and attractive the cue.
4. **Color** - wavelength of light as seen by the eye and interpreted by the brain. In nature, usually mild tones, but differences can be detected. Not nearly as important in natural environments as in man-made ones.
5. **Texture** - rough or smooth. The consistency or smoothness of a surface.

If the tracker looks for these cues rather than just tracks or prints, much more is seen, and much more information is available to the tracker for interpretation. Don't look for the whole, look for the parts. When the parts are found, the whole can be compiled.

Note that most of the visual cues described are simply different ways of saying, "look for something that does not belong." When something out of the ordinary is seen, there is a good chance that it can be valuable to a tracker. Thus, all of the cues listed are essentially different types of contrast in that they all have the tracker looking for abnormalities. (i.e., differences in shape; in color; in texture.)

The last consideration regarding vision that should be mentioned is that certain guidelines must be followed if any longevity and effectiveness is expected from trackers. To see more completely and for longer periods of time, trackers need to exercise their vision so that they do not become "numb" and regress back to looking rather than seeing.

"Looking" Guidelines

These guidelines can help the searcher get the most out of his or her sight when it is needed:

1. **Change views from the big, overall picture to the small minute objects regularly.** Varying the focus can stimulate the eyes as well as the mind and help prevent unconscious, passive viewing and promote active, aggressive vision. The Point of a tracking team can quickly tire from examining small evidence intensely over long periods of time. Looking up and away from the micro-environment can bring back perspective and allow the tracker to see what was invisible just a moment ago.
2. **Look for visual cues, not for preconceived shapes or objects.** Move in and inspect more closely anything that seems out of the ordinary or falls into a category of sign. (i.e., outline, shape, contrast, color, texture.)
3. **Avoid any preconceptions** and look at everything. **Take your time.** There will usually be a lot to see.
4. **Don't look for the whole, look for parts of the whole.** There are more of them and they can lead directly to a desired objective.

Sign - the Specifics

The subtle details of sign are a bit beyond the scope of this text, but much can be learned from any one footprint. The following is a list of some of the information available from a single print:

1. Length and width can help identify the print and distinguish it from others that may be similar. Size of a print can also give a rough idea of the person's size.
2. The general type of sole (if discernible) can help distinguish it from others as well as offer an aid in describing the print to searchers.
3. Measurements of specific parts of a sole pattern can help positively identify a print. That is, lug sizes, areas of wear, or pattern dimensions can help distinguish one print from others.
4. Several prints in a row can help determine direction of travel and stride, which can aid in finding subsequent prints.

Even though it is rare to find a complete, clear print, fragments of prints and sign will be common in most terrain. Because of this, as much information as possible must be learned from each piece of sign. Tracking is not a race to see who finishes first: it is an exercise in accuracy and efficiency. There is no excuse for losing the trail. Getting there quickly is worthless if you end up at the wrong place.

Drawing a print, particularly a complete and identifiable one, can help others to know what print to seek. The drawing can be copied and handed out to searchers so that one specific print can be sought, thus lessening the possibilities. When time allows, drawing a print, or a part thereof, is always a good idea. A standard track report form that offers an area to draw and describe a print is good for this purpose. (See Appendix D)

It would be impossible to mention all the different types of sign that exist because sign varies so much with terrain, weather, time of day, vegetation, and more. Here, therefore, only the most common types of sign and their general categories will be addressed.

Sign depends greatly on the environment in which it is produced. A marsh may produce completely different sign than would a desert, for instance, but some similarities do exist. These similarities must be understood by all trackers, but it's still important that a tracker be familiar with the sign most common to his or her region.

In addition, as mentioned earlier, sign can be conclusively human or corroborant. **Conclusively human** sign is a disturbance which, when considered on its own with no other evidence, can be said to have been definitely caused by a person and not an animal. **Corroborant** sign, on the other hand, is disturbance that is not decisively human and could have been caused by an animal. This type of sign may corroborate other evidence, but, when considered on its own, is not conclusive. It cannot be determined to have been definitely caused by a person, but it may confirm or substantiate other evidence with which it may be found. While conclusively human sign is often discovered by very unskilled trackers (jump tracking), corroborant sign is not. Frequently, corroborant sign is obvious to a skilled tracker yet invisible to the novice; and, when a novice does discover such disturbance, it is usually misinterpreted. Also, corroborant sign which by itself proves nothing, would most certainly have been caused by the

person being tracked if it were to fall exactly between two other pieces of sign at approximately a stride's distance. Because of this, corroborant sign can be as important in the long run as conclusively human sign and should never be overlooked or ignored.

Sign Cutting

Sign cutting has already been defined as the act of looking for sign in order to determine a starting point from which to begin tracking. Now, more of the details of sign cutting will be addressed by answering three questions about it: **when** (when is sign cutting performed), **how** (how is it done), and **where** (where is it done)?

WHEN?

The best time of the day to seek track and sign is when the sun is low in the sky, usually in the morning and late afternoon. Ideally, sign cutting should be started in the morning, suspended during midday, then be resumed late in the afternoon until sunset. This is not to say that tracking is impossible during mid-day or at night, but simply that morning and afternoon are the best times for using the sun to your advantage. Tracking at night is quite possible, and even easy, because the light source is totally controlled by the tracker. Tracking at midday, on the other hand, can be so difficult that it is worth spending the time doing something else. Unfortunately, in SAR, we do not always have a choice.

Sign cutting is not just performed at the onset of a search. It should be employed any time that a single piece of evidence (sign, track, clothing, etc.) is found during a search. Since it is probable that the subject was near the evidence found (if the evidence is found to be relevant), sign can be cut around it to determine direction of travel.

HOW?

Sign cutting is performed while traveling perpendicularly to the direction of travel of the quarry. That is, attempt to intersect the path of the subject when cutting sign, to avoid confusing the trail you are tracking with that of your own. Search for sign by using the available light. Look in the direction of the light source for best results, regardless of what the orientation of the light is to your body. Make the light work for you, not against you.

The application of some simple rules can make sign cutting easier and more effective:

1. If possible, the most experienced trackers should cut sign then continue on Step-by-Step.
2. Use the available light to your greatest advantage. Face the sun, when possible, and cut at a ninety degree angle to the direction of travel.
3. Team members should space themselves several yards apart, but should stay in visual and vocal contact. A team of 2 trackers works best.
4. Look behind you at frequent intervals, especially if the light is not optimum.
5. You may get only one chance to see a print or sign when cutting sign. Take your time and don't miss anything. You may not get another try.
6. Do not allow unnecessary personnel in the area where sign is to be cut. Minimize the possibility of the production of confusing sign.

Sign cutting is performed quite differently than Step-by-Step tracking. Where Step-by-Step requires examination of a small area within one stride of the last track, sign cutting requires a slow, careful visual sweep within a 2 or 3 stride area. Be careful, though, and let your eyes set the pace, not your adrenaline-charged feet.

WHERE?

The first place to start looking for sign would be where it is most likely to be found. That is, look where the person being sought spent enough time to leave good evidence. Also look where the person was most likely to have walked, and where a track should be very easy to see.

Sign is most easily seen where the environment enhances what we seek. You may have noticed that tracks are far easier to discover and identify when they are set in moist sand or firm, moist mud. If we identify areas such as these that allow easy sign cutting, we can use them to our benefit. These, and similar areas, are termed natural or man-made "track traps."

Some examples of natural track traps are muddy areas (especially firm mud), salt flats, fields of high grass, river and creek banks, steep embankments,

and dusty roads or trails. All of these specific areas will show sign readily. The following types of terrain are also considered natural track traps, but they each have their own special considerations.

Roads - Dusty roads can be excellent track traps, although vehicle traffic can destroy many tracks and much evidence in only a fraction of the time it took to leave them. Find out how much traffic has traveled the road in question since your quarry passed by. Do not overlook the sides of paved roads. Traffic on paved roads tends to produce a light dust that shows sign easily.

Sand - Trackers commonly make two errors when dealing with tracks in sand. Both can be prevented by understanding that sand tends to make fresh tracks seem old. Gravity makes soft sand smooth over sharp edges, causing fresh prints to look old. The nature of soft sand also tends to make prints made from high-traction foot gear appear older than prints made from smooth-soled shoes. This is because the effects of wind and weather will age "lumpy" tracks more quickly than smooth tracks. Just be careful when aging tracks in sand: it can be deceptive. Also, keep in mind that, in deep sand, track measurements can be as much as one-half inch shorter than the shoes which made them.

Game Trails - People tend to follow obvious game trails in the outdoors because they are easy to follow, generally clear of obstacles, and almost always lead to water. Pretty much the same reasons why animals use them. These trails are great to cut sign on because if a person traveled through the area, you can bet he or she used the trail. Also, the trails may be covered with animal droppings which can serve as "portable" track traps. The feces can show sign that the surrounding terrain may not.

Man Made - Some examples of man-made track traps include plowed fields, dirt roads, firebreaks, construction sites, fences, or even a small area that was cleared purposely in order to catch a good print of anyone passing (track trap). Fences may not necessarily produce terrain that is good for detecting sign, but if the fence had to be climbed over, under, or through, then plenty of sign would most certainly be produced on even the most difficult ground surfaces. If the fence itself is rusty, a scuff mark may be visible, and don't forget to look for cloth or human hair on a barbed-wire fence. Fences can also serve to direct the travel of

individuals, particularly lost ones. A lost person may welcome finding anything straight to follow, and so might follow a fence line for some time.

Other - There are other features that might also effect a person's choice of route. For instance, a person may follow a pipeline or utility line in order to reach civilization. Items such as towers, lights, and beacons can attract a lost person and therefore effect their direction of travel. Mountains peaks or terrain features that are visible from far away might cause a person to follow a certain path. Any one of these "route modifiers" could be used very effectively to determine a direction of travel. When the direction was assured, sign could be cut ahead, and sometimes far ahead, to hasten the tracking process.

There will be times when terrain and other features do not limit travel so very much, and you are attempting to follow a marathon hiker. These are the times when the Step-by-Step approach combined with sign cutting becomes most important. Use the terrain and track traps to assist in finding sign, and always depend on the Step-by-Step method once a track is started. The Step-by-Step trackers will serve as a compass, constantly indicating direction of travel, and, therefore, indicating where sign should be cut.

The most important principle of sign cutting is to do it where sign is easy to see. To assure this, periodically and carefully test the route you are following by determining if you can see your own prints. If you can't, pick another area for cutting sign.

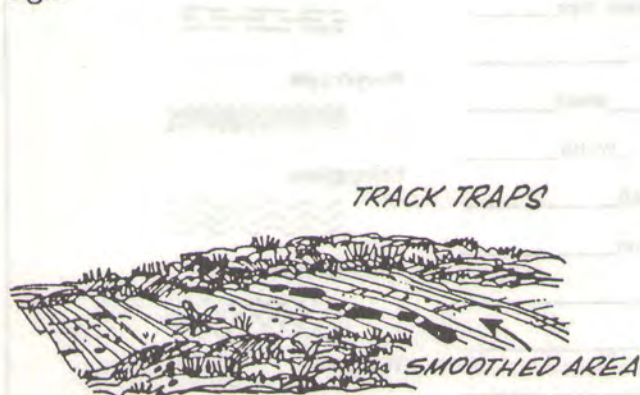


Fig. 23-3 Measure every aspect of a print (right) so that it can be communicated to other searchers. Using a standardized track report form can simplify this process.

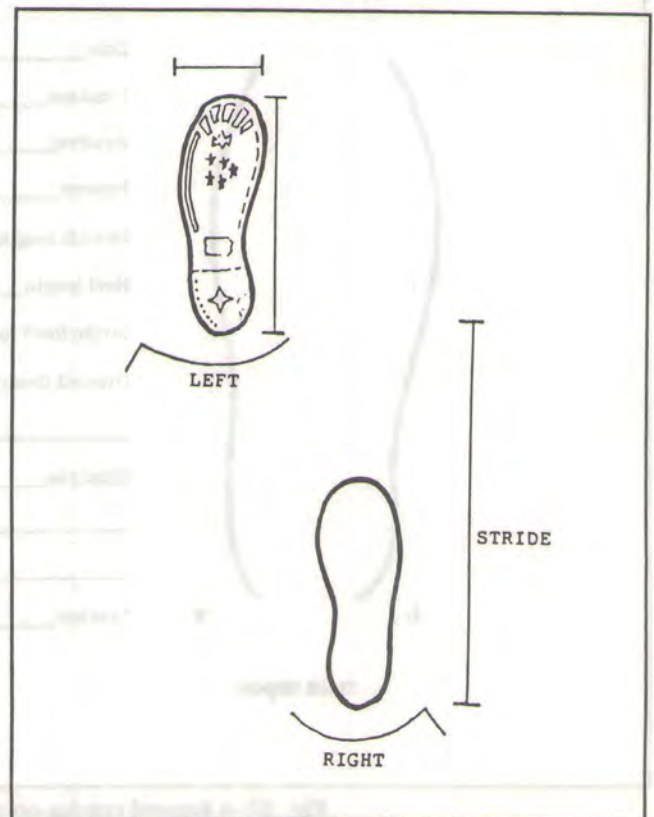
Communicating Prints: Track ID

It is essential for a tracker to be able to do three things with a print once it has been positively identified:

1. Communicate the track to others.
2. Differentiate the track from other similar tracks.
3. Document the description for later use.

The last two can be easily accomplished by simply studying the print, measuring it, and then drawing it. Photographing the track can be important, but more can be learned by drawing it. This can bring details to the attention of the tracker that otherwise might have been missed, and can emphasize subtle marks that might be difficult or impossible to see in a photograph. Photographing a track is a good idea, but should not replace a sketch.

Study and measure every aspect of a print and indicate the measurements on the drawing. Measure, at least, the length of the track; the widest part of the sole and the heel; the length of the heel; the stride (heel to heel), if possible; widths of any lines or marks; distances between lines or marks; number and size of any geometric shapes; and the



number of lugs or other sole characteristics. Be careful to note any nail holes or stitches that are evident in the print, as well as the number and sizes of any marks or lines. Search for and note any cuts, worn spots, or other details unique to the print. Everything visible should be noted and documented on the sketch. Any one of these characteristics might be what differentiates this track from others and is, therefore, important.

Beware of suggesting a size for the print (i.e., size 3 or 4) from measurements made in the field. Manufacturers vary widely in their approach to sizing foot gear and no standards really exist. Rather than convey an estimated size, relate the measurements.

The drawing can be copied and distributed to other searchers, but occasionally the print may need to be described via radio. Tracking is almost entirely visual, whereas radio communication is entirely verbal. The skills required to perform both well are related but not the same. Practice at each is important.

When verbally communicating a track, certain ideas should be kept in mind to minimize confusion and maximize efficiency:

- ✓ Make sure to identify yourself and give your location, if necessary, as well as the direction of travel (with compass) of the track.
- ✓ Keep it simple. Paint a mental picture by using words that are familiar to everyone and to which everyone can relate. Use words that are easy to understand and whose meaning is limited.
- ✓ Begin with a general description. Is it a flat (no heel) or a heel (a distinct heel)? Continue with a term that describes the general class of foot gear, if possible. (i.e., athletic shoe, sandal, work boot, hiking boot, dress shoe, cowboy boot, etc.) Beware of speculation as to the type, and know the differences before using the terms.
- ✓ As a secondary consideration, briefly describe the type of terrain and ground conditions as well as the age of the track, if you can. This might give an indication of the detail to expect.
- ✓ Give the specific details describing the sole pattern starting at one end of the print (tell which). Such details should include, but not necessarily be limited to the following:







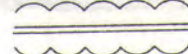
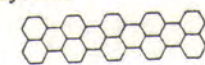

 <p style="text-align: center;">Track Report</p>	Date _____ Time _____	Solid bars 
	Location _____	Broken bars 
	Heading _____ Basic type _____	Wavy/ripple 
	Pattern _____	Herringbone 
	Overall length _____ Width _____	Diamond/checkered 
	Heel length _____ Width _____	Tire tread 
	Stride (heel to heel) _____	Honeycomb 
	Ground description _____	Fishscale 
	Remarks _____	
	Tracker _____	

Fig. 23-4 Record tracks on a Track Report such as this.

- a. Although all measurements should be documented, in the interest of clarity and brevity, only the length and width of the print, and the length and width of the heel should be conveyed over the air. Consider using descriptive terms rather than exact measurements for radio communication. Terms like "as wide as a pencil" might be understood better than "1/4 inch."
 - b. Number or type of lugs (shape, measurements, etc.).
 - c. Number or spacing of any nail holes and/or stitches.
 - d. Shape of the leading edge of the heel (i.e., straight, concave, 'V' shaped, etc.).
 - e. Shape of the toe (sharply pointed, round, square, etc.)
 - f. Specific shape of marks in the pattern (i.e., circle, square, diamond, oval, line, thick line, broken line, wavy line, herringbone, etc.). Avoid using ambiguous terms such as "round" and "flat," and stick to picture terms.
 - g. Specific way of walking. Look for dragging of feet, scuffing, toes pointing out or in, wide straddle (feet placed widely apart), consistently shorter stride with one foot, long stride (runner or jogger), or anything that may make this track unique.
 - h. Look for tendencies or trends in where the subject walks and convey them. Does the subject always walk at the side of the road? Does the subject step over logs rather than on them? Does the subject tend to walk drainages rather than ridges? Does the subject avoid brush? Does he or she walk in a straight line no matter what? If not, what tends to change the direction of travel? Fences? Wooded areas? Water?
- ✓ In sensitive situations where the details conveyed via radio are immediately important, have the receiving party confirm your description by repeating it back to you. In practice, this may be a good idea every time a print is described over the radio.
 - ✓ Use a standardized track report to record your findings.

Strategy

Occasionally, the tracking team is charged with organization and control of a search effort, but the proper approach is to have individuals charged with managing the situation within a function-based hierarchy. If a SAR incident is managed properly, trackers will be called to participate early in the plan. Trackers need to know their place within the structured hierarchy and to whom they answer. These topics, as well as others that are important to the tracker, are covered in any of the fine educational programs dealing with search management. Only the considerations of approach and strategy that facilitate a tracking team's specific tasks will be discussed within this text.

Initially, after dealing with any administrative details, a tracking team called to a SAR incident should attempt to determine where the lost subject was last seen or known to have been. This information may be conveyed through the command structure, or it may have to be determined by the trackers themselves. Where was the person last seen? Where did they pass or what did they do? The area where the victim was last known to have been has the highest chance of containing tracks or other evidence which can be used by a tracker to determine a direction of travel. It takes only three prints to determine direction of travel, and if you can accomplish just this much, you will have contributed more to the search than most could ever hope.

From a subject profile, a tracker should be able to guess at what size print is being sought (small child, small adult, large adult, etc.) and the approximate length of the stride. If you're real lucky, the profile could offer a specific, complete print. When you have an idea what is being sought, and once an area is identified as "hot" for sign, other people should be kept away to avoid confusion or destruction of the evidence. This cannot be over-emphasized. Next, cut sign around the area (perimeter cut), trying to determine a direction of travel, and note any specific additional evidence such as a complete print. Better yet, carefully approach the last known point and examine the entire area without moving around unnecessarily. If a scuff, track, or other sign is visible, stand behind it and scrutinize the area in front of it for additional evidence that might suggest a general direction of travel. Look beneath your own feet to see how they impact the area and look for this specific type of sign. Once the direction of travel

has been determined from the last known point, another tracking team could cut an intersecting line. Be extremely careful not to damage any existing sign. This may be all anyone has to go on. Take every precaution necessary to preserve any prints found, then see that they are documented and communicated to others involved in the search.

Once a direction of travel is determined, one tracking team always stays on the trail, following it "step-by-step." That is, never going past the last conclusive sign. This will mean that there is always someone on the trail. Other strategy can be applied to speed up the process, some of which will be discussed; but, the importance of keeping someone on the last track can not be overemphasized.

The most time consuming project will usually be finding the first track. This is why it is important at the onset to keep everyone (non-trackers) away until sign can be cut and certain basic information gathered (print specifics, will tracking work, etc.). It is important to be able to find a track and be reasonably sure that it belongs to the lost subject. Accuracy is more important here than speed. Once the track is positively identified and a direction of travel is determined, then the pace can pick up quite a bit in most situations.

If following the trail from the last known point is not possible, another method of speeding up the pace is to employ "perimeter cutting" (similar to sign cutting). When initially cutting sign in an area, or when tracking becomes particularly slow, trackers can cut sign in a perimeter around an area where there is a good chance the subject has been. The purpose of such an effort is simply to discover sign at a farther distance from the last sign. If this perimeter team can positively identify the track and direction of travel, they can become the step-by-step team and allow the rear team to perimeter cut around them. The perimeter cut can range from several yards to several miles, depending on the terrain and how long the victim has been missing.

The shape of the perimeter can be square, triangular, circular, or any shape. It can even follow compass headings. The only requirement is that, no matter which shape is chosen, the loop must be completed. Even if sign is found, the perimeter must be completed. Two trackers can cut sign in opposite directions, meeting to close the perimeter, or one team can cut sign continuously until they reach their starting point again. If no sign is

found, consideration should be given to the fact that no one has entered the area.

If careful thought is put into where to cut a perimeter, much time and energy can be saved. Use natural barriers such as cliffs, large rivers, and thick brush, where a person would not likely pass, to limit the perimeter. Use areas where track and sign is easily seen to complete the perimeter (i.e., river banks, dry stream beds, plowed fields, tall grass, steep banks, trails, road edges, etc.). Pick areas that would allow you to be certain if someone passed. Now, the entire perimeter will be either easy to cut or impossible to pass through.

The same rules that apply for sign cutting, apply for perimeter cutting with the following additions:

1. Do not allow anyone to walk or drive within the perimeter being cut. This includes the trackers on step-by-step. They must stay with the track they are working. The most common destroyer of sign and track is people, on foot or by vehicle.
2. Each successive perimeter cut should be made just as carefully as the first.

If a perimeter cut is unsuccessful, it can mean that the cutting team missed something or that the subject has been passed and is between the two teams. In either case, it is extremely important that once a team gets on a track, they stay there until another positive ID is made. Close is not good enough. Someone must always be on the last track after a positive ID has been made.

To improve the "quality of service" trackers can offer when involved in a search effort, it is worth referring to the following guidelines. After all, it is far better to learn from mistakes of others than from your own!

1. Get the most recent copy of the best map available for your area. A U.S.G.S. 7.5 Minute Topographical map is best for foot travel.
2. Make sure that both vehicular and foot traffic is kept to a minimum for the best sign cutting results within the high probability area(s).
3. Check for sign and track along trails and roads on the approach to the search area. Be track aware.
4. Get as much information as possible about the lost subject(s) before going into the field. Try to obtain a detailed subject profile.

5. Only one or two of the most experienced trackers should investigate the area (cut sign) initially. This minimizes conflicting sign.
6. Preserve evidence found at all cost. Document and catalog all likely tracks and sign while traveling into the search area, and be particularly aware of tracks that travel in unusual or erratic patterns. Establish a system for sorting and discarding prints, and make sure the tracking team's prints can be easily distinguished from any others. One way to accomplish this is to put a identifying mark on the foot gear of every member of the tracking team.
7. Since hazards in an area are likely spots to find the subject, they are also good areas to look for sign: look first in caves, mines, over cliffs, in holes, in ponds, etc. within the search area.
8. Make sure that a perimeter has been established beyond which a person could not pass without being noticed. In search management lingo, this is known as "confinement."
9. Cut the perimeter within the confined area, but beware of presuming that no sign on a perimeter cut means that a sector can be ruled out. The subject may have traveled into the sector after the cut.
10. Talk to everyone confronted while traveling within the search area. Presume that everyone is suspect (e.g., the missing person) until proven otherwise.
11. Look for clues, not the lost subject, but do call out the subject's name at regular intervals, and then listen for a response. Bear in mind that, depending on the individual and the situation, some people may not answer. Children as well as escaped felons tend to act alike, in that they both seem to hide when their name is called.
12. Use the Step-by-Step method of tracking.

Further Considerations

Now that we have reduced tracking to simple terms, it is time for an injection of reality. Tracking, although constructed of simple components, can involve some of the most complex issues in life. It deals with mysteries, grief, death, love, loss, and so much more. No dealings with such emotion-wrought topics could possibly be simple. Tracking works because it is a logical, analytical process that deals only with facts, not conjecture, hearsay or emotion.

When a tracker is confronted with influences that do not contribute to the factual, logical input required, then confusion occurs. Tracking is not

gaged by miles per hour; so when a tracker is rushed, effectiveness suffers. Tracking is very "sense-intensive," so when a tracker is overwhelmed with sounds, sights, and unrelated thoughts, effectiveness suffers. As a tracker, try to concentrate on what you can control. Deal with the facts. Deal with them logically, and take your time.

Where tracking is required during an incident, situations will arise that have not been broached in this text. Incident Commanders will not call out trackers because they believe, many times without a working knowledge of tracking, that tracking, "... will not work here." Good trackers will not be able to get to the subject in time to find them alive. External influences will apply undue pressure, most without an understanding of the trackers art. Lost subjects may not be found. Clues may be misinterpreted. Lives may be lost.

Before you become totally disillusioned, however, take comfort in this fact: The same things occur in searches every day where tracking is not employed. Lives are lost and problems arise even when tracking plays no part. Tracking is only a tool that can be used to reach an objective. It is not the panacea. But, it may offer an effective option when used properly. Without tracking and its associated skills, are we really doing all we can as Search and Rescue personnel? Are we missing something? Could we do better?

Consider these thoughts when you are confronted with situations that cause you to hurry, improvise or "punt:"

1. Only a tracker can determine whether or not tracking can be effective in any given situation. A jump-tracking Incident Commander is not a tracker.
2. Only trackers can decide when, how, and how thoroughly to search for subtle sign and track. Do not be pushed into hurrying. It does not work. Don't be stampeded into making mistakes.
3. Tracking is most effective when applied within an effective management scheme. Organization and leadership are always important.
4. Always be track aware. Be aware that for every mile that a person walks, there are thousands of clues.
5. Do not concentrate on determining if and when tracking will NOT work. Rather, concentrate on how tracking can work every time. Make it happen. Think that it will work. Occasionally, you may be wrong.
6. Deal only with the facts. When inundated with theories, write down the facts and use them to develop a theory rather than searching for facts to substantiate one.

gaged by miles per hour, so when a tracker is trained, effectiveness suffers. Tracking is very "sense-intensive," so when a tracker is overwhelmed with sounds, sights, and unrelated thoughts, effectiveness suffers. As a tracker, try to concentrate on what you can control. Deal with the facts. Deal with them logically, and take your time.

When tracking is required during an incident, situations will arise that have not been broached in this text. Incident Commanders will not call out trackers because they believe, many times with good reason, that they will not work. "Good trackers will not be able to get to the subject in time to find them." External influences will apply major pressure, most without an understanding of the track. Last subjects may not be found. Lives may be lost.

Before you become totally disillusioned, however, take comfort in this fact: The same things occur in searches every day where tracking is not employed. Lives are lost and problems arise even when tracking plays no part. Tracking is only a tool that can be used to reach an objective. It is not the panacea. But it may offer an effective option when used properly. Without tracking and its associated skills, are we really doing all we can as Search and Rescue personnel? Are we missing something? Could we do better?

Consider these thoughts when you are confronted with situations that cause you to hurry, improvise or "punt."

1. Only a tracker can determine whether or not tracking can be effective in any given situation. A jump-tracking Incident Commander is not a tracker.
2. Only trackers can decide when, how, and how thoroughly to search for subjects and track. Do not be pushed into tracking if you do not work. Don't be stampeded into making mistakes.
3. Tracking is most effective when applied within an effective management system. Organization and leadership are always important.
4. Always be track aware. Be aware that for every mile that a person walks, there are thousands of clues.
5. Do not concentrate on determining if and when tracking will NOT work. Rather, concentrate on how tracking can work every time. Make it happen. Think that it will work. Occasionally, you may be wrong.
6. Deal only with the facts. When frustrated with theories, write down the facts and use them to develop a theory rather than searching for facts to substantiate one.

Only one or two of the most experienced trackers should investigate the area (and sign initially). This maintains condition signs.

Proactive evidence found at all cost. Document and catalog all likely tracks and sign while traveling into the search area, and be particularly aware of tracks that track in unusual or erratic patterns. Establish a system for sorting and describing prints, and make sure the tracking team's prints can be easily distinguished from any others. One way to accomplish this is to put a identifying mark on the boot gear of every member of the tracking team.

Since hazards in an area are likely spots to find the subject, they are also good areas to look for signs. Look first in cover, under, over, and in holes, in ponds, etc. within the search area.

Make sure that a perimeter has been established beyond which a person could not pass without being noticed. In search management jargon, this is known as "containment."

Get the perimeter within the confined area, but beware of perimeter that no sign or a perimeter cut means that a sector can be ruled out. The subject may have traveled into the sector after the cut.

Talk to everyone contacted while traveling within the search area. Presume that everyone is a suspect (e.g., the missing person) until proven otherwise.

Look for clues, not the lost subject, but do call out the subject's name at regular intervals, and then listen for a response. Bear in mind that depending on the individual and the situation, some people may not answer. Children as well as suspect adults tend to not answer, in that they both seem to hide when their name is called.

12. Use the step-by-step method of tracking

Further Considerations

Now that we have reduced tracking to simple terms, it is time for an injection of reality. Tracking, although constructed of simple components, can involve some of the most complex issues in life. It deals with mysticism, greed, death, love, loss, and so much more. No dealings with such emotion-wrought topics could possibly be simple. Tracking works because it is a logical, analytical process that deals only with facts, not conjecture, hearsay or emotion.

When a tracker is confronted with influences that do not contribute to the logical, logical input required, then confusion occurs. Tracking is not