

SPRING 1979

# Search & Rescue

## MAGAZINE

THE OFFICIAL PUBLICATION OF THE NATIONAL ASSOCIATION FOR SEARCH AND RESCUE



IF MAN'S BEST  
FRIEND IS DOG  
AND A LADY'S  
ARE DIAMONDS,  
WHO WOULD  
YOU PICK TO  
RUN A SEARCH?

COVER:

"Lys" negotiating some of the difficult rubble and debris at a site at Wangen and Aarve, disaster dog training site in Switzerland. (PHOTO BY URS OCHANBIEN)



SEARCH AND RESCUE MAGAZINE

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**APRIL 4-6, 1979**

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**APRIL 4-6, 1979**

Helicopter Emergency Lifesaving Program  
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**APRIL 9-13, 1979**

Dive Rescue Specialist I Training School  
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**APRIL 10-12, 1979**

Stress Management Seminar for Police  
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**APRIL 25-27, 1979**

Regional Conference Schedule  
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(916) 643-5170

**APRIL 27, 28, 1979**

Water Rescue 79  
Columbia College  
Jim Segerstrom  
Jack Ross

**APRIL 28-30, 1979**

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San Juan Capistrano, CA  
Rad Mays  
Saddleback SAR Team  
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Orange, CA 92667  
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**APRIL 30—MAY 4, 1979**

Dive Rescue Specialist I Training School  
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**MAY 4-6, 1979**

Triage In Trauma VII  
Ramada Inn, Waterloo, Iowa  
Iowa Trauma Seminal Planning Committee

**MAY 23-25, 1979**

Regional Conference Schedule  
Eglin Air Force Base, Florida  
Colonel Bruce Purvine  
(305) 882-5357

**JUNE 6-8, 1979**

Regional Conference Schedule  
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(605) 246-1626

**JUNE 14-17, 1979**

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**JUNE 18-22, 1979**

Dive Rescue Specialist I Training School  
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Scuba Schools International  
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**JUNE 23-30, 1979**

Northern California Search and Rescue School  
Donner Mines Scout Ranch  
Ken Anderson  
P.O. Box 1351  
Marysville, Ca. 95901  
(916) 742-3215

**JULY 29—AUGUST 4, 1979**

National Cave Rescue Seminar  
Cave Rescue Operations and Management  
Department of Environmental Conservation  
Albany, New York  
Daniel I. Smith  
National Cave Rescue Coordinator  
834 Louise Drive  
Petaluma, CA 94952

**OCTOBER 15-19, 1979**

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National SAR School  
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**OCTOBER 15-19, 1979**

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**NASAR 79**  
Baton Rouge Hilton, Baton Rouge, Louisiana  
Lois Clark McCoy  
NASAR Administrator  
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La Jolla, CA 92038  
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# Search & Rescue

## MAGAZINE

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## STEVE BLAKELY

**DELAWARE WATER GAP**— A 35-year-old truck driver was plucked from his cab in a dramatic mid-air rescue Thursday night, after his tractor-trailer skidded off a Rte. 80 bridge near Delaware Water Gap and left him dangling precariously 50 feet above the ground.

The driver, Charles John Reitler of Tarentum, spent more than two hours in his wrecked cab, hanging about 20 feet below the bridge, as National Park Service mountain climbers rescued him with ropes.

When he was finally lowered to the ground near Brodhead Creek opposite the PCA paper mill, he was rushed to Pocono Hospital for treatment of minor head injuries. He was later released.

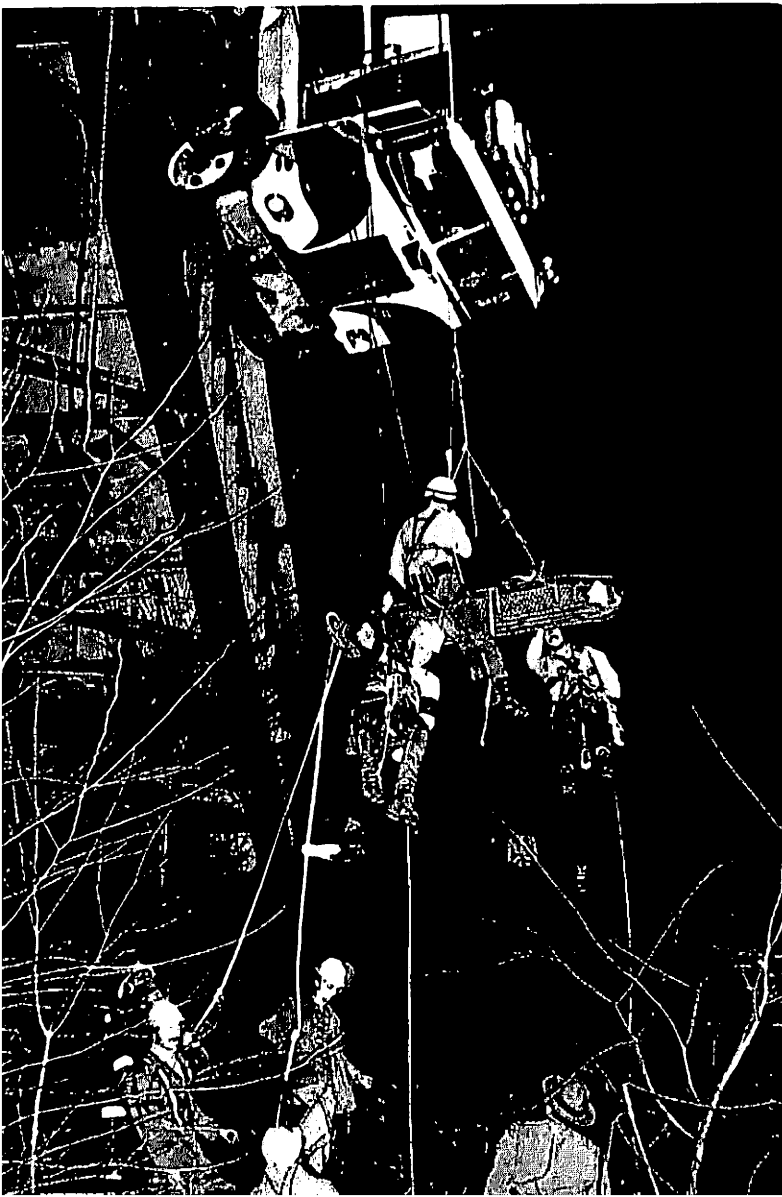
The accident blocked both lanes of Rte. 80 east of the Rte. 209-80 junction for almost four hours, and forced interstate traffic to be rerouted through Delaware Water Gap, East Stroudsburg and Stroudsburg. Stroudsburg firemen had to be called out to direct the sudden crush of traffic.

The accident happened at 6:20 p.m. Thursday, when Reitler lost control of his empty Pabst Brewing Co. truck on the rain-slicked eastbound lane of Rte. 80.

**PHOTOS BY DONALD FISHER AND STEVE BLAKE.**

Reprinted from *The Pocono Record*, Stroudsburg, Pa., Friday morning, November 11, 1977.

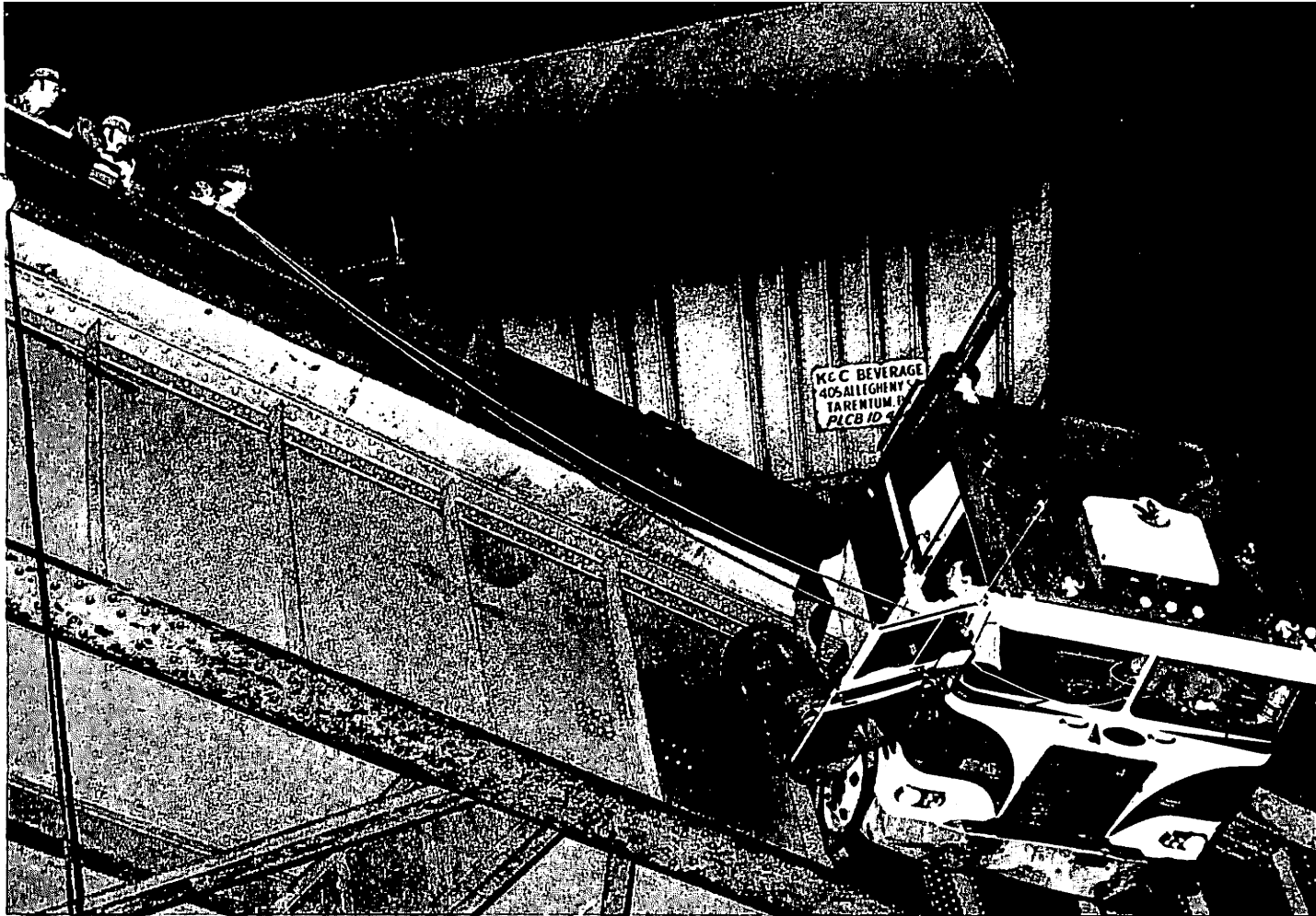
# MOUNTAIN RESCUE SAVES TRUCKER AFTER BAZAAR CRASH



NPS 'Air Patrol' comes to earth, having got their man

Rescuers leap off





Charles Reitler (right), holding safety line, waits for help

"He said he simple lost control," said State Trooper Al Arcovitch. "The rig jack-knifed, he hit the windshield, and the next thing he knew he was dangling over the bridge."

The rig finally came to rest with the trailer on its side about 20 feet over the bridge edge. The cab — with Reitler inside — was dangling in mid-air, hanging on only by the single pin hitch and two rear wheels delicately clinging to the cement. Reitler was perched on the passenger's side, sitting on the dashboard of his now-vertical cab, about 20 feet below the bridge and 50 feet above the ground.

When the Marshalls Creek Rescue Squad arrived, they quickly threw Reitler two ropes which he tied around his chest and waist in case the cab broke free. State police stopped all traffic on the bridge, since vibrations from passing trucks in the westbound lane caused the cab to shake.

Because of the cab's position, rescuers could not safely pull Reitler up to the bridge. Marshalls Creek fireman Steve Dewitt was lowered by rope down the other side of the cab, but the door was jammed and Reitler couldn't move without fear of his cage crashing to the ground.

About 45 minutes after the crash, five National Park Service mountaineering experts arrived, and started rigging special equipment for a rope rescue. After an hour and a half of preparation, with four heavy-duty tow trucks tied onto the cab's axle, NPS rangers Bill Sherman, Tom Patterson and Hugh Dougher climbed out on top of the trailer directly above the cab.

With rangers Lenny Bobinchock and Charles Joyce handling the lifelines above, the three mountain climbers carefully lowered themselves and a mesh-wire basket stretcher down to Reitler, who was patiently watching the complicated rescue operation.

Hanging from the ends of their ropes, the rangers helped the driver into the stretcher, and slowly lowered him to the ground. A waiting general Ambulance crew whisked him off to Pocono Hospital.

"He was pretty happy when we finally got to him," said Sherman, a subdistrict ranger for the Delaware Water Gap National Recreation Area. "As long as we knew he was reasonably stable, we took our time. A rescue is a long, slow, tedious process, if it's done right. It's when you hurry that someone gets hurt." ☐



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# THE SHEPHERDS vs THE HOUNDS

## Air Scenting vs Tracking in the Searching Dog's Function

Shadow Wolf IV locates treed victim after picking up his airborne scent over 300 meters away.

(PHOTO BY BRYSON)



SANDY BRYSON

Enough feudal controversy. Let us end the evident mystery about how searching dogs work. Canine search concepts are simple and straightforward.

**Air or wind scenting.** The searching dog holds his nose fairly high, scanning air currents for generalized human scent or, if his handler carries a scent article, discriminating for a particular matching human scent. Airborne scent may be carried half a mile depending upon wind conditions. When air scenting, the searching dog acts as a highly efficient grid searcher, casting off-lead back and forth ahead of his handler. He may range out as far as a quarter mile and, when he finds a human being or particular person, runs back to lead his handler to the victim. While air scenting on an avalanche or disaster search mission, the dog maintains a lower head profile since he expects to find victims buried in the snow or debris beneath him. The highest percentage of ground searches call for air scent techniques —

- all searches where no scent article or identifiable track from the missing victim(s) is available (including multi-day lost person searches where sun, rain, mud or snow has obliterated the victim's tracks.

Bloodhound with the Sierra Madre Rescue Team sniffs scent article preparatory to tracking a victim.

(PHOTO BY JERRY NEWSCOMB)



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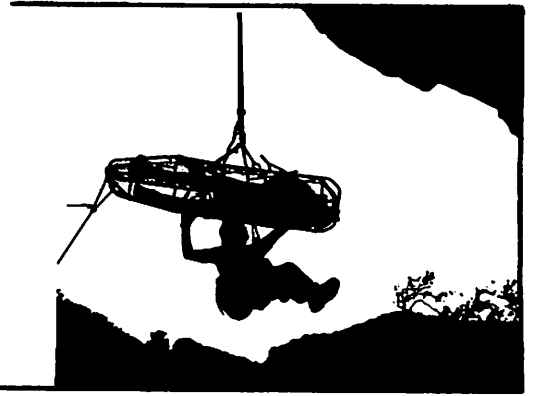
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German Shepherd Dog Hobo on air scent alert. Notice forward rive, open mouth, perked ears and tail.

(PHOTO BY BRYSON)



German Shepherd with WOOF digs frantically to free victim buried in snow aided by Mammoth Ski Patrolmen after locating him by air scent techniques.

(PHOTO BY BRYSON)

Continued

Training photo of Sandy Bryson and Hobo having found lost little girl. (PHOTO BY GEORGI STURDEVANT)



WOOF (Wilderness Finders, Inc.) Shepherds indicate multiple avalanche victims. Notice high tail carriage and noses pushing into snow.

(S. LAKE TAHOE NEWS SERVICE)



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Sandy Bryson and Hobo preparing for airlift by U.S. Marine helicopter to search.  
(PHOTO BY TAHOE TRIBUNE)

German Shepherd with Search and Rescue Dog Association of Seattle air scents a victim buried under debris.  
(PHOTO BY BILL SYROTUCK)

# HOW TO SEARCH

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- long-distance searches where the victim is assumed to be far away or tortuously removed from the place last seen
- avalanches
- disaster or debris searches
- urban or street and building searches

**Tracking or trailing.** The searching dog holds his nose low, fairly close to the ground or foliage while following the exact footsteps or deposited body scent of the missing person. Some ground searches lend themselves to tracking techniques —

- searches where a valid scent article and fresh, identifiable track are present

**SAR agencies take note.** Qualified search dogs will air scent and track depending upon the demands of a given search mission. The multi-trained German Shepherd dog is the breed most highly qualified, mentally and physically, for searching and is used successfully by handlers with rescue teams of Europe, the R.C.M.P., U.S. Air Force, sheriffs and police departments, and volunteer SAR dog units. The proficient SAR dog will make most efficient use of all scent information — both air and ground — available to him once he begins to search. ☹

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# ASK.

UPI

**Location:** Wangen A.D. Aarve, Switzerland Civil Defense Training Area. An example of part of the training area. This site consists of buildings *built* not torn down. This area is used by the military, police, civil defense and disaster dog groups. (PHOTO BY BILL DOTSON)

by **BILL DOTSON**,  
California Rescue Dog Association, Inc.

A major earthquake had occurred at 2100 hours the night before. Most buildings had sustained major damage, many simply piles of wood, bricks, and masonry. The CARDA Disaster Dog unit was called in and was ready to go at dawn. Each dog-handler team was given an area by the disaster dog coordinator and briefed on possibilities of location of victims. Witnesses in the area at the time of the earthquake were questioned. Their answers were double checked because of their disorientation, which is common in disasters such as this. Because the quake had hit at a mid-point in the evening (before bedtime — during "prime time" t.v.) searches of private residences were started at the living-family room area of the house (if their location could be determined).

Team 1 was assigned six houses on main street and ascertained from witnesses that a party had been taking place at the third house on the block. Checking the wind for best starting direction, the team 1 handler immediately started the dog on its search at the "party" house. Within minutes the dog stopped and began barking (the indication of a "find"). The handler noting the strong alert, placed two flags at the spot that the dog had alerted. The signal of two flags was known to the rescue crew, who immediately and carefully started removing debris at the area of "alert." The dog-handler team continued their search. Climbing a set of damaged stairs, the weight of the dog caused the stairs to move. The dog immediately stopped and waited for the stairs to settle — a couple of feet movement in all — then continued his search unperturbed. Towards the end of a long hard day of searching, the dog gave a weak alert. The handler called his dog to him and asked another dog-handler team to check; the second dog alerted at the same spot as the first — two flags were placed and the searchers moved on.

The above is both a hypothetical situation and an example of one part of the Swiss Disaster Dog Association "mission-readiness" test. The modern effective use of dogs in disaster search has been developed by the Swiss Disaster Dog Association (Schweiz. Verein für Katastrophenhunder — SVKA). The SVKA has, for example, been on two major earthquake missions (Friaul, Italy and Bucharest, Rumania) finding 248 victims, of which 26 were alive. Several victims found alive in Rumania, had been buried for 90 hours, one had been buried for 110 hours.

In order to train our dogs in the best methods available, California Rescue Dog Association, Inc. (CARDA) asked the SVKA for information and help in setting up our program. We were not only given helpful information but were invited to Switzerland to train and take part in the SVKA "mission-readiness" test. We sought help from and modeled our program after the SVKA because this extremely well organized group is concerned only with disaster training and has spent much time and effort perfecting methods of training and deployment. The SVKA has an extremely strict testing program for their dog-handler teams. First each team must hold a Schutzhund or Medic Dog degree; secondly, each team must annually pass a basic test consisting of obedience, agility, and control exercises as well as search problems. Thirdly, the team must pass a "mission-readiness" test, which, with the exception of a first-aid examination is totally concerned with simulated tactical situations which approach actual problems as closely as possible. The Mission-readiness test must be taken and passed every third year. CARDA has adopted these rules and will hold these tests in the U.S., judged by the head trainer of the SVKA. The two dog-handler teams (Phyllis Hiatt with Krieger and Bill Dotson with Lys) and their coordinator (Willy Grundherr) sent by CARDA to Switzerland, successfully completed the SVKA requirements as mission ready and are now on call-out status.

**Location:** Wangen A.D. Aarve, Switzerland. Lys — belonging to Bill Dotson searching in some rubble typical of the areas in the mission-readiness test.

(PHOTO BY BILL DOTSON)



# DOGS IN DISASTER SEARCH



Why use a dog in a disaster situation? Let's take for example the earthquake disaster mentioned earlier in this article. Without dogs two methods could have been used. One is that of carefully removing all the rubble looking for victims. Another is the use of the "knock and listen" method. This method requires: a large number of searchers moving slowly through the rubble, stopping, knocking and listening for cries of help; that all noise making machinery be stopped; much time.

Speed is important; if it takes many days to find victims some may die of dehydration or of injuries which would not have been fatal if the victim could have been discovered earlier. Dog-handler teams have first and foremost an element of speed. For example, in the SVKA mission-readiness test the dog-handler team (in one of 6 search areas of the test) was given 15 minutes to find two victims in a small factory. One can only imagine the time necessary for human searchers to remove and search through all the debris and rubble of this small factory. At times there is the real danger of explosions or further collapse of buildings. Through the use of dogs the time of the human searcher in the danger area would be minimized by sending the dog in, waiting for his alert, and quickly going in to remove the victim. The olfactory sensitivity of the canine is extraordinary, at times being able to detect buried victims as deep as 8-10 feet. Dogs have a decided advantage of agility and in some cases of size. They are able to get to places and into areas reached not at all or with difficulty by human searchers. The dogs are trained to work in the presence of noise making equipment. Thus one victim may be removed while the dog is continuing his search.

The disaster dog teams when called upon to search should be coordinated with victim-recovery teams such that the recovery teams will be in best position and be aware of the double-flag indication of victim location. Usually multiple dog-handler teams will be taking part in the search. The coordinator will assign areas to each team, indicating the area on a map, if available, or by physically marking off sections. The handler must use information available; witnesses, time of day disaster occurred, wind direction, type of rubble, etc. to determine where to start his search. It must be stressed here that it is a dog-handler TEAM and each must do his job to be successful.

A disaster dog-handler team is useful in any disaster which has buried people under debris, rubble, rock, etc., such as earthquakes, tornados, explosions, hurricanes, floods, and rock slides. In order to be most effective a disaster dog team or unit should be called in as soon as possible. There is always the possibility that an injury may be non-fatal if the victim is found soon enough.

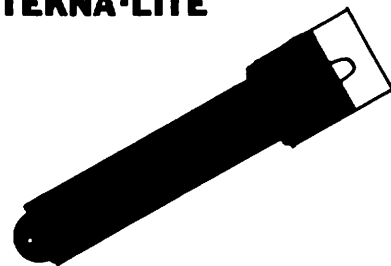
Any breed of dog which demonstrates the ability and desire to do the work is acceptable. The SVKA has dogs of more than 13 breeds certified as mission ready. We also must be aware that the dog is only half the team and the handler must be as highly trained and as competent as the dog. That is, a good dog and a poor handler are not an acceptable team. Handlers and dogs before they become certified as mission-ready disaster dogs may spend from one to one and one half years in training. The team even after certification must continuously maintain and improve their efficiency as long as they remain on active status. The dogs must learn to negotiate any situation which they may encounter, and search with numerous distractions all around. In the Friaul, Italy earthquake authorities attempted to use Italian avalanche dogs. These dogs, not having had specific training for disaster work, soon had to be removed because of injury to the dogs. The SVKA has never had a dog sustain an injury which would necessitate its removal from the mission. The handler must learn to assess each situation as well as being an expert handler of dogs. He must maintain a close working bond with the dog and the dog with him. The team must have confidence that they can find the victim.

California Rescue Dog Association, INC. is a non-profit charitable organization devoted to training and providing trained search and rescue dog-handler teams in the event of their need. CARDA will continue to seek out the best training methods possible and implement these methods. CARDA maintains teams trained and certified in wilderness and avalanche search as well as their disaster dog teams. Dog-handler teams of CARDA train continuously to add new teams in wilderness, avalanche and disaster search. ☐

(left to right) Phyllis Hiatt and Krieger, Willy Grundherr, Team Coordinator, Bill Dotson and Lys. Location: Wangen A.D. Aarve, Switzerland Civil Defense Training area. (PHOTO BY URS OCHANBIEN)



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# HOW THE BLOODHOUNDS DO IT

LENA F. REED

The County Commissioners in a Texas county recently derisively rejected the Sheriff's pleas for money to support a pair of Bloodhounds. They doubted, they said, that James Earl Ray would make it that far if he flew the coop again; and they seemed to feel he was the only inhabitant of the nation not completely deodorized.

A pair of big red brothers in the Northwest recently proved how shortsighted those Texans were. The Big Reds were a pair of Bloodhounds, sired by an American/Canadian who had also proved the value of his breed with his search and rescue work in the Pacific Northwest. His mother, in turn, was well known to the Grand Forks, N.D. police for her rescues.

"Beauregard" is owned by Deputy John Keegan of Clearwater, on the Olympic Peninsula. Keegan has seen eight years of service as a law enforcement officer, with three years in the rain forest country near the Pacific Coast. In this area of rugged loggers and the Quinault National, John Keegan represents the law pretty much single-handed. Around the end of May 1977 "Pierre Beauregard of Cascade" joined him. "Beau" was about six years old then. He had been trained and used by his past owners to some extent; but none of them had been experienced in the use of the breed. Still, he didn't forget anything he was taught; and mantrailing is an instinct with a Bloodhound.

When Deputy Keegan received the hound he promptly contacted the owners of the sire, and received background information and basic training on mantrailing use. He attended a session of Northwest Bloodhounds Search and Rescue, on June 12th; and the next day put his one quick lesson to successful use.

A frantic mother reported that her 13-year-old daughter and a companion had disappeared from the campground at Kalaloch, high on a bluff above the Pacific Ocean. It was already dark, and she feared that they were lost, endangered by animals or unsavory characters, or injured on a steep trail. Keegan grabbed his hound and the trailing harness and drove to the scene within a matter of minutes.

The mother who had made the emergency call met Keegan with a scent article of one of the girls; and once in the trailing harness, the Bloodhound quickly found a trail, which he followed to the top of a cliff overlooking the ocean. He showed considerable interest in the spot, an indication that the subjects had been present there for some time. Then they returned to the campground, where he led his owner to the stairs leading up to an apartment. Keegan deduced that the girls had been visiting around the area, and that a fresher scent might be found if he took the hound away from the immediate campground. It had been several hours since the girls were last seen, and the area was heavily used, being one of the more famous scenic sites on that stretch of coast.

Keegan was right. About 600 feet away from the building area the hound suddenly responded with a vigor and enthusiasm that left no doubt he was on a fresh trail. Within a short time he led the deputy down a slope where people had climbed down the steep bank to the beach; and up to a campfire. The two girls were among the group surrounding it. Not lost, perhaps; but very much out of place, and leaving behind them greatly troubled parents. They verified the hound's earlier trails; they had sat at that spot overlooking the ocean, and then spent some time visiting the apartment before deciding to join the party on the beach.

Keegan later learned that Beauregard had worked this area before while with a previous owner. A hunter had been lost in extremely rough terrain. The rain forests of the Washington Olympic Peninsula compare well with a tropical jungle. Twice the hound led his handler from the man's last known location through the forest and to the bank of a river. The missing man's body was then spotted by helicopter, where it had drifted downriver.



A training series: Clyde Reed offers Candy a scent article; and while he is still flat-footed, she has already left the ground.

Three feet off the ground, Candy tugs her owner along. The raised and wagging tail indicates the search is near an end.



Two weeks after Beauregard began training Deputy Keegan, the other Big Red, his brother Cascade's Ranger, added another sheriff to his fan club. On July 4th an inmate of the jail at Libby, Montana, quietly changed his address, leaving behind a polite note of appreciation. "Dear Lincoln County Sheriff," he wrote. "I sincerely enjoyed your hospitality. I feel I am a nuisance here. I don't want to wear our friendship too thin, so I'm leaving without saying goodbye."



**Copy of letter from the Auburn, Wash. Chief of Police blows a hole in the propoganda that rain ends the scent for a Bloodhound.**

January 1976

Northwest Bloodhound Search and Rescue  
10705 Woodland Avenue  
Puyallup, Washington 98371

Gentlemen:

I wish to take this opportunity to thank the representatives from your organization who responded to our request on December 22, 1975, and assisted in the location of Mr. L. W. Colburn, our case number 75-5770.

The members of the Auburn Fire and Police Departments were very impressed with the ability of the dogs to successfully locate the victim even though the area had been searched repeatedly by many individuals *and it had rained continually throughout the night.*

You can be very proud that these two men were part of your organization. I cannot recall their names, as the situation at the time was rather hectic.

I again wish to take this opportunity to thank you very much for your aid. It undoubtedly saved us many, many manhours.

Very truly yours,

L. L. Scyler, Chief of Police

NOTE: In this case, the victim had been missing for 17 hours before had repeatedly covered the area for up to eight hours. The Bloodhounds trailed from his vehicle to his body in 15 minutes.

**SEE BOOK REVIEW ON LENA'S NEW BLOODHOUND BOOK**



With true Western hospitality, the Sheriff couldn't bear to think one of his guests had left because he felt unwanted. It distressed him particularly, knowing his guest should not be putting undue strain on himself while still recovering from a gunshot wound in his leg.

By a fortunate coincidence, Larry Thompson of Hayden Lake, Idaho, owner of Cascade's Ranger, was working in Libby at the time. He called his wife, Virginia, and she promptly put Ranger in her car and started east. The Sheriff headed west and met her, taking Ranger the rest of the way to Libby. There Larry Thompson took the Bloodhound into the jail and to the missing man's locker.

Ranger registered the man's scent in about one second, and promptly led his owner and two deputies out of the jail and across the country for 2½ miles to the home of the polite guest's girl friend. Here they found two men with a quantity of marijuana; and learned that the girl friend had taken the wanted man away in her car. A trooper caught up with them 130 miles away, and it is safe to say the man is now assured that he is not regarded as a nuisance at the Libby Jailhouse.

Ranger is an oldtimer with a good record in the mantrailing business. On May 14, 1974, he was awarded the "Smokey Bear of the Year Award" at the Hayden Lake, Idaho, Chamber of Commerce. This is a national award for outstanding service in preventing forest fires, and had always been presented to a human. The 1974 award to a Bloodhound was the result of his work the previous August in trailing down a firebug who was responsible for several forest fires in Bonner County, Idaho. The trail he followed was three days old, in hot dry climate; and the scent article from which he identified the guilty man was a tuna fish can he had handled and left beside the campfire.

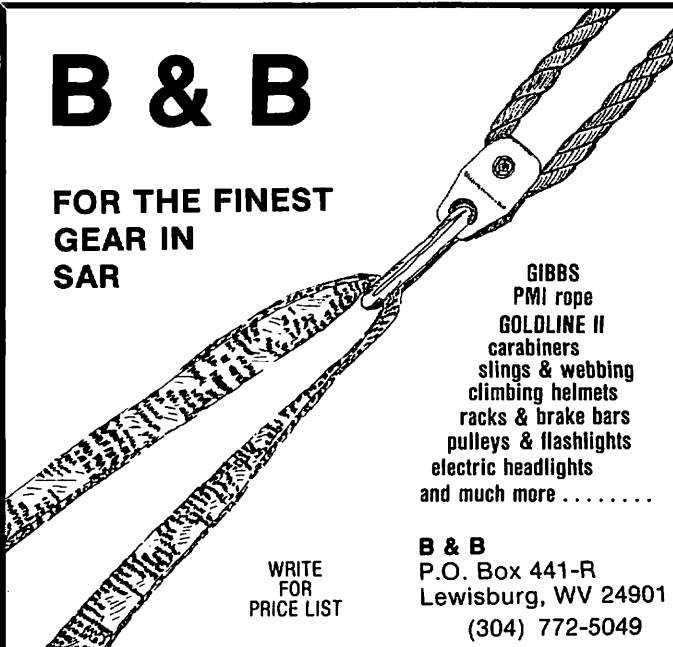


The "victim" is in sight

Coincidentally, another red Bloodhound of Northwest Bloodhounds SAR named Beauregard and owned by Armando Nigro of Lacey, Wash., put a quick end to the search for a mostly-blind, retarded boy who had run away from a summer camp for blind children. The area was hilly, brushy, and a lake bordered the camp. After the personnel of the camp had spent six hours in fruitless search, they called the Sheriff, who in turn called the Bloodhound club. In half an hour Beau dragged 14-year-old Leonard Nigro a mile and a half through the woods to find the child hiding at the bottom of a narrow ravine. The trail was nearly eight hours old by then, and the area around the camp had been searched by a considerable party on foot and on horseback for almost all of that time.

That's how the Bloodhounds work. No big deal of setting up a "Base Camp," laying out grid patterns, and all that effort of sending a small army to work "into the wind" when the victim may be downwind. Just one man and one trained Bloodhound, who knows he is after that one single person, no matter who else or what animals may have trampled the area.

Northwest Bloodhounds SAR is a volunteer organization. Sheriffs and Police Departments can obtain their assistance without charge through the Department of Emergency Services. ☐



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Linn sheriff's detective John Hromidko (*left*) watches Captain Midnight, a drug dog, sit down next to a locker that contains marijuana. Hromidko and Cedar Rapids Police Office Wayne Slezak (*right*) hid the marijuana for Captain Midnight and Slezak's dog, Brimstone, to find. Captain Midnight sits down in front of the locker containing drugs, while Brimstone paws at the locker. When Slezak opens the locker door, Brimstone will pick up the marijuana and take it out. Cap and Brim don't work side by side, but they will work together at the same school. While one works one floor the other dog and handler work another.

## THEY SNIFF OUT DRUGS

by TOM ALEX

Captain Midnight and Brimstone are alike in many respects. Their soft eyes reflect their even temperaments. They chase balls and sticks and love to play with children — just like other dogs.

But, appearances aside, they are to drug trafficking in Linn County what bloodhounds are to a manhunt — a key element.

Cap and Brim, as they are called, are part of the Metro Narcotics Unit in the Cedar Rapids-Linn County area.

They're good at what they do. Their handlers say they couldn't even guess how many pounds of marijuana they've sniffed out — or the number of barbituates and amphetamines or the amount of heroin.

Captain Midnight is a Brittany spaniel. He comes from a line of champions' and he probably would be on the circuit today if he hadn't been selected as a drug sniffer.

That's the difference between Cap and Brim. Brimstone, although he's a full-blooded German shepherd, doesn't look like one. He was born with the long hair that isn't desirable in dog shows, his handler Wayne Slezak, explained. Because of the long hair, Brim was neutered when he was old enough for the operation.

### They're a team

Slezak and Brim are with the Cedar Rapids Police Department and Cap and his handler, John Hromidko, work for the Linn Sheriff's Department. But handlers and dogs work as a team for the Metro Narcotics Squad.

They work together on many occasions because, for example, when they go through the schools in Cedar Rapids and Linn County, they can cover all the halls and lockers in half the time it would take one dog. While Slezak and Brim take one floor, Hromidko and Cap work another floor.

But the job doesn't end there. Both officers talk with students in classroom settings. They show students what the dogs can do by using them in demonstrations, and they warn them that both dogs and handlers will be back to check for drugs.

Not only do the dogs show up at unannounced times at bus stations and the airport, they also tag along when officers serve search warrants.

Slezak remembers one occasion when a suspect was informed that dogs would be used in the search of the suspect's residence. The suspect reportedly turned over some 40 bags of marijuana. A search by one of the dogs added 27 more bags.

Both dogs are males and they're both about three years old. Training began two years ago and they've been on the job ever since.

"When the program began," Slezak said, "we were unable to get any funds from the city." He said Kiwanis and other organizations and individuals provided the money and equipment and even the dog food to get the program going.

The dog food is still provided by a local company.

The trainer, Tom Anderson volunteered the many hours necessary to train the three policemen and three dogs that the project started with two years ago. One of the police officers, due to personal problems, had to quit the project and so the third dog was retired.

Cedar Rapids police continued to use two dogs until mid-1977 when one of them, Cap, was transferred to duty with the Linn Sheriff's Department. Sheriff Orlie Workman was approached by a member of the Kiwanis, "and I told him sure I was interested, because I'd thought



"What we were looking for were dogs that had the kind of temperament that was good for this," Slezak said. "We didn't want dogs that would bite the kids when we went into a school."

### Very friendly dogs

Anderson said all three dogs that started the program were very friendly. "There's no way to tell for sure that they're intelligent — not until after you start training them."

But he said Cap and Brim turned out to be smart dogs. "They have to be even-tempered but they also have to be able to work in a disorganized situation." By that he meant the confusion that often occurs when policemen walk into a house unannounced with a search warrant. The dogs have to continue working.

More than 20 dogs "interviewed" for the job, Slezak said.

"Our main interest is not in making arrests. We're trying to alleviate the drug problem." The dogs, he said, are a good deterrent.

The training process is a continuing one. Whenever a new drug is introduced on the Cedar Rapids-Linn drug scene, both dogs go back to class. They learn the new scent by reward. Cap insists on getting a bite to eat after a good performance. Brim reacts as well to praise and so he doesn't get as many tidbits.

Often when the dogs sniff lockers at schools they don't find dope. "More often we will not find it," Slezak said. "But their noses are so sharp they will even lead us to coats or jackets that have marijuana smoke on them." He said the dogs even point out drugs wrapped in foil and contained in bottles.

"We aren't finding as many drugs now as we were. I think the students are more aware of the dogs now." He said the dogs even point cause that means that not as many drugs are being brought into the schools.

Brim and Cap will be on the job for another five years, Slezak said. They won't be eligible for retirement until they reach the ripe old age of eight. ☉

dogs were a good idea all along."

Hromidko volunteered for the job. As a detective, he works various hours of the day and night and is available as a handler most of the time.

But Slezak works the late afternoon and night shift with the Cedar Rapids Police Department. His visits to schools during the mornings and afternoons usually mean extra duty. And he said, "We could use two fulltime handlers and dogs."

The dogs aren't used to sniff drugs at grade schools, but they do visit classes and their jobs are explained to grade schoolers.

They love the dogs and the dogs love the attention they get," Slezak said. They also provide demonstrations for Scout troops and for other organizations.

Cap visits county schools with Hromidko just as Brim travels with Slezak to Cedar Rapids schools. Sheriff Workman said they are doing a good public relations job for the departments by just talking with students.

As a latecomer to the program, Hromidko isn't as experienced as Slezak but he already has spent a lot of time in training. All the hours spent in training by Slezak and Hromidko are donated. No pay was offered for that.

"It was a slow process at first," Hromidko remembers. "It took time for Cap and me to get used to each other. I learned a lot of things about Cap and he's gotten to know me better.

"I learned right away that he can climb an eight foot fence and make a getaway from his kennel. No, he doesn't jump — he climbs the thing. So we had to put a top on it. In fact he can unloosen the hasp on the kennel, so we had to do something about that.

"We've spent a lot of time looking for him. He's good at getting away."

But when Cap and Brim are outfitted with their working harnesses, they know what they have to do. Putting on the harnesses is the signal that tells them they're going looking for drugs.

"It wasn't hard teaching them to look for drugs," Anderson said. "The hard part is teaching them to let you know they've found them." Brim will scratch at the door or the car trunk or the hub caps that contain the drugs. That's his way of letting Slezak know he's found what they're looking for. Cap, on the other hand, simple plops his bottom on the floor and sits there. It's Cap's way of saying, here it is.

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# BLOODHOUNDS

By Sergeant JAMES T. BECK, President  
And REBECCA J. SCHAFFER, Secretary  
National Police Bloodhound Association

THE LOST, the missing, the evasive, and the unknown are a few of the problems that face police agencies twenty-four hours a day. About 90 percent of the cases that police work are after the fact. The person is already lost, the criminal is missing, and the clues have already vanished by the time the police are notified they are needed.

To work on these seemingly impossible situations, man has to have highly specialized tools. Modern technology has produced means of photographing scenes and evidence so they may be studied at a later time. New chemicals and powders have advanced fingerprinting and identifying weapons, fibers, hair, blood and just about anything visible at a crime scene. But what about the invisible things at the scene? What about the human being that left the scene minutes, hours, and even days before the police officers arrive? Do we have a tool capable of performing this miracle? Yes, but it is not a miracle of our modern science but a tool that dates back to the Crusades. This tool is a man-trailing bloodhound.

Bloodhounds have aided police agencies in solving many perplexing cases. Perhaps the most outstanding is the disappearance of a small child under unusual and suspicious circumstances. Public pressure is at its height, while the news media are often breathing down the necks of those in charge of such a case. Officers, naturally, are doing their best, but the public will demand an almost instant solution.

Such was a 1973 case in Ocean County, New Jersey, when an 11-month-old baby was reported missing. Officers knew of the outrage that would follow the report and were quick to call in their own special tool — a bloodhound. The hound was taken directly to the baby's room and was scented from the child's diaper. The dog led his handler, a sergeant with the county sheriff's department, down an outside stairway and hastened to a garbage can. There the invisible trail seemed to end. Quick thinking and great confidence in his bloodhound made the handler look inside the container. There, in a plastic bag was the child — still alive! Seven minutes had elapsed since the hound's arrival, and a very important seven minutes they were.

Bloodhounds have often been credited with saving lives and just as often have been the main factor in placing criminals behind bars. Of course, rapists, murderers, bank robbers, and the like are not quite as happy with the end results when they are trailed by a bloodhound trained for this purpose.

The majority of today's man-trailing bloodhounds are being used by members of the National Police Bloodhound Association (NPBA). This organization has logged more hours and miles behind man-trailing hounds than any other association in the world. With a membership of law enforcement officers and search and rescue personnel from 22 states and Canada, they have become the professionals in the art of pursuing man by following human scent — a feat that no other specialized tool utilized by law enforcement agencies can claim.

Some departments in this association, such as the New York State Police and the Rhode Island State Police, have kenneled their own hounds since the 1930s. Sheriff's departments, city and municipal police, and oftentimes, civilians are the owners and handlers of these well-trained hounds. All members are bound by a common goal, that of the advancement and training of the man-trailing abilities of the pure-bred bloodhound in law enforcement and search and rescue.

For the past 15 years, this organization has been doing just that, and it is quite apparent that they have been successful since records document many amazing trails. Many of the trails seem like miracles to those not familiar with bloodhounds.

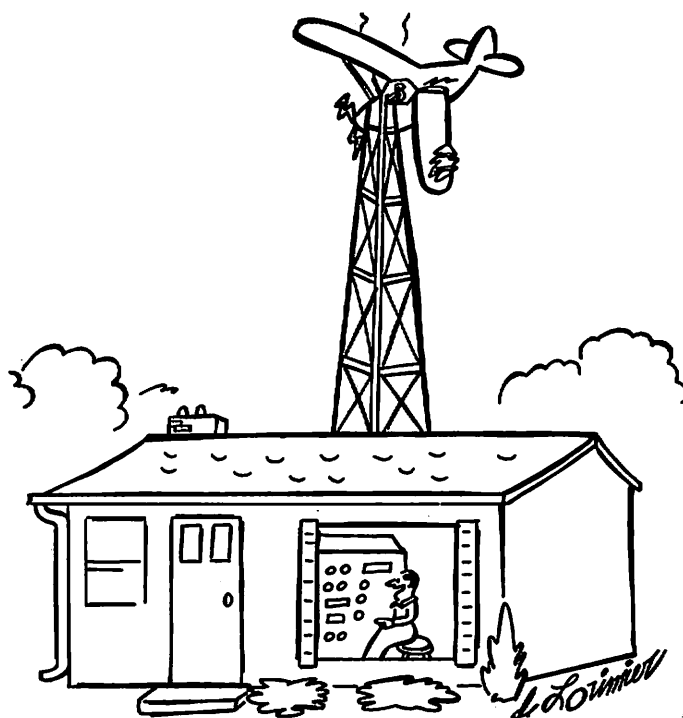
Records prove that the bloodhound is not out-dated and must be classified as a "specialized tool." His natural ability to follow a trail has been bred into him for many generations. Unlike other breeds that have been taught to imitate him, the bloodhound is said to possess the ability to follow much colder trails and with much more determination to follow that trail to the end. He has often been referred to as the "grandfather" of all hounds and the forerunner of all breeds that follow a trail by scent.

For many years, the bloodhound was the only breed whose trailing evidence was accepted in courts of law. Along with his other trailing characteristics, the ability to discriminate one human scent from another has been a big factor in many court decisions. The number of court cases are mounting with bloodhounds connecting many suspects to crimes and often finding valuable evidence along the trail. A prime example of this can be seen in a 1974 case where the Pennsylvania State Police, using a civilian handler and his bloodhound, were able to recover a weapon and the cash taken in an armed robbery occurring hours before the hound was called to the scene.

The NPBA is so concerned with the admissibility of bloodhound evidence that it has furnished members with data from its files in order to help them qualify their hounds and themselves for such cases. Often, members act as expert witnesses for handlers who are involved in cases where a decision has not yet been made in that particular state in regards to the admissibility of this type of evidence.

Training of these working hounds is very important to the NPBA, as it is aware of the necessity to use properly trained dogs in actual police work.

Yearly training seminars are held at various locations throughout the United States, at which the Association offers guidelines and training procedures. These schools have been held in Tennessee, New York, Maryland, Maine, and Pennsylvania. For law enforcement personnel not able to attend these seminars, an official NPBA training manual has been prepared and covers such areas as purchasing a hound, training it, and using it in actual cases. Some court procedures are also witnessed.



"Martha, I'm picking up a real clear distress signal from an airplane!"

Hence the bloodhound can be of such importance to a case, the NPBA is willing to give the handlers all the technical information available in such cases as "scent" itself, the preservation of this "scent," and the methods of developing cooperation from the departments with whom they are working. The success rate of bloodhounds has been boosted when the handlers in charge know how to preserve the search scene and prepare for the bloodhound's arrival.

There have been many cases in which members have been involved in which bloodhounds were successful in running cases that were several days old. A Connecticut state trooper and his bloodhound followed a trail from its start, directly to the subject who had been missing for nearly nine days! This is something that all hounds are not capable of doing, and many times the scent is destroyed in this amount of time. It is wise for those departments requesting the assistance of bloodhounds to call them into the search area or crime scene immediately and not as a last resort. When they are called only when all else fails, it is often discouraging to all concerned.

Many people believe that the bloodhound is not efficient in cities or towns, but is strictly a "woods worker." This is not the case, and it naturally depends on how and where the hound has been trained. In 1975, a bloodhound, belonging to the State of New York and handled by a Troop K, Poughkeepsie trooper, successfully followed a trail on Staten Island that was over 50 hours old. The dog located a missing retarded youth by trailing over city blocks to a pier where the body was recovered by divers.

The NPBA has been instrumental in supplying bloodhounds to departments needing them, and one hound was supplied to a law enforcement agent in Zambia, Africa, a few years ago. It is not unusual for the organization to offer top hounds and handlers to departments involved in cases where trailing dogs could be helpful. These offers are made with no expense placed on the use of the team, but it is requested that the department utilizing the services of the dogs help defray the cost of transporting the required number of hounds and handlers. This seems to be a fair arrangement since many departments have found that by using the bloodhounds and getting quick results, they will save valuable time, manpower, and greater expenses.

Departments not owning their own hounds often use those kenneled by neighboring agencies on a mutual aid basis. In many areas, civilians offer their own personal dogs and their expertise with these animals. Departments should not hesitate to use them as it is always comforting to know that citizens of this caliber are willing to give of themselves and donate their resources to help insure a safer environment. Regardless of who owns the hound, it is important to know that it has been properly trained for the work it is called upon to do.

To give readers an idea of just how often these hounds are used today is to cite one busy department like the Niagara County, New York, Sheriff's Department. In the too short career of one particular bloodhound, the dog was successful in over 300 actual cases! In honor of that hound, an award is given by the NPBA to any bloodhound that performs an outstanding feat in the field of law enforcement.

This, the "Cleopatra Big T Award" has been presented to five different hounds since 1972 when it was first made available. The honored dogs have been handled by a Vermont state trooper, a New York state trooper (twice awarded to different dogs), a civilian from Tennessee, and a sergeant with the Ocean County (New Jersey) Sheriff's Department. It is interesting to note that the New Jersey dog responded to 463 calls!

The facts and fallacies regarding bloodhounds are many, and interested agents are free to get in touch with NPBA as are those departments requesting assistance for a particular case where there is a trail to be run. Those affiliated with a law enforcement agency or a public, nonprofit search and rescue organization may write to the NPBA president, Sergeant James T. Beck, Rhode Island State Police, Box 185, North Scituate, Rhode Island, for additional information. Departmental and individual applications for membership in the Association are available upon request to those currently using bloodhounds.

A well-trained hound is an asset to any department (large or small), and they are available to all agencies through the NPBA. Wherever there is a lost child or adult, a criminal fleeing the crime scene, a prisoner escape, or a suspect at large on foot, there is a job for a bloodhound. Trailing is his speciality!

Reprinted from *The Police Chief*/March 1978

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# a new concept for national parks

## RANGER SERVICE DOGS:

By **SANDY BRYSON**  
Yosemite National Park, California

This summer Yosemite rangers had canine partners in an innovative pilot program, the Ranger Service Dog, utilizing a specially-trained animal to assist them in their many park duties. "Hobo," a bright personable German Shepherd, and his master Sandy Bryson shared with park rangers and the public their time and knowledge, working regular patrol with Yosemite's Visitor Protection Division.

Visitor response to the trial canine program has been overwhelmingly favorable. As they passed on road patrol, people called out repeatedly, "What a great looking Shepherd!" On campground patrol the team was commonly surrounded by five to ten adoring youngsters all petting or sitting on Hobo, pulling his tail and ears, and, most importantly, asking questions about him and about the park.

"Good friend you have there," parents would start for openers. "What's he trained for?" They were excited to learn that he found two lost people this summer, a 7-year old boy and a 75-year old fisherman, and has an impressive career of SAR (search and rescue) successes behind him.

Several visitors remembered seeing Hobo on backcountry trails and forested areas during SAR operations over the last 3 years. Their collective opinion was expressed: "If I were in trouble, I'd sure rather have a dog like this looking for me than a bunch of people beating the bushes."

Security guards watched the dog perform efficient suspect-search of buildings and evidence-search in delimited open areas. During the 15 weeks that Hobo and I worked in Yosemite, rangers who participated with him on SAR searches or in a police service capacity have, without exception, expressed their interest and satisfaction with the team's performance.

The philosophy behind the Ranger Service Dog concept has a dual basis: 1. A properly trained dog/handler represents a valuable, economical, working extension of the park ranger; 2. The Ranger Service Dog must be trained for SAR work (wilderness, avalanche and disaster searching) and PS work (police service: master protection, crime prevention, suspect search and apprehension, confrontation and suppression of violent or combative situations, evidence recovery, and optionally drug or explosive detection) in order to ensure efficient, reliable service.

*(Editor's Note: A trainer in obedience, search and rescue and police service work for 13 years, Sandy Bryson founded the WOLF (Wilderness Finders, Inc.) SAR Dog Unit, wrote the text "Search and Rescue Dog Training," the newly-published paper "SAR Dog Strategy," and is currently at work on another book for Ranger Service Dog Training.*

The presence of this prototype dog unit in Yosemite derives from solid statistical evidence that dogs are effective searchers on SAR operations and significantly reduce crime in areas where they are regularly used. SAR operations and crime in national parks correlates broadly with weather variations and sociological changes. More people get lost, injured or stranded in bad weather. When society generally experiences unrest and upheaval, the crime rate in parks goes up. Having proficient Ranger Service Dog teams ready to respond to emergency incidents represents intelligent planning. Moreover, the day-to-day patrol function of a dog unit has incredible value in keeping the tenor of public encounter situations from escalating into violence. In times of conflict, the dog unit provides for public as well as ranger safety.

There is wide precedence for Ranger Service Dogs in national parks. The Royal Canadian Mounted Police maintain over 150 German Shepherd dog/master teams working throughout their provinces, including their national parks. The European Continent and Great Britain have over 2,000 dog teams trained in similar capacity — avalanche search, disaster search, and police service work. The U.S. Park Police in Washington, D.C., currently maintain seven dog/master teams trained solely for police service work. Each year increasing numbers of State Parks, police and sheriff's departments discover how valuable trained dogs can be for helping people who are in trouble.

During the summer, Sandy wrote an extensive "dog-log" of the team's activities in the park. The log is available for park personnel to read and includes descriptions of:

- Search and rescue work (air scenting and tracking).
- Demonstrations and slide presentations to Yosemite Districts.
- Campground patrol.
- Road patrol.
- Evidence searches.
- Car Stop — fleeing suspect search.
- Building searches.
- Felony stakeouts.
- Calming distressed or disorderly individuals.
- Assisting arrests.
- Tracking darted bears.
- Incidental and noninterfering dog presence at Ranger duties including emergency medical runs), training and recreation.

Important conclusions can be drawn from dog/master work in Yosemite this year. They will be valid for other parks considering using the Ranger Service Dog.

First of all, the canine should be a well-bred German Shepherd (coat, intelligence, personality and sense of smell compatible with both SAR and PS work) who likes and is relaxed around people. The dog should not interfere with other facets of the ranger's work and lifestyle, and should have a deep, lifetime rapport with his master. Equally important are the characteristics of the ranger dog handler, who should possess intelligence and temperament compatible with dog handling, and be as competent in all aspects of service as the best-qualified rangers. The Ranger Service Dog team should be integrated into the normal patrol/interpretive function. Hobo and Sandy demonstrated that these objectives are feasible.

Reprinted from: National Park Service Employees and Alumni Association

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**NASAR 79**

# WHAT GOES DOWN MUST COME UP —

## CAVING RESCUE HAULING SYSTEMS

By **BILL CLEM**  
**Manual Hauling Systems**

At least in caving what goes down must come up. Sometimes it doesn't and the job of providing an underground elevator service falls to the cave rescuer.

Hauling systems are not magical. They do not make the job of hauling easier; they just make it possible. We rely on mechanical advantage (MA) systems that reduce the instantaneous force we have to apply to raise the load but require that we exert the force over a longer distance. In simpler terms, what we lack in strength we make up for with endurance. With a MA of 2 for example, we can (theoretically) raise a 200 lb. man with 100 lbs. of force but to raise him 10 ft. we must pull 20 ft.

There are six basic parts to the system. 1. The load. 2. Main line — this is a rope (7/16" nylon or better) which runs from the load to the top of the face. 3. The haul line — this is the rope which is pulled by the hauling team; in some cases it may be the main line as well. 4. Pulleys — these provide us with our mechanical advantage. Good pulleys are worth their weight in gold. 5. Cams — cams are mechanical devices which grip and hold on rope. The most popular types are Jumars, Gibbs and Clogs. Prussik knots and other ascending knots are sometimes used in place of cams and perform the same task. These cams will provide a method to perform long hauls with a short hauling system and provide a method to safeguard the haul. 6. The haul — usually a group of weak-kneed, undermuscled Woody Allen lookalikes who attempt to pull on a rope.

These parts will be assembled, disassembled and mixed in various ways to set up various hauling systems.

### Some Very Subjective Notes:

1. Mechanical Advantage is defined by load/pull to lift. TMA means Theoretical Mechanical Advantage which disregards pulley friction.

PMA means Practical Mechanical Advantage which takes pulley friction into account.

2. Cams — In our experience Gibbs cams work very well. They are strong, lightweight and only moderately confusing. Hauling systems can develop tremendous forces and the various documented Jumar failures (fractured frames) leave one with the impression that Jumars do not belong in hauling systems. I have no experience with the Clog cams but they do have a rolled alloy frame rather than the cast frame like the Jumars. Prussik knots are commonly used by many groups in hauling systems. Unlike mechanical devices, prussiks seem to fail slowly, by slipping, before complete failure occurs (800-1200 lb. max.). In mountain rescue this may be acceptable, but in the muddy, icy, dark world of cave rescue I prefer the Gibbs.

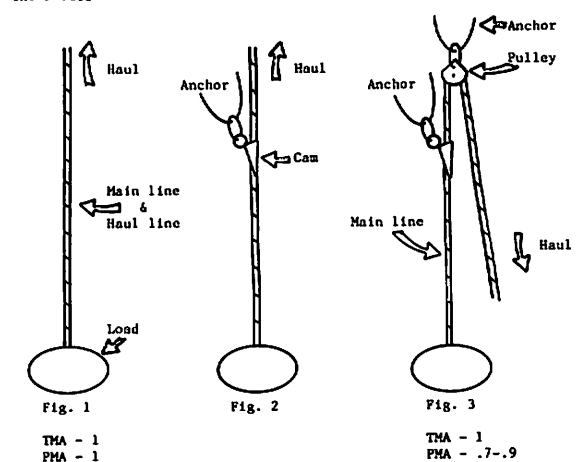
3. Ropes — Rescue people will argue ad nauseum about the virtues of laid ropes vs. kernmantle ropes in cave rescue. In hauling systems I have used both low stretch Bluewater, PMI, and high stretch Goldline. I have not found the 'stretch' of Goldline to be an insurmountable problem, but using a low stretch rope as the haul line reduces the amount of pulling necessary to "eliminate" the stretch with each haul.

4. Pulleys — There are various pulleys on the market, some good and some not so good. Fortunately, the big difference is not strength. The efficiency of the pulley is a major factor and wide differences are seen. Pulley efficiency is a factor of the pulley size and the pulley bearing. The larger the pulley sheave and the smoother its bushing or bearing the more efficient the pulley will be.

Bill Clem is a member of the Appalachian Search and Rescue Conference and director of CRCN, a cave rescue system operating in Virginia, West Virginia, Maryland and North Carolina.

Key things to look for in a good pulley are: 1. Strong aluminum or alloy straps (side pieces) oriented so that when a load is applied to the pulley the straps will *not* bind the sheave in any way. 2. A nylon or metal sheave for use with nylon rope — never for cable. 3. An oiled brass bushing or ball bearings preferably well sealed against mud. 4. The shape of the alloy straps should protect the rope from abrasion by the rock as it passes over the sheave.

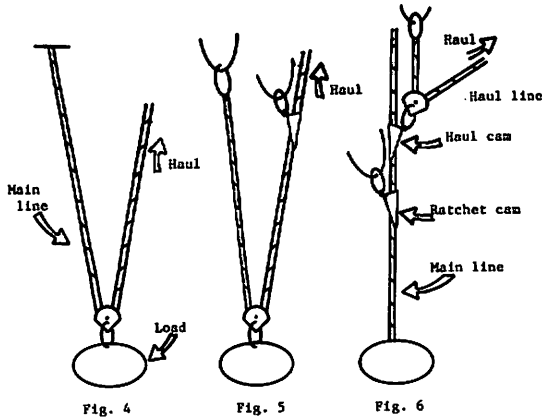
The Basics



### The Basics

In Fig. 1 we see the simplest of systems. A load, a main line and a haul. In Fig. 2 we have added a safety item. A cam is placed in the position where the weight may be held by the anchor — this cam is often called the *safety* or *ratchet*. By pulling above the ratchet cam, the haul team may rest or reposition itself easily. Fig. 3 shows the addition of a pulley as a *directional*. A directional merely changes the direction of the haul; it does not add any mechanical advantage. In fact the loss of pulley efficiency through friction means that a greater force must be applied to raise the weight.

A Simple MA 2 System



A simple MA 2 System

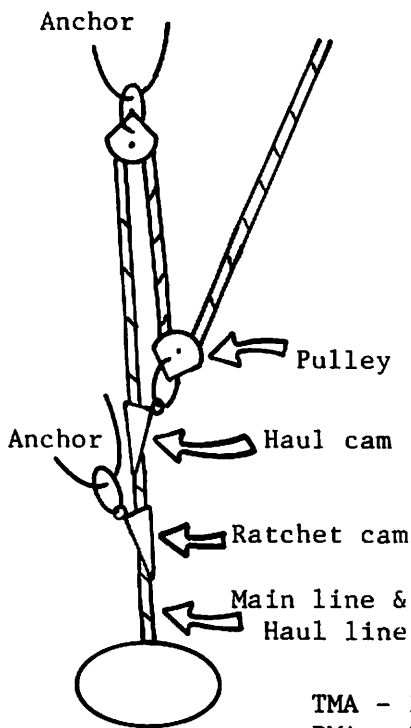
Fig. 4 shows a simple MA 2 system without all the gadgets. The instantaneous force applied to move the load will be roughly 1/2 of the weight of the load but to move the load 10 ft. you must pull 20 ft. of rope with the same force.

Fig. 5 adds a ratchet cam.

Fig. 6 shows how a short hauling system can be used to haul a much longer main line. It is obvious that using a system like Fig. 5, you would have to use 200 ft. of rope for a 100 ft. lift. But by using a cam (called the hauling cam) on the main line, with a ratchet cam, the hauling system can pull up on the main line, shift the load to the ratchet cam anchor and reposition the hauling system for another "bite" of the main line.



The Z-Rig



TMA - 3  
PMA - 2.4-2.8

Fig. 7

The Z-Rig

The Z-Rig derives its name not from a black caped, sword-toting hero (despite what others may say) but from the shape of the rope as it goes through the hauling system. Here again the main line and haul line are one and the same. This is the simplest one-rope system you can use.

In Fig. 7 you will see that the pulleys will creep closer and closer together as the haul line is pulled. It is imperative that the ratchet cam be set and another bite be taken when the pulleys meet because all MA is lost without the Z shape to the system.

This is basically a good system and many lifts have been done using this method. Though it is possible to rig a MA 4 system with one rope, it is somewhat complex. This system and the next system should be learned.

REPEATED . . .

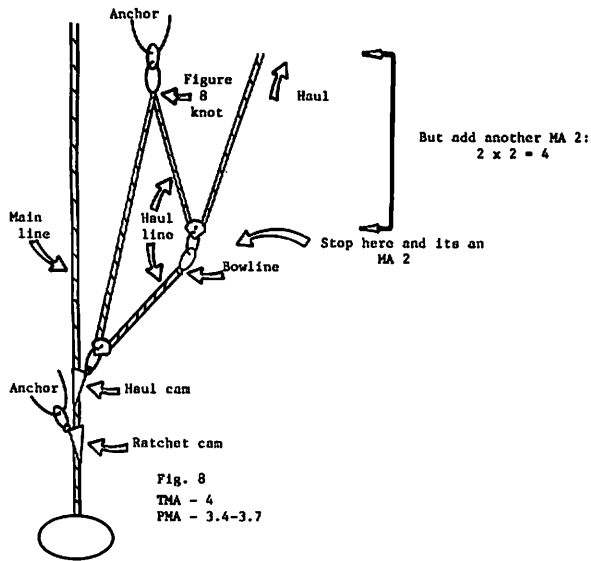
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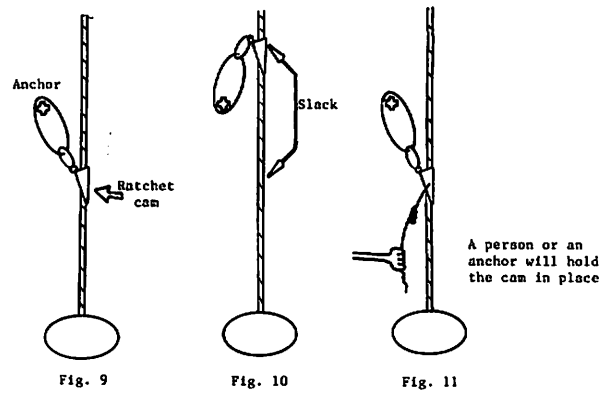
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The Piggyback System



The Piggyback System

The essence of the piggyback system is to set up a MA 2 system and to haul that with another MA 2 system yielding a TMA of 4. The haul line is divided in the middle with a figure 8 knot (or equivalent) which is anchored. One-half is used to set up a MA 2 system with the haul cam. The end of this half is connected to another pulley and the second half of the rope is used to set up another MA 2 system. It is possible to set up this system with one rope but it requires an extra knot or two. The major advantage is that you get an MA 4 system with the same amount of hardware you would use for an MA 3 Z-Rig.



The Ratchet Cam

There is one subtle point that needs to be observed when using a ratchet cam. The cam should be located beyond the furthest extent of the hauling system; it will be your last ditch safety should the hauling system fail. Incidentally, the main line may be belayed easily in the system where the main line and haul line are separate. Looking at Figure 9, you can see the cam as it should be, fully extended with no slack between the cam and its anchor. If the situation as in Figure 10 occurs and the hauling system should fail, the slack would allow shock loading making the failure of the ratchet cam and anchor probable. This can be prevented by positioning a person or an elastic cord or even a small sling to hold the cam in position so it cannot ride along the main line as the haul line is pulled.

The point has been made that the ratchet cam may be located behind the hauling system instead of in front of the system. The only advantage of this method is that it might allow more room to extend the hauling system (a bigger "bite") but two major disadvantages exist. If the cam used as the haul cam should damage the rope or the cam itself fail (of the two cams this is most likely since the greatest force is applied here) then the ratchet cam would be located behind the break where it would be useless. Secondly it is necessary to have one person manually pull the rope through the cam instead of the "automatic" system described above.

The System

Whatever you use to lift the load, you must observe simple rules. 1. Use good solid anchors — backed up *at least twice*. 2. Inspect the hardware and ropes before and after using, particularly the pulleys. 3. Beware of abrasion and edge friction — it will destroy any advantage you may gain. 4. *Belay the load wherever possible*. 5. Have one person directing the haul and get your signals straight before, not during, the haul. The sequence we use is: 'Haul' — the hauling team pulls; 'set' — the ratchet cam is engaged by a person or is visually checked for slack if held by elastic cord; 'Slack' — the haul team *rapidly* yields the haul line and the haul cam is advanced.

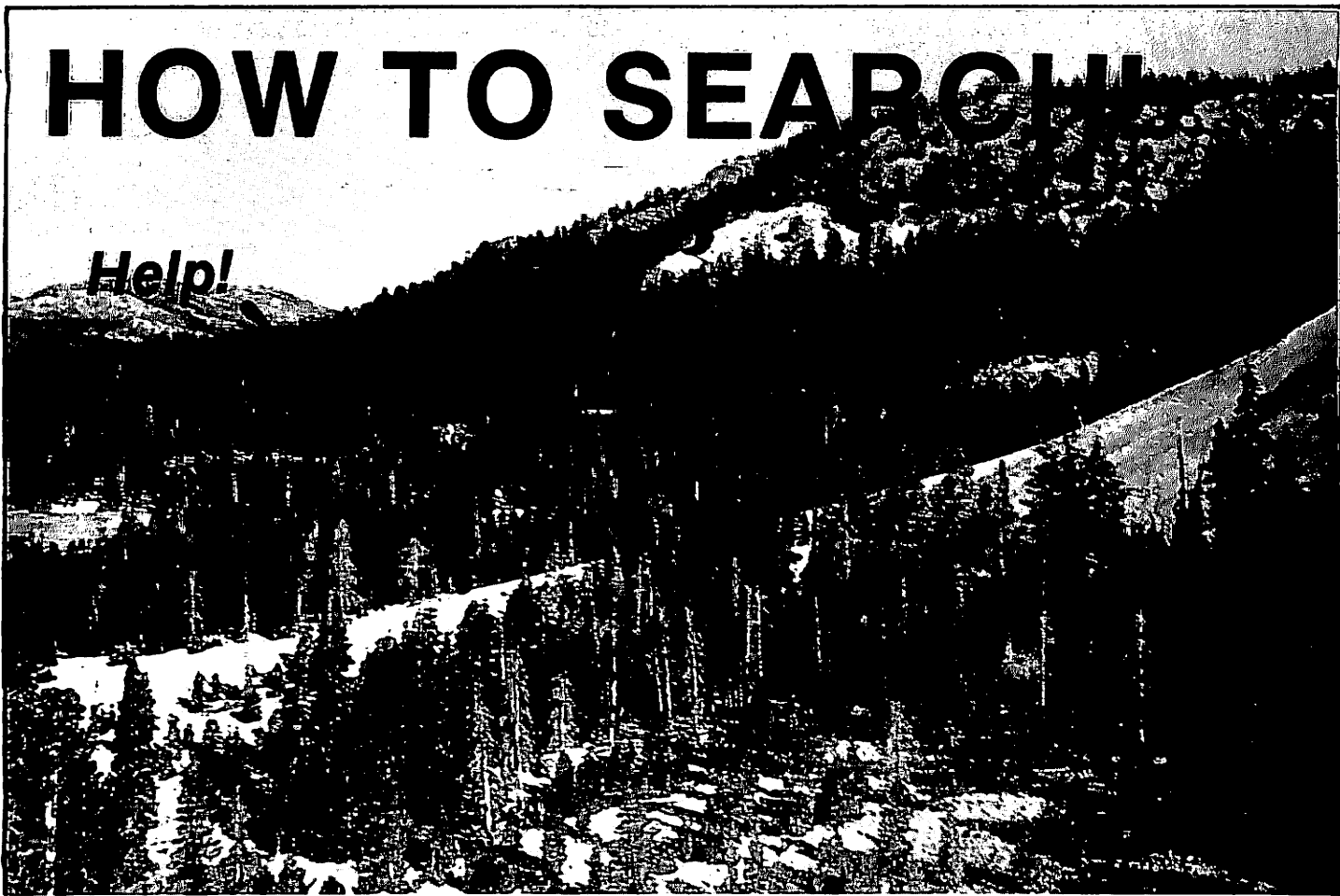
Like all things, practice beforehand is the key ingredient. You simply must go over and over the systems, convincing yourself that they work, and then you may be able to apply them with something that may approach confidence. ☺



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## NASAR MONITORS GUYANA SITUATION

The National Association for Search and Rescue monitored the tense situation in Guyana following the suicide of nearly 1,000 followers of the Rev. Jim Jones, head of the People's Temple religious cult.

NASAR President Art Jones and First Vice President Peter Jensen were in contact with State Department Officials at the special Guyana Task Force Office in Washington, D.C. and with representatives of the Defense Department throughout the day of November 21st. Among the considerations under study, was the airdrop of survival information into the jungle surrounding the Jonestown camp to the first thought hundreds of survivors believed to be in the area. In addition, Art Jones and two other survival and SAR specialists from the Louisiana Department of Aviation were standing by to travel to Guyana, if required.

Peter Jensen assisted by Van Wanggaard of the Racine Police Department set up a NASAR Command Post in Racine, Wisconsin, to monitor and keep track of all information on the situation. In addition, the facilities of the Racine County Emergency Government Emergency Operations Center were standing by for use if required. It was through this center that contingency plans were made with Gene Fear of the Survival Education Association for the transport of the required survival information items.

Victims of the religious mass suicide were mostly Americans from the State of California. The closest city to the Jonestown suicide site is Georgetown over 150 miles away.

## SKI PATROLLERS LIKED SKIING, SO THE IRS WANTED TO ICE THEIR DEDUCTION

Volunteers usually can deduct expenses linked to work for charitable organizations. The National Ski Patrol is one of those organizations; its 38,000 members police ski areas without pay, rendering aid to skiers. Marilyn and Charles McCollum and their two children were patrol members. At least one ski weekend a month they worked 12 hours a day without pay. The Huntington Beach, Calif., couple deducted \$4,200 as a contribution to the ski patrol for expenses connected with their patrol work.

The IRS challenged the deduction. Among other things, the IRS argued that the couple enjoyed skiing, the patrol work and the camaraderie of other patrol members. That got an ice reception in the Tax Court. Many volunteers are enthusiastic about their work and enjoy it, but that isn't grounds for denying them a deduction, the court said.

Yet the court cut the deduction to \$2,400. The couple couldn't deduct the value of their motor home as lodging as they didn't pay it out of pocket, the court said, though they could deduct motels when they stayed in them. Also, they couldn't write off their ski equipment but could deduct the cost of ski repairs.

—From Wall Street Journal, November

## SNOW WRITING LED TO YOUNG SKIER'S RESCUE

PALO ALTO (AP)— Thirteen-year-old Douglas Grismore, who was stuck in a mountain snowstorm for 20 hours, says he knew he would be rescued if he stamped a giant "SOS" in the snow and walked in circles to keep from freezing. "I won't ski alone anymore," the boy said Tuesday. "I was lucky. But I knew that if I wrote something in the snow, someone would notice it."

Grismore was rescued Monday by a ski resort employee who saw the "SOS" and followed the boy's tracks. When it was over, the boy hugged his mother and said, "You were worse off than I was. I knew I was safe."

The eighth-grader was lost while skiing down the back side of a mountain at a Dodge Ridge Ski Resort, about 150 miles east of San Francisco. His parents and 11-year-old sister Samantha were skiing on another trail. "I just got messed up skiing between two chairlifts," he said. "There was no one left on the slopes and it was getting dark."

Grismore said he panicked briefly when darkness fell Sunday, but regained his composure and spent the night walking. He said that he had learned trail-blazing techniques last summer at day camp, and that the campers also discussed the importance of writing in the snow. First, he took off his skis and walked in circles in his heavy ski boots. It snowed most of the night. "It was tiring," he said, "It was the first time in my life I had been up all night. Whenever I stopped walking, I felt cold. I knew I had to keep walking."

At dawn, when it stopped snowing, he decided to stamp the "SOS" in the snow. "It was the shortest, and I guess most effective, word I could think of," he said.

Lt. John Steely of the Tuolumne County sheriff's office said 40 persons were searching for the boy. Seven inches of new snow fell during the night, and temperatures dipped to 30 degrees, but Grismore was dressed in a ski parka, several sweaters, and nylon ski pants over his jeans. Deputies said the youth had walked about six miles. "It was scary at first," he recalled. "But I knew that if I didn't pull myself together I'd freeze to death. . . I kept thinking about someone coming and finding me. I knew there would be a lot of people out there. I thought of what clues would help them find me. . . I would like to go skiing again soon, but I don't know who's going to be willing to take me there."

—From Los Angeles Times, January 10

## PLANE SIGNAL LEADS TO GARAGE

An aircraft distress signal had members of Utah's Civil Air Patrol and Salt Lake City Police knocking on doors early Sunday (7/23/78) morning near Sunnyside Park in an effort to locate the call.

The signal, emitted by an emergency locator transmitter, (ELT), was picked up by Air Force and commercial aircraft flying over the Salt Lake area, according to Capt. Jane Wellman, CAP information officer. The Utah Division of Aeronautics alerted CAP late Saturday afternoon.

Two aircraft were sent up to locate the signal, which they accomplished with some difficulty. "The signal was so intermittent and confusing, it took 45 minutes to track it," said Lt. Col. A. M. Webb, CAP Mission coordinator.

The planes honed in on the signal, reporting it near the mouth of Emigration Canyon, and ground teams were sent in with hand receivers to pinpoint the location. By around 1 a.m. they had narrowed the signal to four homes on Michigan Avenue. CAP members called Salt Lake City police to help them approach residents.

Two residents were contacted without success, but one reported a neighbor was building a plane in his garage. When awakened, the neighbor confirmed he had just bought an ELT, which had apparently been activated by his curious children.

"He was embarrassed as we were tired," said Wellman. The device was turned off at 3 a.m.

False ELT signals should be found and turned off quickly, said Webb, because in some instances the false signal can block out a real distress signal.

—Desert New

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DEALER INQUIRIES WELCOMED

# ALTITUDE SICKNESS REMAINS A PUZZLER

## IT SEEMS TO HIT YOUNG PEOPLE'

By EARL GUSTKEY  
Times Staff Writer

Last July Peter Van Zant, backpacking in the High Sierra, developed a severe headache the morning of his fourth day on the trail. By afternoon he had become nauseated and fatigued. By evening he was seeing black spots. A cold, he thought. Maybe the flu.

He went to bed at 8 and awoke at midnight with a cough. His lungs had begun to fill with fluid. Van Zant didn't know it, but he had pulmonary edema, brought on by an acute attack of "mountain sickness." "By then, the guy I was with decided he'd better get me out," recalled Van Zant, 37, an electronics teacher at Foothill College in Los Altos. "We were at about 10,800 feet. We began descending to a ranger station at 9,000 feet. The headache got so bad I don't think I could have made it if I'd had to go another two miles."

The Ranger quickly diagnosed Van Zant's condition, and he was flown by helicopter to a Visalia hospital.

The case of Van Zant, who could have died from pulmonary edema — an ailment he'd never heard of — should be of interest to backpackers, skiers and climbers for two reasons:

- He was an experienced, well-conditioned backpacker.
- He had never before encountered acute mountain sickness, even at higher altitudes.

Says Dr. Drummond Rennie of Chicago, a mountain climber who has researched cases like Van Zant's: "We believe physical condition is not a factor in acute mountain sickness. We have seen exceedingly fit Alpine guides die from it. And we have seen complete slobbs perform superbly at high altitude." Some who have studied data on the subject actually believe young, fit people are more subject to the sickness than any other group. Why? No one knows. "It seems to hit young people, from pre-teenagers to those in their 30's, more than anyone else," said Lois McCoy of the National Assn. for Search and Rescue, Inc.

Authorities on the subject differentiate between acute mountain sickness and mountain sickness. The former refers to pulmonary edema and a more rare ailment, cerebral edema. The latter, a less severe ailment, refers to a general malaise that often afflicts people ascending too quickly to high altitudes. "Acute mountain sickness can occur as low as 8,000 feet, but the higher you go, the higher the incidence," McCoy said.

A preventive, according to Dr. John West, a respiratory physiologist at UC San Diego, is acclimatization. "The longer you can acclimatize yourself at altitude, the better," he said. I would suggest a backpacker hiking over Mono Pass (12,000) in the Sierra, for example, spend two or three days at a slightly lower elevation before the climb. Or one could climb halfway up, then come back down and sleep at a lower altitude. Many of the problems occur during sleep. You tend to 'under-breathe' during sleep. Your body needs more oxygen at that altitude, but your body mechanisms, which should trigger adequate breathing, are somewhat blunted by deficient oxygen."

The two principal forms of acute mountain sickness are potential killers.

**Pulmonary edema**, Dr. West explained, is the leakage of blood fluid into the lungs. "The coughing up of pink froth is a common symptom. A victim can drown in his own fluid."

**Cerebral edema's symptoms:** "disorientation and confusion, the clouding of consciousness, it can cause you to make foolish decisions." What's to be done when such symptoms appear?

Dr. Rennie: "The golden rule is: *descend*. If your performance begins to deteriorate, *descend*. Many times, a descent of 1,000 to 2,000 feet will remove all symptoms."

Acute mountain sickness isn't necessarily related to exertion, Dr. Rennie said. "You can come down with it simply by flying to high altitude and going straight to bed. The speed of ascent is a key factor. Also, retention of water seems to be factor. A mild diuretic, Diamox, helps reduce mountain sickness."

Howard Gilmore of San Marino has reason to be alert for acute mountain sickness symptoms. He's on his way to Afghanistan to hunt the highest big-game animal in the world, the ovis poli sheep. Gilmore is going up to 18,000 feet. "I've hunted up to 13,000 feet in Mongolia twice and had no significant problems," he said. Gilmore recently underwent tests at the University of California's White Mountain Research Station (elevation: 14,246 feet), where physiologists study *altitude-related ailments*. He said he was told to watch for an acid alkaline imbalance in his system. If it gets too high, a person begins to have symptoms that can signal pulmonary edema.

"The best combination of ingredients to prevent such an imbalance is Roloids," he said. "I'll also make urine tests on a color-coded litmus paper, which will indicate any acid imbalance."

Acute mountain sickness is not commonplace in the United States. Of the 826 climbers who attempted to scale Mt. McKinley (20,320 feet) in 1976, 11 had to be evacuated due to pulmonary edema, two because of cerebral edema.

The Inyo County Search and Rescue Service in Bishop reports six helicopter rescues of pulmonary edema victims in the summer of 1976, six by August, 1977.

A much more common altitude affliction — and one backpackers and skiers are more aware of — is hypothermia. In hypothermia, a person exposed to subnormal temperature begins to lose body heat faster than the body can replace it. In its extreme stages, hypothermia results in loss of judgment and reason, hand control . . . and death.

Another mountain ailment: heat prostration, or sunstroke. The best preventatives: plenty of water and a hat.

Common sense, says Lt. Martin Cappello of the Inyo County Sheriff's office, should eliminate many hypothermia and heat prostration cases. "We carry out 40 to 50 search and rescues every summer and I'd say stupidity is at fault in most cases," he said. "People go up there unprepared for rain and snow and get into trouble."

Craig London of the Rock Creek Pack Station has seen another reason: peer pressure. "I've seen so many cases where someone begins to feel sick but won't say anything to the people he's with. For many people, it's a humiliating experience to have to tell the others you have to turn back. We had to carry out the body of a scoutmaster who died of a heart attack in Mono Pass a couple of years ago. I'd seen him earlier in the day, on the way up, and he looked sick. But the poor guy just couldn't bring himself to tell his Boy Scouts he had to go back down."

## MAN'S TREK IN SNOW SAVES FAMILY

### 3 DAYS IN WAIST-DEEP DRIFTS

SACRAMENTO (AP)— A 25-year-old man who trudged through mountain snow as deep as his waist for three days seeking help for his stranded family said Thursday he almost gave up "a couple of times."

"I just kept going," said Ernie Ortiz in a telephone interview from a hospital bed in Yuba City. "I just kept thinking of my wife and kids."

Ortiz's wife, Mary, 20, his son, Ernie Jr., 1½, and nieces Misty Hernandez, 9 and Monica Guerra, 8, were rescued Wednesday by helicopter after Ortiz reached the small Sierra Nevada town of La Porte.

A light plane pilot spotted Mrs. Ortiz waving from the stranded truck and the helicopter was sent in. The crew said snow was almost up to the top of the truck's windows.

The family did not have any food, and Mrs. Ortiz said she used some of her son's paper diapers to help keep warm.

All five were reported to be in good condition, although Ortiz said he had frostbite on his toes. "The doctor says they will be all right, but for a while I was afraid I was going to lose my toes," said Ortiz, a Marysville roofer.

The family went into the mountains for a day in the snow last Saturday and became stranded when tire chains on their pickup truck broke. It began snowing heavily, and the family spent the night huddled together in the truck cab. Before dawn the next morning, Ortiz set off on foot for La Porte, about 80 miles northeast of Sacramento.

"I knew I had a long walk, but I didn't know it was that long," he said. "The sheriff said it was only 12.5 miles, but it seemed a lot longer than that. It seemed like a hundred." He said the snow was up around his waist. "It was very slow to try to lift my feet up that high," he said. It was snowing most of the time, he added. Ortiz, who was wearing a fur-lined coat during his walk, said he made a fire between two trees one night to keep warm. Another night he crawled inside a burned out tree and slept. Finally he found shelter in a camper truck inside a barn and managed to light the camper's gas stove to dry off his clothes. He also said he found some winter boots that he wore, even though they were too big for his feet. "That made it rougher," he added.

On Wednesday morning he heard the sound of snowmobiles and spotted two men who took him two miles into La Porte. "I went out there waving them down, and they just looked at me," Ortiz said. "When I told what had happened, they rushed me down into town."

—From *Los Angeles Times*, December 22

Continued

## STRATEGY WAS WRIGHT BUT METHOD WRONG

RANDOR, Pa. (UPI) — The police department here recently was told by a Bucks County judge that a Xerox machine cannot be used as a lie detector.

Detectives bent on obtaining a confession pretended an office copier was a lie detector after a suspect agreed to undergo a polygraph test. Prior to interrogation, the sleuths placed a typewritten card in the machine reading: "He's lying."

The suspect was seated near the copier. A metal colander was fastened to his head and wires ran from the colander to the Xerox machine.

Each time investigators received answers they did not fancy, they pushed the copy button.

Out came the message: "He's lying."

Convinced that the machine was infallible, the suspect finally confessed.

Judge Ira Garb threw the case out of court.

"It's the kind of comic relief we need around here once in a while," the judge laughed.

—From *Independent-Journal*, February 8

## MIRACLE IN THE ROCKIES: 21 SURVIVE PLANE CRASH 'SNOWCATS' EFFECT RESCUE

STEAMBOAT SPRINGS, Colo. — Twenty-one persons, including a baby, were rescued Tuesday from the tangled wreckage of a plane high in the storm-swept Rockies after passengers stuffed a wedding dress into a hole in the fuselage to ward off the numbing cold.

Rescuers battling seemingly impossible odds reached the remote site in tracked snow vehicles about 15 hours after the plane crashed in a raging blizzard. The vehicles carried the dazed and bloodied passengers to an emergency medical center set up in a log cabin. Only one of those aboard was killed.

"I haven't done a whole lot of praying before, but I did last night," said Joe Garbina, one of the passengers.

"If you'd been up here and seen the weather we had," said county sheriff Houston Henderson, "you'd be amazed that they survived."

The survivors were taken out from the crash site 10,000 feet up through a foot of fresh snow, some riding inside and others wrapped in down sleeping bags and strapped to the outside of the "snowcats." Only four survivors were able to walk unaided when they reached the rescue center. The others were carried in baskets and on plywood boards.

The rescue center was in a campground 18 miles from Colorado Highway 14, the nearest paved road, and more than 50 miles from the nearest hospital.

Rocky-Mountain Airways Flight 217 had left the ski-resort town of Steamboat Springs at 6:55 p.m. Monday on a 45-minute flight over the Continental Divide to Denver. Fifteen minutes later, the pilot radioed that he was having trouble with icing on the wings and was heading back to Steamboat Springs. A brief outage in power lines which cross the mountain range where the plane went down helped guide searchers to the wreckage. The plane did not cut the lines but apparently brushed against them and a tower, causing the outage. The plane's emergency locator transmitter also aided the searchers.

When rescuers reached the plan they found one passenger, Mary Kay Hardin, wife of a Steamboat Springs school teacher, dead of a fractured skull. All of the other 21 persons aboard, including the pilot and co-pilot were injured to some degree. The infant, 8-month-old Matthew Kotts, arrived at a hospital in Steamboat Springs in good condition and he was released to his father, who was not on the plane. Matthew's mother, Marjorie, was reported in stable condition with a neck injury.

—From *Los Angeles Times*, December 6

## PUBLISHER' FORUM

Dennis E. Kelley

**BOB ALLARD**, Nat. Transportation Safety Board, reminds us that Board members are Presidential appointees. . . **ED SNYDER** of SARA sz 3% of sales will apply to NASAR memberships. . . **TOM DRABEK**, Denver University, has published a paper that defines SAR in terms of Emergency Response. . . **ART JONES**, NASAR President, sz he considers himself as a promoter of NASAR. . . **LYNN KROLL**, Sierra Madre SAR Team, was seeking a source for litterers. . . **WALTER MURPHEY**, Editor, *Journal of Civil Defense*, is the source for the triage METTAG. . . **GEORGE CONNELL**, Nat. Jeep SAR Assn., is helping **BOB NOBLE** survey the State requirements for volunteers vehicle emergency lighting and identification. . . **BOB KOENIG**, NASAR Board of Directors members, is preparing another NASAR membership survey. Please support his efforts. . . **TONY ANDERSON**, Nat. Park Service SAR Specialist is busy answering Congressional inquiries. . . **JERRY WELLMAN**, Utah CAP, sz he is into mission coordination. . . **BOB LIEBMAN** of B&B sz he likes soft sell the best. . . Nat. Jeep SAR Assn. Nat. Cmdr. **QUENTON TREGAGLE** sz one year is hardly time to accomplish goals. . . **DAN DUNLEVY**, Natl. Ski Patrol, moved to Vermont. . . **CHUCK DEMAREST**, Mountain Rescue Assn. President, was impressed by the Boise Interagency Fire Suppression Center. . . **ROGER PERKINS** is the new MRA VP since **LEE LUCAS** resigned. . . **BOB MOODY**, California Office of Emergency Services, is looking for a portable heated O<sub>2</sub> hypothermia treatment unit. . . **TIM SETNICKA**, NPS sz **RICK SMITH** recently of Albright Training Ctr. is now in legislative services, Washington, D.C. . . **PETER JENSEN**, NASAR 1st VP, painstakingly arrived at the following SAR liability computation. PA PS = PD x PM where protecting your Assn. is equal to Proper Documentation times the use of Proper Methods. ☉

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# BUSH ON SAR

by STAN BUSH

## Introduction

There is apparently a tremendous interest in the development of an Emergency Medical Technician-Wilderness program. Great quantities of information has been received in the form of outlines, response to the earlier mailings, manuals and description of courses already being taught. Many thanks to all who have sent in this material.

And, yes, there ARE programs of this type being presented in some limited areas of the country where SAR teams have been interested and there has been the right interface between them and the medical profession. They vary widely in scope and content but can serve as a base for some of our work.

The material presented here is not the work of the chairman, but is a compilation in an attempt to organize the material into the modular concept. It is oriented toward the "wilderness" environment and could be modified easily to include modules on the "rural" environment. So

For sake of clarity, let's redefine those two. "Wilderness" implies ANY area (high cliff, swamp, center of a disaster scene, ocean) where the victim is at least one hour from any vehicular access. "Rural" implies vehicular access to the victim but some distance from any definitive care unit (such as a road-bed 20 miles from the nearest clinic, a small, isolated town, etc.)

## General Concepts

These were recommended by the majority of contributors. Some are redundant, and some have been mentioned before. They are included here — as is much of this material — for consideration and discussion. They are not in any order of priority.

The EMT-W *MUST* have a very high proficiency in the **BASICS**. In the words of Dr. Norman H. Mellor, M.D., Corona, California, "Most important is to save the victim's life. If you can't save his life after you get to him — why go? You should have sent the coroner instead. In other words, the three things that are going to kill him are: (1) Cardiac arrest, (2) Respiratory arrest, (3) Shock. And these three are potentially involved in all of the subjects in this course."

## THE OUTLINE

The outline that follows is set up as a series of modules designed to cover the material suggested by the many letters and guides received. Again, it is 'suggested.' It is a base from which we can develop the EMT-W program. It is NOT engraved in stone! In cases where an item is listed that is also taught in the Basic EMT program the listing does not imply that this will be the same material, but will build on the basic material and present advanced training specific to the wilderness environment. (i.e. "Chest Injury" — for this course that might also include management of the open or tension pneumothorax for extended periods of time — say 72 hours.) The proposed modules:

### General Management

- Medical terminology, topography of anatomical structures, definitions
- Total review of basic body systems — encapsulating EMT-A
- Cardiac Arrest and the American Heart CPR in review
- Respiratory arrest and airway management
- Legal aspects of emergency care and physician/hospital interfaces
- Shock management over long term management periods (16 basic types)
- Management of fatalities in the wilderness environment
- Records and reporting procedures

### Victim Evaluation

- Use of diagnostic equipment (stethoscope, BP cuff, etc.)
- Managing the unconscious patient
- Total body evaluation — Triage — Vital Signs
- The rescuer's attitude toward and management of the victim
- Data acquisition from the immediate area and from others with the victim
- Illness indicators and identification — management
- Synergism and Masking as related to long term management

### Victim Management

- Elimination of external problem factors (heat, cold, water)
- Introduction to temperature, fluid, electrolyte management
- Importance of four-stage approach: evaluate, manage, treat, evacuate

- When to expand management (i.e. reduction of dislocation if arm blue)
- Time frames — to stabilize or evacuate immediately
- Patient packaging — for the type and duration of the evacuation

### Management Techniques

- As approved by a physician and including, but not limited to, suction, reduction of tension pneumothorax, oricthyroidotomy, catheters, etc.
- Intravenous techniques and injection techniques
- Improvizations based on limited equipment

### Trauma Management

- Chest injury — internal, external
- Abdominal injury — internal, external (i.e. management of ruptured bladder)
- Head injury — including depressions, subdural hematoma, etc.
- Fractures and bone damage — including cervical and spinal injury
- Skin damage and soft tissue injury
- Long term open wound management

### System Malfunctions

- Cardiac problems — MI, CVA, etc.
- Respiratory problems — including hyperventilation, oxygen deficiency, etc.
- Abdominal Disorders — including illness as well as rupture
- Dyspnea
- Illness — pre-existing or environmentally induced
- Circulatory problems
- Infection
- Muscle management — pain, cramps, etc.

### Neurological/Psychological

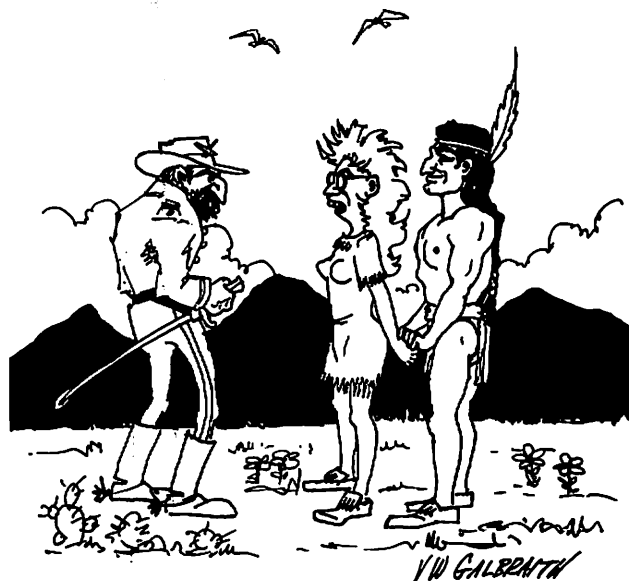
- Neuroses and psychoses
- Epilepsy and convulsions
- Stress management
- Pain and response to pain
- Levels of consciousness
- Hypertension

### Specific Care

- Management of victims of lightning strike
- Long term burn management
- Poisoning — food poisoning — snakebite — self-induced drug poisoning
- Chemical/Radiological management (i.e. victims of plane crash in back country where aircraft had these items on board)
- Allergy Management
- Communicable Diseases
- Diabetic Management
- Gun shot wound management

### Special Management

- Medications-Drugs-Injectibles — administration, dosage, effects, side-effects, indicators, contraindicators, legal considerations, physician approval
- Field improvizations
- Elaboration of fluid management for long-term operations
- Survival physiology



"WELL, AS LONG AS CRAZY WOLF HERE LIKES BLONDES, YOU AIN'T RESCUING NOBODY, BUSTER!"

- Contents of "bash" (first in) and "support" medical packs

## SPECIAL MODULES

The above gives the outline of the general EMT-W course. The material below is to be considered as a start toward special modules of training for particular situations. Many items may be interchanged in the final outline. Remember, this is only preliminary.

### Long Term Evacuation (Over 48 hours)

- Infection management
- Medication
- Fluid Management
- Extended Rescue Breathing
- Wound Management
- Illness
- Extended techniques for CPR
- Extended use of IV's

### Limited Access

#### (Cave, Rock, Disaster Environment Rescue)

- Victim packaging
- *Very* restricted gear management (minimal emergency care gear)
- Management while moving
- Victim manipulation (cave or loading into liter on cliff)

### Water

- Immersion
- Drowning
- Hydrothermia
- Resuscitation
- Decompression

### Heat

- Dehydration
- Heat Stroke
- Syncope
- Poisonous snakes, animals
- Exhaustion
- Cramps
- Fatigue
- Solar radiation-eye burns

### Cold

- Hypothermia
- Frostbite
- Chill factors and environment
- How to manage medication and IV's in extreme cold (chill factors of 90° F.)
- Freezing
- Dehydration
- Managing the avalanche victim

### High Altitude

- Pulmonary Edema
- Cerebral Edema
- Environmental - wind - temperature
- Mountain Sickness
- Solar Radiation
- Illness
- Anoxia
- Nutrition management

### Expedition Management

- (easy, just take a doctor along!) However, otherwise emphasis on:
- Stress-psychological and psychological
- Wilderness skin diseases
- Infection management — medications, etc.
- Illness — including, but not limited to: headache, stomach ache, diarrhea, respiratory, heart and blood vessels, gastrointestinal, abdominal, urinary, nervous system, eye-ear-nose-throat, allergies.

### Support Training

Not directly involved in the course, but considered important for the rescuer and must be included somewhere in his training if he is to be effective:

- Communications — radio, air-ground, non verbal, codes and terminology
- transportation-helicopter use, litter management, other evacuation modes
- map and compass — for orientation, to reach the victim and report position
- law enforcement coordination for operational permission
- preplanned means of interfact with hospitals and physicians

### Action

Now, *you tell me* — what do you think of the materials here? How can we get the program started? How can we learn what's new in this field? How can we get the needed equipment? How can we test this concept? Where do we go from here?

Write to:

**STAN BUSH**  
**EMERGENCY MEDICINE COMMITTEE**  
**NATIONAL ASSOCIATION FOR**  
**SEARCH AND RESCUE**  
 P.O. Box 153  
 Montrose, CA 91020

# MARCH ON SAR

by **Bill March**  
 Faculty of Physical Education  
 The University of Calgary, Canada

## EQUIPMENT

There are new developments on the ice climbing equipment scene with Lowe Alpine systems bringing out a new drive in screw release tubular ice screw. Also, Forrest Mountaineering have developed a new line of ice climbing tools with a newly designed pick — the serac sabre which is available in axe and hammer models. In addition, there is a new tube attachment for the Mjollenir hammer which is made for brittle ice thus making this versatile hammer even more versatile — four detachable tube, pick, ice pick and nut pick.

## RESCUE WINCH

Whilst in a climbing trip to Zion National Park this fall I met Tony Bonnana, a supervisory Park Ranger, and had an interesting afternoon discussing rescue problems and equipment. At the present time Tony is field testing a light weight mini winch which appears to have excellent potential in cliff rescue hoisting. The mini winch weighs 26 lbs. and has dimensions of 20½"x10½"x9½". It has an 100:1 permanently lubricated gear reduction system with sealed needle bearings and a no maintenance winch enclosure. For safety, this mini Winch design incorporates a reverse lock mechanism which locks the windlass in case the engine stops. The hoist rope is wrapped four or five times around the windlass and the engine started. A few pounds of tension applied to the free end of the rope controls lifting or pulling speeds from crawling to 40 ft. per minute. Its vertical deadweight lift capacity is 3,000 lbs. The winch can be mounted on a pack frame and has an anchor cable attachment. This winch certainly does appear to be very suitable for cliff top hoisting in difficult situations. The winch is powered by a Tecumseh two cycle, single cylinder 4.8 cu.in. engine with all position diaphragm carburetor. Present list price is about \$298.00. Available from Triway Manufacturing Inc., Winch Division, 4110 - 78th Place N.E., Marysville, Washington 98270.

## ACCIDENT STATISTICS U.K.

A recent study of mountain accident statistics in the U.K. between 1962 and 1974 has revealed some interesting results. The total number of accidents has risen from less than 150 in 1962 to over 300 in 1974-75. This increase has been due to a rise in non fatal walking accidents. The number of fatalities has actually decreased over this period. These figures are more remarkable when we compare them with the estimated number of climbers and hillwalkers in the 1950's: a few thousand and between 100 and 200 thousand respectively. There has been a great increase in numbers to an estimated 60,000 climbers and 600,000 hillwalkers by 1973. There has been at least a 300% increase in the use of the mountains. There are three reasons cited for the comparative low increase in accidents and the low number of fatalities (i) improved equipment, (ii) well developed rescue services utilizing helicopters, radios, search and rescue dogs and alpine rescue techniques (iii) improved rescue procedures so medical services are better able to cope with injuries. A further important factor in my personal opinion has been the operation of an effective Mountain Leader training scheme.

## ANCHORS — IN SOFT ROCK

The soft sedimentary sandstone which occurs extensively in the American southwest poses a problem when it comes to finding secure anchors. The use of a special drill to drill holes for ½" angle pitons has proved an effective method of providing an anchor point in this soft sandstone. Although not available commercially, it is possible for rescue teams who require them to have these custom made by Forrest Mountaineering. There is little doubt that this method of bolting is the most reliable available for soft sandstone.

# LETTERS TO THE EDITOR

Dear Dennis;

With the proceedings in Albuquerque now in the past, I'd like to take a couple minutes to reflect on some of the things that I encountered at that very excellent conference.

First off, the educational programs were exceptional. I attended those primarily oriented to emergency medicine and SAR dogs, and found them to be beneficial and educational. There were, however, two misconceptions which after further discussion with my team members, I feel should be cleared up.

The first of these is on the nature of the Bloodhound. The mantrailing Bloodhound is not a tracking dog. He is, as the word "mantrailing" implies, a trailing dog. Redbird, my personal dog, comes close to being a tracker, but even she exhibits aspects of a trailing dog when following a subject. Some Bloodhounds trail holding their head at chest level or higher. True, the classic picture of the Bloodhound is nose to the ground, following the very footprints of their quarry, but, as a German Shepherd is taught to follow an air scent, then trail if he encounters a good strong ground scent; a Bloodhound, is trained primarily to follow a ground trail, yet is capable of following an air borne scent. Much research has been done by the National Police Bloodhound Association into the way the Bloodhound works. They have set up training programs, put out a training manual, and really provided standards for mantrailing Bloodhounds which never existed before. This research had proven the bloodhound to be a trailer and not a "per-se" tracker.

The second thing which I heard, was by far the more distressing of the two, yet was also based on people's misconceptions of the Bloodhound. As I sat at dinner at the banquet, I was informed by an individual who was responsible for the coordination of search operations in a given area, that he wouldn't call out a Bloodhound, because: A) He lived in a southern state; B) there was a large black population in his area, C) hence, the "Uncle Tom's Cabin Complex." I feel very strongly that this *is not* putting the victim *first*. It is as serious a misconception as saying that all German Shepherds are "man eating police dogs."

Our team covers a large part of a southern state (NW Arkansas) with, in some places, a large black population, and we have no problems with the "Uncle Tom's Cabin Complex," because we, as a team PUT THE VICTIM FIRST!

The "UTC Complex" is a serious handicap to those of us in Bloodhound SAR, as well as law enforcement. Bloodhounds are *not* vicious, they are among the friendliest of dogs. They work singularly, with a handler *not* off-lead in packs. They trail silently, *not* baying as they go. SAR coordinators should keep these things in mind when calling on handler-dog teams. Across the country Bloodhound teams stand ready to lend a hand, and a nose to find the lost person.

Again, I would like to compliment the New Mexico ESC and particularly Albuquerque Rescue Dog Association for a memorable conference, which was among the best I've ever attended.

Yours truly,

Hans L. Erdman R.E.M.T.-A, E.M.T.-W  
Training Officer  
Western Ozark Bloodhound Rescue Team.

Dear Dennis:

Enclosed is an article I noticed in the "National Fisherman" Vol. 59, No. 9, January 1979.

It occurred to me that it might be useful to you in that it describes a different kind of SAR team and one which was officially recognized by the Coast Guard. I notice that the article also indicates there may be one or more similar organizations like this.

Let me know if you want any of the material I mentioned in my last letter.

I hear the folks in Colorado did an excellent job on the Rocky Mountain Airways accident this month.

Regards,  
Robert L. Allard, Chief  
Industry Liaison

Dear Mr. Kelley:

Donald Duke (Golden West Books) just forwarded to me your letter of August 14.

Thanks for the kind words about my book.

I'm not sure I can answer your questions in a satisfactory manner, but I'll do my best.

I too have wondered about the potholes northwest of Strawberry Peak, known in the old days as Strawberry Potrero. I'm not a geologist and haven't been able to discover what caused them. Geological studies of the range don't even mention them. I might mention a theory of Will Thrall, contained in his papers at the Huntington Library. Thrall wrote that there was an Indian village below the face of Strawberry Peak until the 1812 earthquake. In that quake, he said, the present sheer face was formed and the Indian rancheria buried. Supposedly, he scouted old Indian trails leading to the village. Thrall offered no solid evidence of this, and I considered it too fantastic to put in my book. Thrall was an amazing person, intensely interested in the San Gabriels from his first visit in 1889 until his death in 1963.

According to Will Thrall, both the 1812 and 1857 earthquakes severely shook the San Gabriels. But I haven't been able to find any solid confirmation of this. Spanish mission records mention the 1812 destruction, particularly the extreme damage to San Juan Capistrano. But since the padres generally stayed out of the mountains, there is not one word in their records about any destruction there. The 1857 Tejon quake was the biggest in recorded history in Southern California. Centered just northwest of the San Gabriels, it did extensive damage to Los Angeles and must have shook the mountains badly. But again, no confirmation. I've searched the L.A. Star and other newspapers of the period, but nothing about mountain damage. At that time (1857) there were hundreds of miners in Santa Anita and San Gabriel canyons who must have felt the jolt. The 1971 San Fernando quake raised the western end of the San Gabriels several inches.

Don't know anything about the shack and mine shaft above Devils Canyon. Might have been Charley Chantry's — he had prospects in the Chilao area around 1910-1925. So did Bill Sturtevant, over in Twin Peaks Saddle. There was extensive gold prospecting in the San Gabriels from 1854 into the 1930's.

The shaft you mention in Strawberry Potrero may have been Delos Colby's. He came to these mountains in 1891 to prospect and had a small mine in Wickiup Canyon. He supposedly had other prospect holes around the ranch which he worked from time to time until his death in 1918. He never found anything worth much, however.

Presently am working on a companion volume to the eastern half of the range.

Sincerely,

John W. Robinson

Dear Editor,

I found this interesting bit in a book called "Stories On Stone. A Book of American Epitaphs" by Charles L. Wallace. Page 45. Copyright year 1954.

"Strange Creek, West Va., was named for William Strange, who was lost from his companions during a surveying trip in 1795. His bones were found several years later near a tree against which his gun still rested. On the bark, Strange had carved this epitaph before he perished of hunger and exposure:

Strange is my name and I'm on  
strange ground  
And strange it is I can't be  
found."

Sincerely yours,

Mrs. Dorothy Kreutzer  
Rome, New York

Dear Dennis,

I am a member of the Can Am Lifeline Search & Rescue of Eureka, Montana and am very interested in your book.

I had to track a man the last night of the hunting season on a hillside covered with tracks. Snow cover was about 2", and we followed a distinctive footprint for over two hours. We found two of the man's hunting partners who had tracked him until dark and then built a fire to spend the night. Just after we found them, their 73 year old partner walked out on a road on the other side of the mountain.

The two we found were mighty glad to see us. They were both 57, and weren't too eager about spending the night on that mountain.

Curtis McMarrell

Dear Dennis:

I am sorry I missed you at the NASAR Convention in Albuquerque, but I had to be at the National Boy Scouts of America office on October 1. My new assignment, here, is with the Camping and Conservation Service. The only danger of becoming lost is in the mountains of paperwork.

Next July the entire National Office is being relocated to Dallas, so I won't be too far from Philmont.

I recently came across a fact sheet, published by our national Public Relations Division, containing excerpts of lifesaving acts performed by Scouts and leaders during the past year. I am not sure if this is the type of material you might use in *Search and Rescue Magazine*, or not. If it is, you are most welcome to use whatever you can. If you need anything further, please let me know. Also, Dennis, several of our national Public Relations staff are willing to do an article on PHILSAR (Philmont Search and Rescue) if that might be something you could use.

I definitely plan to maintain my relationship with NASAR, although it may be somewhat more difficult for me to attend national conventions. Has Dallas ever been considered for a convention site?

Best wishes for a Merry Christmas and a Happy New Year.

Sincerely,

David R. Bates, Associate Director  
Camping and Conservation Service

Dear Dennis:

Thank you very much for your letter of December 12th. I certainly hope that the EMT Journal is as successful as Deke's initial effort and work program as it should be. As you are aware, we utilize abstracts in the EMT Journal of pertinent articles to call the attention to our readership articles which they may not have run on to. Any articles from *Search and Rescue Magazine* that you feel would be appropriate to abstract, please send them to me.

I am sorry that we can't have an exchange of subscriptions between the EMT Journal and *Search and Rescue Magazine*. It is Mosby's policy that Mosby and/or the Editors subscribe to or buy any journals which it is felt are beneficial from an ongoing basis. It is their hope that other organizations will subscribe to the EMT Journal. As this policy has been very well accepted for almost all the journals published by Mosby, I feel that I must adhere to it also. I do appreciate the offer, however, and hope that I can find or you will to me if appropriate articles which you think are of mutual interest and I will do the same.

Looking forward to working with you.

Sincerely,

Norman E. McSwain, Jr., M.D., FACS  
Editor

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