



Vista Tracking Services Analysis and Techniques

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VISUAL TRACKING ANALYSIS OF THE DORNER MANHUNT:

**The Practical Application of Visual Tracking Skills and Advanced
Observation Techniques for Enhanced Awareness and Change
Detection**

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Usefulness of tracking for law enforcement

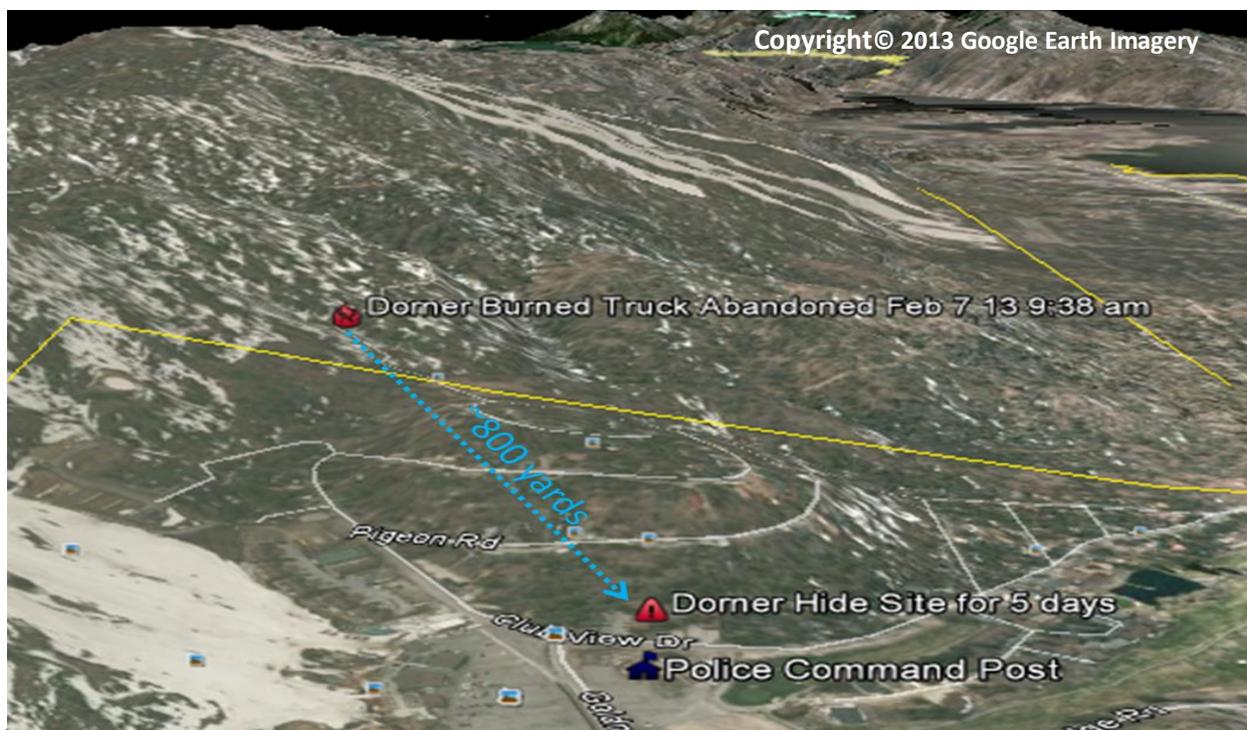
The skill and the ability of the visual tracker for law enforcement are most readily demonstrated in the usefulness of Visual tracking in the application of the pursuit of fleeing criminals. The idea being the application of Visual Tracking techniques contributes either directly or indirectly to the apprehension and arrest of criminals through the identification of track and sign.

Recently, from the 3rd through 12th of February 2013, the Los Angeles Police Department (LAPD), San Bernardino Sheriff's Department along with other police agencies brought to an end the rampage of former police officer and U.S. Navy reservist Christopher Dorner. Sadly two officers and two civilians were killed with several more wounded. The dedication, sacrifice and hard work of these Police Officers obviously saved the community from further deaths, injuries, and damage to property.

While following this case via news reports and live television newscasts, several things caught my attention (as a visual tracker) from the reports. Although information on the footprint evidence located was unofficial and from initial reports, I believe there is still value in how a visual tracker might approach this or a similar situation in the future. The following analysis is from a visual tracking perspective and is not critical of or second-guessing any officer or agencies work, especially with regards to tracking skill or techniques, in this case. This visual tracking analysis will look at how an officer could use visual tracking when faced with similar circumstances. These suggestions and analysis may or may not be what officers actually decide will be their best course of action when facing a heavily armed and dangerous fugitive and is for informative and study purposes only.

Background summary of events

A recent example of evasive behavior and possible visual tracking counter-measures occurred on the 7th of February, 2013 by former Los Angeles police and U.S. Navy Reserve Officer Christopher Dorner. Dorner, 33, had been fired from his job as an officer with the Los Angeles police department for false allegations and wrote and posted a "manifesto" online threatening all



involved with his dismissal.

Dorner began a killing spree on the 3rd of February by killing the daughter of a police officer who represented him in his hearing determining the veracity of his claims of fellow officers abusing suspects which he lost. Four days later, on the 7th of February, Dorner killed one Riverside Police officer and injured another during an ambush while the officers were stopped at a traffic light.

The pursuit of Dorner eventually ended in the resort town of Big Bear in Southern California to the San Bernardino National Forest, about 80 miles east of Los Angeles after authorities found the remains of his burnt-out truck. Officers found his footprints going from the truck into the woods. Dorner's initial hide site was an unoccupied structure that was located less than 100 yards from the very police headquarters established with the sole purpose to coordinate hundreds of law enforcement personnel in his own search! It is believed a Dorner entered the building on or about the 7th through an unlocked door. The property owners give credence to this assumption as they stated that they had left the door unlocked for maintenance personnel. During the search officers only entered unlocked structures or those that appeared highly suspicious. The search of structures was explained as necessary and the methods employed due to the as they felt due to the sheer number of structures in the resort town and police and local officials concern over what would be seen or perceived as the citizens of Big Bears' rights to reasonable search of their property. Again it is thought that Dorner simply locked the door behind him after entering, and when officers looked at the building and found no signs of forced entry and the exterior door locked moved on to the next building. Lack of sign of forced entry, and a locked door satisfied their requirements and parameters for a successful building search. Dorner was finally cornered in a separate cabin on the 12th and is believed to have committed suicide just after the cabin he was barricaded in caught on fire and burned to the ground.

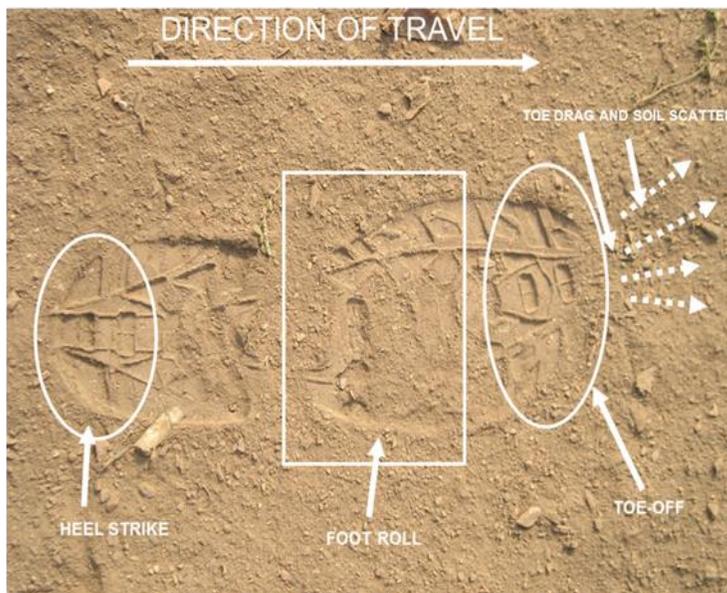
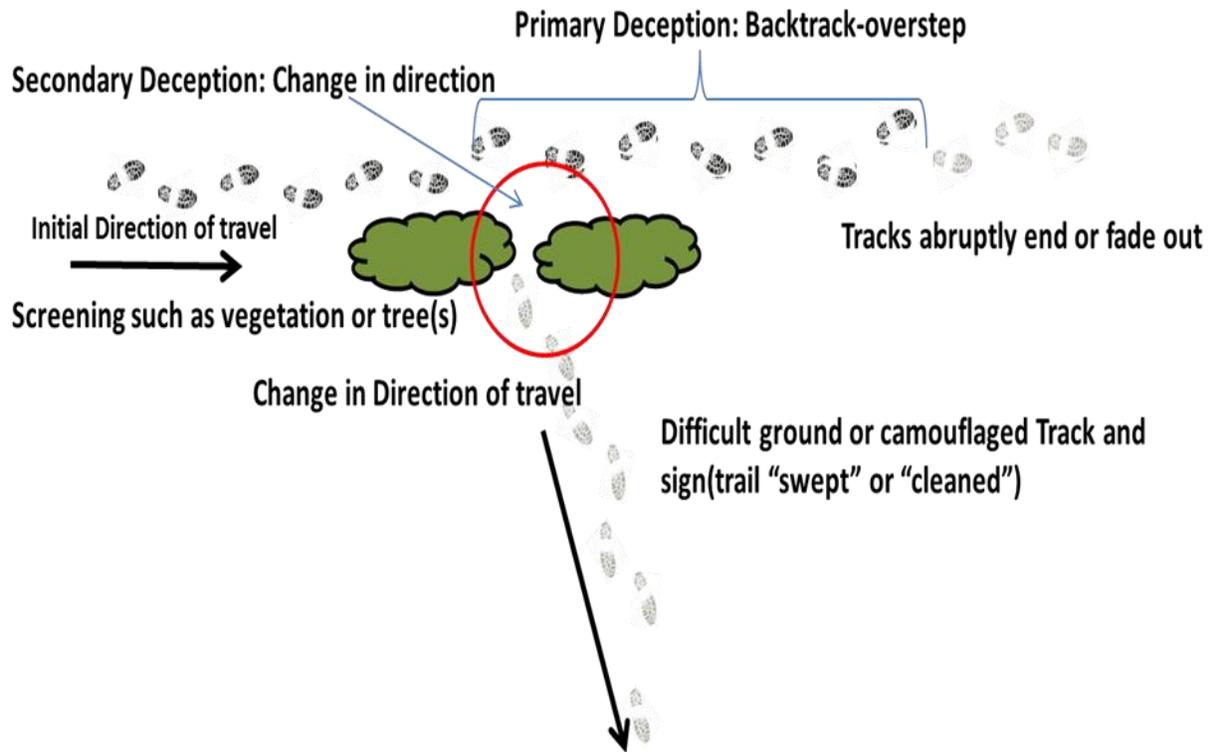
Visual tracking counter-measures

It was reported in national news media Dorner appears to have utilized tracking-counter measures to leave a false trail. Authorities described his footprints as leaving the site of the burnt truck, backtracking in his same footprints, and then moving off in a different direction into the adjacent woods. This description is of a classic counter-measure to visual tracking explained in US Army manuals as called "the big tree" deception along with backtracking.

Almost all visual tracking counter-measures employ what I term as primary and secondary, deception techniques. The goal of the evader is to create a false direction from track and sign, while employing additional visual tracking counter-measures as needed to conceal the new direction of travel that could be seen by pursuers from the evader's tracks and signs. The evasive person employing visual tracking counter-measures is attempting to reduce or eliminate any signature or their presence in order to create the proper conditions for their successful departure from the immediate area. The evader has three basic options when deciding on how to counter visual trackers. The evader will need to decide to; attempt to immediately leave the area, go to ground (hide), or attempt to engage or eliminate the tracker or pursuers. All three considerations (or combination) are used to buy more time and space for the evader to prevent further detection or compromise and the resultant capture. There are other techniques and all have varying degrees of success depending on the method, care of employment, and the skill of the trackers

BACKTRACKING AND CHANGE OF DIRECTION

Tracks made to be seen easily to lure trackers forward past change in direction



conducting the pursuit. When visual tracking counter-measures are successful it is usually due to one or more of the following; lack of trained trackers, time constraints, poor weather or environmental conditions, contamination or destruction of tracks and sign by human, animal, and vehicle activity. Even when trained tracker(s) discover the primary deception or ruse, a secondary deception or local conditions where the deception occurred could well serve to delay or foil the pursuit if continued patience and proper techniques to relocate the track and sign or not employed. When following footprints and sign the tracker looks for evidence of deception. By carefully examining a full or even sometimes a partial footprint it may be possible to see indicators of deception occurring. The evader's footprint(s) may show evidence of sharp turns, and double steps. It is very difficult to retrace ones footprints, especially when walking backwards looking over and down onto the ground and not create the appearance of a double imprint. Walking backwards as a deception is most detectable to the visual tracker due to the reversal of the toe and heel drag marks and soil scatter changing from the toe to the heel. Soil scatter is often created when the toe drags or scuffs the ground resulting in dirt and debris being thrown forward of the foot in the direction of travel. Another indicator is that the footprints will appear very close together and more in line with one another, with little to no outward toe angle from the line of travel. Using this information the visual tracker can often say confidently the fugitive is aware of the possibility they may be or are currently being followed by visual trackers. It shows premeditated thought and definite intent of a person to try and hide their activities which they clearly know are illegal. The excuse of "I didn't know right from wrong" no longer possible. Only a person with a guilty conscious and ability to discern right from wrong would attempt to hide their tracks and sign.

Trackline contamination and adverse weather

Adverse weather along with difficult ground conditions and/or limited tracking ability could halt a tracking pursuit. Other detrimental environmental conditions and factors to successful tracking pursuits are; vehicle, animal, and human traffic which could spoil or "contaminate" the track and sign line. This contamination can also confuse the tracker or destroy track and sign ending the tracking pursuit. Dorners' prints if still present in the snow around the structures searched most likely appeared like all the other footprints especially if searchers were not informed as to what type of shoe patterns to look for. When initially starting a search it is imperative that the track outsole pattern be disseminated immediately to all officers involved. Officers with the knowledge of what Dorner's shoeprint characteristics were would have been able to articulate and justify the necessity to search locked cabins if similar footprint patterns or suspicious tracks were found near a structure. This kind of knowledge is the type that can often negate officials concerns for excessive or unnecessary searches of persons and properties. Courts have ruled that footprint evidence is not only acceptable but that searches based on officers who follow suspicious footprints to residences and persons may have reasonable suspicion to conduct a search. When identifying suspicious footprints/tire tracks, officers can now use smartphones to transmit photos to others in

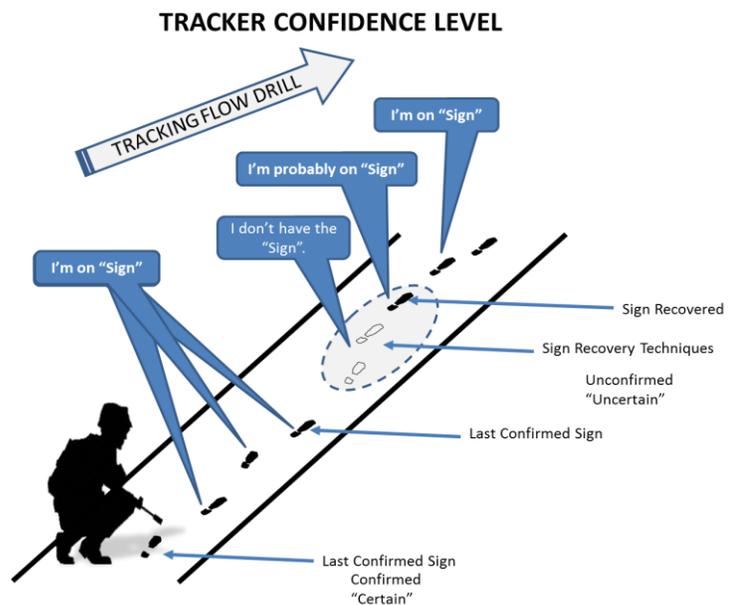


the search quickly and accurately to confirm or deny suspicious persons or locations needing further examination.

Officers should be careful not to make it obvious they are searching for or following tracks and signs as the suspect or accomplices could alert each other that law enforcement may be looking for footprints. If the subject suspects he might be or is being tracked they may immediately change shoes or attempt to conceal their shoe outsole pattern by covering or alteration and employ visual tracking counter-measures destroying or concealing potential evidence. In the Dorner search adverse weather in the form of a snow storm piled over a foot of new snow in the area covering any tracks that had been or were yet to be discovered from Dorner.

Trackline from Dorners' burned truck

When authorities arrived at the site of Dorners' burning truck it was reported the tracks had indicated a direction of travel and then proceeded onto frozen ground frustrating trackers who could not find any further evidence of Dorner. In winter frozen ground can become so hard that only scuffing or subtle marks from the outsole may be detected. This is why search dogs were also brought in and used. It is likely the scent dogs also may have had trouble on the search for the same reason as trackers; freezing cold, frozen ground, and snowfall. In difficult conditions visual trackers can be useful and become a force multiplier when used in conjunction with K-9s. The visual tracker can confirm track outsole patterns and even indicate directions of travel and possible sign for the dog handler to have his dog scent.



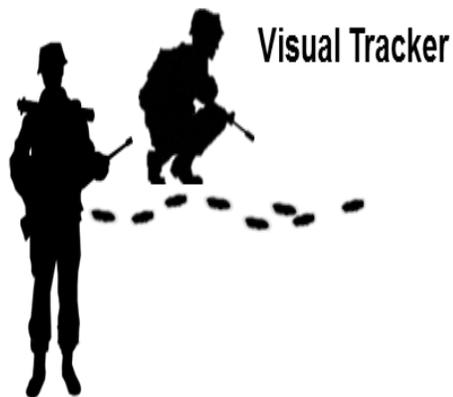
There is no doubt that adverse conditions in combination with the threat from a heavily armed fugitive known to use violence can erode even the most experienced trackers concentration and confidence in the track and sign they are following. The psychological aspect of visual tracking can become very intense.

In the Dorner case it may very well be likely that he left the immediate area of the truck knowing or suspecting adverse weather was approaching and with his limited supplies and other gear now on fire in the abandoned truck he began to search for a hide out and shelter from the environment and police. Examining imagery from the location of the burned truck to the building he eventually hid shows a straight line distance of about eight hundred meters. Eight hundred meters is not a terribly large distance for a trained visual tracker. However, this distance coupled with the rough mountain terrain, adverse weather and ground, approaching snow storm, an armed fugitive, and possible trail contamination would be a challenging event for even the most

seasoned visual tracker. A visual tracker with little to no experience and being rushed either by higher or others would have an even greater difficulty to near impossible task to try to locate and follow track and sign under similar conditions. Trained visual trackers use specific procedures when tracking if the track and sign cannot be found. The tracker does not go past the last known sign until it is marked and conducts individual or team sign recovery techniques. In the Dorner case a contour search which describes a three hundred and sixty degree search based on terrain and intersecting likely places where a person would have to walk and leave track and sign would be searched first. The tracker would start in the direction most likely travelled by the fugitive. These areas are called track traps and when found are searched for the subjects full or partial outsole pattern. This is why it so so important for the tracker to pass on the description and to photograph or at a minimum sketch the pattern for comparison against unknown or suspect tracks and sign. Other teams could also be sent forward to search track traps with photos, sketches or a description of the suspect's outsole pattern. Track traps can be any shape or size and include linear features such as roads, trails, water courses and their banks. In the case of Dorner, he may have paralleled ridgelines or roads just inside the tree line in the dark or early morning light downhill towards the homes and cabins. He may have also stayed in the tree line when nearing the cabins and other structures while looking for one to enter and use as a hiding place.

Tracking armed and dangerous fugitives

No police officer or agency can or should take the chance to have an officer attempt to track a known armed fugitive without a security or a cover tracker with them while tracking for protection. The cover or security tracker will



Security or Cover Tracker

give the actual officer looking for track and sign the ability to more fully concentrate on tracking while the other officer provides security. This is not to say the tracker totally ignores the environment, but rather maintains a shifting focus of finding and following the tracks of the fugitive. Each track and sign can build a picture as to the fugitive's direction, activity, and possible future actions. A talented tracker can determine the possible intent of his subject, with the tracks and sign acting as words to the story a tracker forms during the pursuit. When tracking the most effective manner is to utilize a practiced procedure so as to increase accuracy and consistency in locating and following track and sign. The tracking flow drill developed and taught

by Vista Tracking is a procedure based on teaching law enforcement, military, and civilians on how to follow track and sign most effectively in the shortest amount of time and is implicit in the use of tracker security.

Tracking flow drill detailed

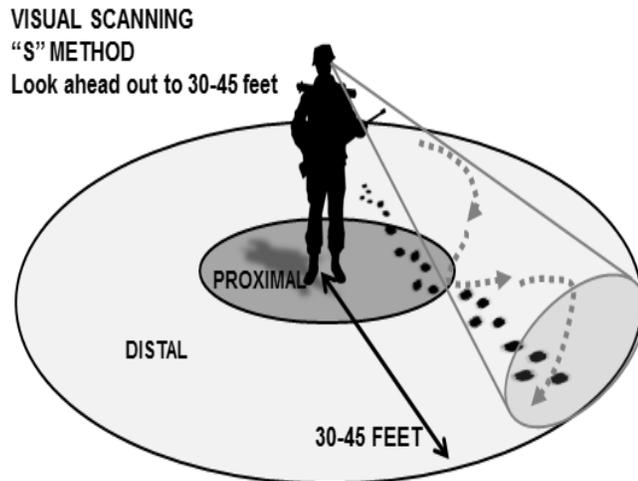
When tracking it is necessary to use a method to consistently and accurately follow track and sign. The tracking flow drill has been developed to just that. The tracking flow drill is divided

into three parts. Each part can be transitioned to at any time though they are initially taught in sequence. The tracker after learning the basic three part sequence can easily apply the procedures as needed and each part individually or sequentially based on the tracks, sign, and situation.

Part 1. Begin by identifying the Last Confirmed Sign (LCS). Conduct visual scan to determine direction of travel and line of sign. The return scan should connect back to your last confirmed sign essentially linking all the sign together into a line of track and sign (track-line).

Conduct quick interpretation of track and sign:

- footwear outsole type or footprint
- number of persons to be tracked
- direction of travel based on footprint and direction of vegetation or displaced soil and stones
- age of the track and sign



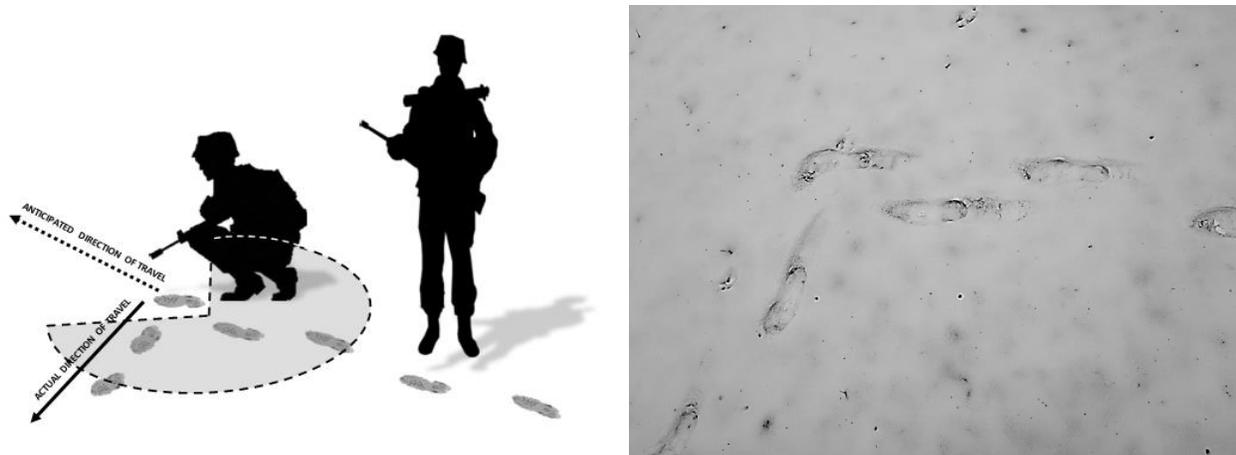
Determine direction of travel and line of sign by visual scan and visually locating sign out as far as possible from current position.

Part 2. Evaluate detected sign for identifiers confirming it was made by your quarry/subject. Visually scanning connects the track and sign to the last confirmed sign at your present position.

Part 3. Move toward the furthest sign confirming the sign from step 2 and continue to look for sign as far out as possible and repeating the tracking cycle from step 1. If no confirmed track or sign is seen then conduct a Sign Recovery Techniques. If sign cannot be seen past the last known sign, the tracker does not proceed further. The **TRACKER SHOULD NOT PROCEED PAST THE LAST CONFIRMED SIGN**, unless conducting a sign recovery technique.

Turn search

When the tracker can no longer see track and sign in front of him he will need to conduct a quick but thorough visual search or scan all around him to see if the subject has made a sudden turn, deception, or the tracker has gone past the last actual track or sign. If after conducting this deliberate search the tracker has not found the sign you will need to conduct a sign recovery procedure to attempt to regain the track and sign. The turn search is conducted by scanning to the left or right of the last confirmed sign in an arc behind and to the opposite side. It can take from 15-30 seconds on up to 1-2 minutes to conduct a full scan depending on the ground and vegetation. The turn indicator in snow or similar ground type that shows a series of prints will exhibit a decrease in step distance prior to the turn. The last footprint prior to the turn will also often have mounding and fracture lines on the opposite outside of the print and twisting and fracture lines in the toe mid foot area with toe drag indicating the change in direction.



Dorner's suicide and fiery end

Dorner had remained hidden within sight of law enforcement for at least five days and no doubt secretly watch the law enforcement operation as it unfolded. Dorner was finally ousted from his comfortable hide out due to the unexpected arrival of the properties owners surprising him. The owner's arrival resulted in Dorner tying and gagging the husband and wife pair and stealing their car. Police received warned of Dorner's flight by the couple escaping from their bonds and began a revitalized search in the area again for Dorner. On the late afternoon of the 12th of February police had Dorner cornered in a wooden cabin after he had stolen two cars and had killed one sheriff and wounded another. The perimeter was established around the cabin effectively preventing his escape. After exchanging gunfire with police and with no escape Dorner finally ended his own life with a gunshot to the head just as the cabin he hid in became engulfed in flames charring his corpse as ammo continued to "cook off" from the intense flames and heat.

Visual tracking and training

One can only do what you can with what you have at the time. It is my hope that this tracking analysis will not be mistaken for an after action critique, but an example of how footprints and associated sign can be used as evidence and the possible ways visual tracking can be utilized by trained personnel during a search for an evasive fugitive who is armed. Visual tracking can be used in many capacities in law enforcement such as footwear impression evidence in forensics, vehicle bailouts, area and building searches, suspect identification from footwear impressions, poaching and natural resource theft, and as described in this article and scenario fugitive pursuit. Tracking training need not be weeks long. Courses of two to three days or even an eight hour seminar could provide just enough training to make visual tracking available as an opportunity based skill and make the difference between catching the fugitive, or even preserving evidence for later prosecution of a case. It is preferable to train officers over a full week, but with budget and personnel constraints even training as long as eight hours can prove beneficial. Basic visual track awareness when coupled with additional practice on the job and officer initiative could pay dividends in return through officer and community safety.