



Colorado SHERIFF

Published by the County Sheriffs of Colorado



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Spring, 2014
Volume XXXIV, No. 3



Scent is the Best Clue

By Marcia McMahon, Search and Rescue Dogs of Colorado

An overturned boat has been found on shore after a wild windstorm on a large reservoir, and no one witnessed the incident. It is September and the weeds have grown rampant over the lake bottom and silt has swallowed everything where there aren't weeds. Visibility is zero underwater. What is your best, and only, clue? Scent!

For over 30 years, Search and Rescue Dogs of Colorado have trained dogs to work with Law Enforcement and other SAR teams in Colorado and neighboring states. We are a Regional Certification Agency, and take pride in the fact that our teams are especially well-trained for the conditions found on searches in the Rocky Mountain area.

We train dog teams for **Air**

Scent, Trailing, Cadaver, Water, and Avalanche searches. Our Certification process takes a minimum of two years, depending on the team and their experience. All teams learn the art of Trailing first, and after about a year, each team will either continue Trailing to certification, or switch to Air Scent and pursue certification in that endeavor.

Training is rigorous and testing extensive. SARDOC is divided into four regions throughout the state that train separately. Handlers must travel to one of the SARDOC regions other than their home area in order to test. This way testing is accomplished in a new environment with testers who are unfamiliar with the team.

One of our strongest specialties is that of **Water Search**. A well-trained water dog team can pin-

point a drowned subject closely enough for the dive teams to locate the subject in minimal time. How is this accomplished?

First, the dog and handler must be very adept at Air Scent. They must learn to follow the scent cone that rises out of the water from the subject and as it blows across the lake or up or down the river with the volatile and unforgiving Colorado Winds.

Teams first get their experience with airscent problems on land, where the dog learns to move across the terrain working into the scent and scent cone of the subject under his own power. This scent blows off the subject and spreads out across the terrain similarly to how water flows down a river, working its way around obstacles and eventually downward. Scent



Maui in training

flow on land is affected by hills, rocks, drainages, temperature, and subject condition, among other factors. Teams train extensively in all types of terrain and in all weather conditions to learn how to work with the scent to find the subject as quickly as possible. When the team is ready, they will pursue their certification tests in Air Scent on land.

Once the team certifies in Wilderness Air Scent, or Trailing, they can start working toward their water certification

Beginning Water Training: Shoreline work

Water Search is made up of two components: Shoreline Information/Triangulation and Pinpointing from the Boat. The combination of the two can narrow down water searches rapidly.

Water dogs must learn to alert on any human scent, live or cadaver, under the water. Teams begin training on foot from shore chasing a diver who is running out into the water with the dog's toy. The handler holds the dog, who watches the diver running and gets very excited. The dog is released when the diver reaches a pre-determined distance out in the water and explodes out to "find" the diver and retrieve the toy. The training proceeds to a submerged diver that the dog swims out to. The distance from shore is gradually increased as the dog's confidence and desire grows. Subsequent steps repeat the

swim out sequence with scented material in the water at slowly increasing distances, keeping the ultimate distance still swimmable for each dog.

As training for **Shoreline Work** progresses, the source will be placed farther and farther out until the dog cannot swim to it. The team then walks the shoreline using the wind in such a way that the dog will get drawn along the shore from lesser to stronger scent. As the dog picks up stronger lines of scent, he will point with his nose directly at the source. He will continue to move along the shoreline, pointing out towards the water until he gives his final indication on the strongest line of scent from the source.

The handler will mark these alerts with flagging, GPS, and compass bearings in the direction the dog is pointing. The handler will then transfer the Coordinates onto the map and draw the bearing lines well out across the water. This information will help triangulate the **High Probability Area** to be searched from the boat, thus narrowing down what could otherwise be a huge area, depending on RP information, and Place Last Seen, or whatever clues are available for the search. Shoreline search indications play a pivotal role in narrowing down the search area and can greatly shorten the amount of time it takes to locate the subject.

Boat Work

Accurate pinpointing from the boat is the second, and most important, component in a successful water search. In order to pinpoint, Water Dogs must have a very reliable "**final alert**". Teams learn to work from boats after they have successfully developed their desire to "find" the divers from the shoreline.

After the dogs have learned to work with divers, which most search dogs find wonderfully exciting, and they have shown their capabilities, they are put on a boat so they can learn to work the scent as it flows across the water. With the bubbles from the divers' air hoses flowing, the scent is strong and enticing and the dogs do quite well. The divers are placed at different depths in as many varied water temperatures as possible in training to accustom the dogs and handlers to working with, and interpreting, many types of situations and conditions.

The difficulties arise at first because, now that he is on a boat, the dog can no longer move under his own power. He cannot gallop across the terrain linking together his scent cone while confined to the boat. He must learn that the boat will follow his nose as he points towards the subject. It is very important that, at this stage of training, the boat driver be knowledgeable about the dogs' work and competent at steering the boat when the dog and handler need the boat steered towards the scent source. So, as the dog's nose turns to the scent, the boat driver will steer the boat in that direction immediately if at all possible. Wind and turning capabilities of the boat will always come into play, but ideally the boat will turn on a dime and the dog will understand that he can work the cone and get to the source quickly and reliably so he doesn't get frustrated.

All searches begin with the boat gridding perpendicular to the

wind. As soon as the dog turns towards the source, gridding stops and the boat moves with the dog's nose until the scent deviates or the dog performs his final alert. In the case of the dog going out of scent, the boat will begin a new grid parallel to the wind until the dog reacquires the scent and the team can resume following the cone to the source.

The team will then focus on the handler learning to read the dog and accurately instruct the boat driver as to when to turn the boat when the dog has interest. The strong scent from the diver also encourages very animated body language from the dog, which helps establish their alert patterns-critical for the handler to recognize when on a real search.

The Final Alert

Every water dog must perfect a final alert. This is a precise behavior the dog will give when in the strongest scent, which is the point closest to the subject. The distance will not always be directly above the subject, due to depth of the subject, water temperature, water flows, etc. However, the better trained and seasoned the team, the closer they will get with their final alerts. The final alert will only be given once at this critical location and is the most important information the dog will give. The handler marks the spot with the GPS and the dog gets his reward!

To train for the final alert, the dog must first have learned the alert in a controlled environment on land. This way, when the dog arrives at the strongest scent in the water, he already knows what to do. In the early stages of training, and indeed for most trainings, the handler will know where the source is so he/she can teach the dog to perform the final alert reliably. If the dog's alert is one bark above the scent source, as an example, the dog will have learned to do this before he ever gets into the

boat. Then, when he locates his spot of strongest scent on the water, he will know to give his bark and that he will receive his reward.

When training on divers, the handler will give a sign that the diver needs to pop out of the water with the toy when the dog alerts. The explosion of the diver blasting out of the water, toy first, makes the day for most dogs. After their first experience with this, the dogs usually move forward very quickly with training as they cannot wait to get back in the boat. A trick, once they switch to a cadaver scent source, is to have the source connected to a long rope through a pulley. When the dog alerts a person hidden on shore can release the rope, and the source pops up out of the water to the dogs' absolute delight. This achieves the goal of teaching the dog to become spontaneous and accurate with his final alert.

How a Water Search with Dogs should unfold for Maximum Effectiveness

Headstart: Give the Dog Team a one hour head start; they will be happy to arrive earlier-It gives them a clean scene if possible and maximizes the use of your resource.

Scent Article: Very useful if available, but not necessary.

Shoreline Search: A Dog Team working a shoreline involves a handler and dog walking the shoreline

in various directions according to the wind and clues, until the team has triangulated the high probability search area through dog nose points and handler flagging, GPS, and compass bearings.

Boat Search: The team will then board the boat and try to work the search area into the wind as wind allows. The dog will perform the final alert as close to immediately above the subject as possible.

Technology: If side-scan sonar or underwater cameras are available and underwater visibility is enough for these to be effective, either of these devices would be sent to the Coordinates of the Final Alert to locate the subject under the water.

Divers: The divers will then dive down to the subject for the recovery.

Why dogs are so effective

The underwater environment is often very murky allowing for very poor, if any, visibility. In many cases this renders an initial search by Side Scan Sonar or Underwater cameras ineffective and can waste many hours that could have been saved. The scent is always there if the subject is.

The dogs will narrow down the search area from the shoreline before a boat needs to be deployed. In searches with a fairly good Place Last Seen, the dogs can encapsulate



Annie following the river



Maui zeroing in on the scent

the search within an hour or two, possibly saving days of blind searching by divers who have no visibility. This can also narrow down the search area in which to deploy the Side Scan Sonar.

A Case in Point

June, 2012. Deerfield Lake, South Dakota:

A young man apparently drowned on Memorial Day while kayaking in high winds. No other people had been at the lake to witness the event. Searchers kept looking for 15 days with foot searchers (in case of runaway or other scenario), divers, side scan sonar, etc, because Deerfield Lake is quite large, having a 10-mile perimeter. A SARDOC team was called after 15 days to try to help narrow down the area where the subject might be.

The team performed a shoreline search in an area pre-determined by the handler using a map with clues indicating likely places to start. The dogs alerted almost immediately upon starting and triangulated within 1/2 hour. The team then boarded a boat. The boat was docked over a mile from the area indicated due to necessity. Even so, the first dog working the scent cone

the entire way around the point pinpointed in 45 minutes. Conditions were good. The second dog boarded the boat, worked a very similar scent pattern and reconfirmed the area. Then the first dog, working from a different direction due to changing wind conditions, re-pinpointed in the same location. A Side Scan was sent in to the coordinates indicated by the dogs and spotted a mysterious shape of silt, 47 feet deep on the lake floor. Divers found the subject within minutes. The subject had not been located during previous searches because of a heavy layer of silt covering him.

Sometimes water searches can be extended, even in small lakes or ponds, due to lack of visibility. The divers cannot see, but the dogs can still smell the subjects and can narrow down the search in very little time.

Dogs on River Searches

Water Dogs can also be very effective on river searches, where it is not possible to use Side Scan Sonar, cameras or divers. It is especially important to narrow down the area to as precise a location as possible because of the harsh

nature of rivers. Usually in these cases, the water is very dangerous for the divers to enter, so the smaller the area to search the better.

River searches can be quite difficult, depending on the width of the river, the strength of the flow, the time of year, rapids, what have you. These are often dangerous searches for the dogs also, as they can become a subject themselves if the team is not careful. Dogs must be very carefully trained so they can work at their best and yet stay safe.

How the River Search unfolds

Rivers in Colorado are often not conducive to boatwork by the dogs so shoreline work is critical. The winds are always a mess, confused even further by inevitable rock canyons, eddies, weather conditions, etc.

Head Start: If possible, allow the dog teams an hour head start before the other searchers begin working to allow them to gather the best information. The teams can, however, work alongside other searchers, if necessary.

Scent Article: Again, very effective if possible. Many times there are rafters going by continuously so a scent article can be helpful but not necessary.

Shoreline Search: The dog team will work the river as the handler decides. The current carries the scent while the wind swirls and throws the scent in many directions. Scent pools collect in various places on rivers. Ideally, the teams will be able to work the river from both sides and in both directions. It often happens on rivers that the scent is available on only one side. There are many possible scenarios for river searches.

Final Alert: The dog will perform his final alert where the scent is the strongest. For some dogs, if the subject is far across the river and the scent is not quite to the dog's liking, he will perform a weak alert. This is where the han-

dler has to add in the river current and width and come up with an educated guess from the dog's alert and body language combined with the river's parameters.

Condition Dependent: Rivers are tricky and there will be times when the subject cannot be found due to safety issues. Conditions will have to change for the situation to be resolved.

Another Case

2010 Frog Rock, Buena Vista:

A rafter fell out of her raft at the Frog Rock Rapid on the Arkansas River. This is a notorious area for drowning, but in the past the subjects had reappeared on their own. This time the subject did not reappear. The rapid was treacherous, and though the divers tried several times with several different approaches they found no clues and it was simply too dangerous for them to continue trying to get under the water.

A SARDOC team was called in four times over the course of four months to attempt to determine if the subject was still in the same location as that of her disappearance and to rule out that she might have been transported downriver. The dog teams worked the river in both directions each time, and the dogs alerted in the same spot all four times despite the changing conditions. The first time one of the dogs was in a raft briefly and alerted. During the rest of the three search days, the dogs were only able to work from shore. A scent article was requested for the second search day, due to the high volume of rafters and people in the water.

After the dogs' positive alert on the third search day, the river flow on the Arkansas was lowered to allow divers to search, but the conditions were still unsafe and no clues were found.

After the dogs' fourth search day and positive alerts, a Cofferdam was built and the river diverted. The divers found the sub-

ject in the location of her disappearance on their third attempt in a deep cavern under the river.

Conclusion

Colorado has many different types of water bodies, from ditches to lakes to tiny ponds to run-off engorged rivers. Visibility is often impaired as is navigability, and in many cases the scent from a drowned subject might be the only clue to his/her location.

Water Dogs can often make the difference between a long, drawn out search and a shorter one. Decreasing the search time helps everyone, saves resources, and helps family members. Calling for Water Dogs as soon as possible can make a huge difference in the search effort.

Founded in 1983, SARDOC has been certifying Airscent, Trailing, Water, Cadaver, and Avalanche dogs for 30 years. In addition, all SARDOC teams are active fielding members with their own Search and Rescue Teams, which means they are very well-prepared for searches in any type of Rocky Mountain environment. They are advanced and reliable. Teams are also trained in Crime Scene Preservation, Medical Treatment, Helicopter loading and Navigation.

To request Dog Team Resources please call 719-278-8181. For information any time of day, please email coordinator@sardoc.org. Information for Law Enforcement and SAR teams is also available on our website at SARDOC.org.

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Contact: Andy Fall
Telephone: (503) 493-9301
Cell: (503) 437-3537



TRINITY SERVICES
GROUP, INC.

11225 N. 28th Drive, Suite D204, Phoenix, AZ 85029 • (602) 272-0845
Corporate Office: 477 Commerce Blvd., Oldsmar, FL 34687 • (877) 277-5452
www.trinityservicesgroup.com