WINTER 1975

SEARCH AND RESCUE MAGAZINE

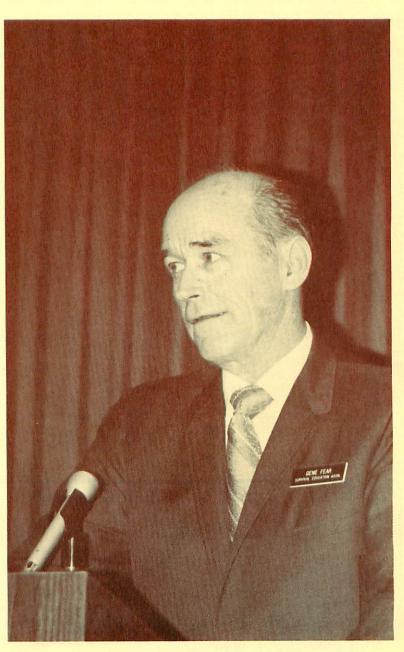
OFFICIAL PUBLICATION OF THE NATIONAL ASSOCIATION OF SAR COORDINATORS

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GENE FEAR 1975 NASARC Hal Foss Award Winner

NEWS AND RUMORS

NOT ROUTINE:

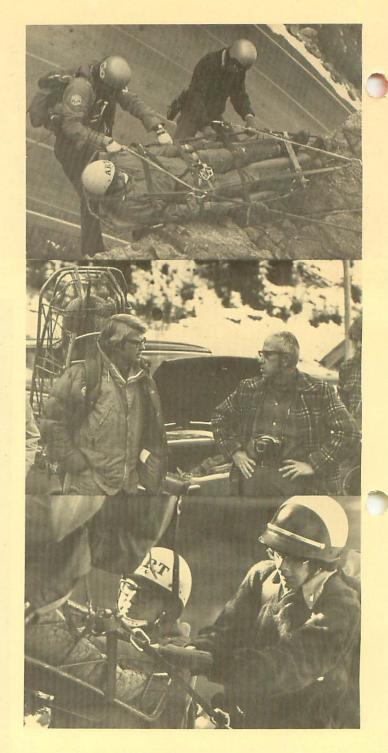
In the fall of 1975 the Rocky Mountain Rescue Group of Boulder, the Alpine Rescue Team of Evergreen and the Arapahoe Rescue Patrol of Littleton, Colorado held a joint training exercise near Idaho Springs to compare notes, swap techniques and develop new coordination plans for rock rescue.

So far, routine for mountain rescue teams. In one of the practices a "victim" was placed on a ledge about 10 feet from the top of a 120 foot vertical cliff. Two rescuers reached the "victim", placed him in a litter and lowered him to the base of the cliff. Still routine? No! The "victim" this time was the Honourable Richard Lamm, Governor of the State of Colorado.

Governor Lamm is an active mountaineer and spends some of his time in the back country. At the joint training exercise he was studying mountain rescue techniques and readily volunteered to see the operation from the victim's standpoint. Later in the day he also assisted as a member of a litter team in lowering another "victim" down a 45° scree slope.

Pictures:

- 1 -- In the litter Governor Lamm. Attendants: left - Steve Donahue of the Alpine Rescue Team. right - Matt Lepore of the Arapahoe Rescue Patrol.
- 2 -- Governor Lamm (with basket) talking to CSRB President Stan Bush before starting up the cliff. Yes, he carried the litter up.
- 3 -- On the cliff just prior to loading the litter. Governor Lamm on the lieft and Matt lepore of the Arapahoe Rescue Patrol on the right.



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NATIONAL ASSOCIATION OF SEARCH AND RESCUE

COORDINATORS 7th ANNUAL CONFERENCE

The 7th Annual Conference of the National Association of Search and Rescue Coordinators (NASARC) was paced by its banquet guest speaker, Astronaut Russell Schweickart. There was a lot of big thinking.

The NASARC Conference opened Thursday, December 4, 1975 at the Regency Inn, Denver, Colorado with a meeting of the NASARC Committees. These committees are a working arm of NASARC where national SAR policies and concepts are postulated and then recommended to the NASARC delegates for approval. Significantly, the following committee reports were made.

Publications — The circulation of Search and Rescue Magazine has increased significantly with a distribution of nearly 1700. It was reported that now articles are coming to SAR Magazine from all over the country including some foreign countries. This diversity will enhance the magazine content for national distribution. Interestingly, the number of subscribers jumping from SAR Magazine to NASARC membership which includes the magazine is well over 100. Apparently SAR Magazine is introducing many persons to the Association. Finally, it was announced that greater liaison between the State SAR Coordinators and SAR Magazine is required. The delegates must remember that SAR Magazine belongs to NASARC and the full potential of its facilities is not being used.

Uniform Map — Because of a multitude of problems with this system, the Air Force Aerospace Rescue and Recovery Service (ARRS) at Scott AFB is becoming involved in finalizing its implementation.

Survival Education — The name of the committee has been changed to Preventative SAR. It was announced that a great deal of documentation is available on the subject. In addition, an extensive bibliography has been prepared and it will be published in SAR Magazine.

Communications — A survey of 13 NASARC member states revealed that over 200 different radio frequencies are being used for SAR. It was recommended that a systems approach be used to establish SAR radio requirements for the future.

Conference — A report on displays indicated that a greater number of commercial displayers could have been had if NASARC adopted a 2 year lead time on Conference requirements. These requirements would include date, time, site, coordinator's ID, phone, address, etc.

Membership — The following Advisory Council members were voted in this year:

Council for Survival Education
National Rifle Association
National Sheriff's Association
FORCECOM (Civilian Contact for Army SAR)
National Aeronautics and Space Administration
U.S. Border Control



NASARC Delegates, L-R): EFRAIN AYMAT-Puerto Rico, CHUCK DEMEREST, JAKE HERZOG-Wyoming, RICK LaVALLA-Washington State, FITZ FITZGERALD-Arizona, JOHN OLSON-Oregon, JEFF MONROE-North Dakota, BLAIR NILSSON-Colorado, PAUL KOENIG-Utah, and PETER PAITON-IIInois.



BLAIR NILSSON, Colorado State SAR Coordinator and NASARC President.

JOHN OLSON, Oregon State SAR Coordinator and NASARC 1st Vice President.



JEFF MONROE, North Dakota State SAR Coordinator and NASARC 2nd Vice President.

PAUL KOENIG, Utah State SAR Coordinator and NASARC Secretary/Treasurer.

After lunch Thursday, the NASARC Delegates and SAR Advisory Council had their meetings. The NASARC delegates are composed only of the NASARC member states SAR Coordinators. On the other hand, the SAR Advisory Council includes the Delegates as well as representatives of national SAR organizations and agencies such as the U.S. Coast Guard or the Mountain Rescue Association as examples. Items discussed by the SAR Advisory Council were:

- Site and conference committees
- Awards committee
- NASARC Executive Secretary

In addition, all Advisory Council members were given an action item to provide SAR Magazine with a short synopsis of their SAR involvement. This synopsis is due to SAR Magazine by 1 March 1976.

Friday morning the NASARC President, Blair Nilsson, held a President's breakfast. This invitation only breakfast gave everyone an opportunity to meet and greet with the NASARC President and officers.

After breakfast Blair Nilsson, who is also the Colorado State SAR Coordinator, officially called the 7th Annual



COLONEL RYLAND 'ROY'
DREIBELBIS, USAF Director,
Air Force Rescue Coordination
Center. Chairman, NASARC
Awards Committee.

CAPT. 'DOC' LUZIUS, USCG Ret. Coast Guard & SAR Liaison Staff Headquarters



First Marshall S. D. INDARTO, Head of Service, Indonesia Dept. of Communication, National SAR Organization

JAMES C. C. JEN, Chief Taipei, Taiwan, Air Navigation Control Center.

NASARC Conference to order. Guests and officers were introduced as follows:

Officers: Blair Nilsson - President
John Olson - 1st Vice President
Jeff Monroe - 2nd Vice President
Paul Koenig - Secretary/Treasurer



'FITZ' FITZGERALD, Arizona State SAR Coordinator.

PETER S. PAITON, Illinois State Delegate



BOB WARNER, Aircraft Owners and Pilots Association

CAPT. ALBERTO M. RICE, Lineas Maritimas, Argentina



HARLEY Y. M. LIU, Director Taiwan Air Traffic Services Div.

DR. ANTHONY LOW, German Physiologist

After introductions, Don H. Luzius, Dept. of Transportation, U.S. Coast Guard reported on the Federal Interagency Committee on SAR (ICSAR) and the Intergovernmental Maritime Consultative Organization (IMCO).

Coast Guard. Don was questioned as to why there was so little visibility of ICSAR? In fact, why were not the minutes of ICSAR made available to SAR Magazine?



JIM and DIXIE PETERSON. Jim represents Region 6 of the Defense Civil Preparedness Agency and was Public Relations officer for the NASARC Conference.

ANDY and **HELEN CORDILL**. Andy is National Commodore of the U.S. Coast Guard Auxiliary.





MR. & MRS. RICK GOODMAN of Scientific Devices, Albuquerque.

In keeping with the current interest in Emergency Locator Transmitters (ELT's), Capt. Hardy Willis of the Dept. of Transportation, Federal Aviation Administration, presented a report on these controversial devices. Hardy reported on the vast number of false starts that all agencies cope with.

Sheriff Harold Bray of Jefferson County, Colorado discussed requirements for volunteer SAR teams. Sheriff Bray suggested that greater integration of volunteer SAR and Law Enforcement agency in behalf of the victim could occur if the desire exists in both groups.

A luncheon was provided by NASARC at which Harold V. Cook, Denver's Deputy Mayor welcomed the NASARC convention. In addition, Brig. Gen. William D. Weller made the luncheon presentation.

After lunch, the first presentation was made by Colonel Roy Dreibelbis, Director of the Air Force Rescue Coordination Center (AFRCC), on SAR forces transportation and the SAR/AFRCC status.

The following workshop moderators were introduced prior to the start of the workshop sessions:

Helicopter SAR — Capt. Tom Staadt, Ft. Carson Tracking — Ab Taylor, U.S. Border Patrol Medical Aspects of SAR — George Butler, ESAR SAR Training — Rick LaValla and LTC Capers. Preventative SAR — Skip Stoffel, Washington State Communications — Rick Goodman 4x4 — George Connell

Natural Disaster - Stan Bush

Many workshop discussions carried over to the hospitality room.

The Saturday morning presentation was given by C. G. Inskeep, President of CIR, on the use of ELT systems.

Afterwards, Pete Clements addressed the "Patrol of Wilderness Trails" by the Nordic Ski Patrol System.

One of the many highlights of the Conference was the "SAR Communications" paper presented by Lois McCoy of the San Diego Mountain Rescue Team. Many examples were presented by Lois on how to enhance SAR communications.

Stan Bush of the Colorado SAR Board presented a fascinating critique of SAR in general. Stan's suggestions included the creation of a SAR code of ethics as well as the total support of NASARC by all SAR cognizant agencies and organizations. Stan stressed the importance of keeping the victim's welfare foremost in your mind at all times.

After break, LCDR Scott Ruby of the U.S. Navy presented a paper on "Aerial Reconnaissance in SAR." This informative show provided the audience with an insight into the potential of this new SAR tool.

Another unique paper was on "Satellite Relay of ELT Transmissions" by Bernard Trudell of NASA Goodard Space Flight Center. The use of Satellites for ELT detection has many fascinating facets.

LCDR L. Brandt Beck, U.S. Navy Reserve gave an interesting presentation on Helicopter SAR Operations. Brandt's theme was that pilots and ground personnel involved in mutual SAR missions should talk to each other frequently before the mission begins.

Finally, for the Saturday morning lectures, Andy A. Cordill, National Commodore of the U.S. Coast Guard Auxiliary talked on "A New Approach Concept."



 ${\bf BRUCE}$ GORD ON at his L-Tronics display of ELT Direction Finding equipment.

(L-R) — PAT SULLIVAN, MIKE TAIGMAN and JERRY HIX of the Arapahoe Rescue Patrol.



Before the afternoon workshops, a NASARC team of SAR personnel put together by Jim Peterson of DCPA, demonstrated rescue concepts rappelling off the 18th floor of the Regency Innitower. TV and Press coverage of this demonstration provided NASARC with a good deal of real-time publicity on its conference. Participants over the side were:

Blaine A. Peterson, University SAR, Idaho Pat Sullivan, Arapahoe Rescue Patrol, Colorado Mike Taigman, Arapahoe Rescue Patrol, Colorado Jerry Hix, Arapahoe Rescue Patrol, Colorado Dennis Kelley, SAR Magazine, California

The following Workshops were conducted Saturday afternoon:

Search Dogs and Their Uses, Bill Syrotuck Computer SAR, Major Bob Mattson, USAF Helicopter SAR Landing Zones, Ed Cleeves, USA Planning and Operations SAR in Major Disaster. Stan Bush, CSARB

ELT Searching Techniques & Equipment; Bruce Gordon, Charles Gray, John Memmen, Lois McCoy
New Developments in Sweep Searching, Area Confinement and SAR Status Reporting, Jon Wartes
Theory of Search, Bill Wade and Dennis Kelley
Satellite Weather Pictures and Their Use for SAR,
LTC James Bigelow, CAP.

Exhibitors at the 7th Annual NASARC Conference were:

L-Tronics

Mountain Rescue Association Council for Survival Education **Emergency Medical Supply** C. J. Hendry Co. Colorado Civil Air Patrol St. Anthony Hospital Colorado School of Outdoor Living Pelmark Tents Wilderness Institute of Survival Education CIR Industries King Neptune Co. Mercury Snowmobiles Aspak Corp. Highland Survival School Memcon Institute for Survival Education

That evening at the NASARC Banquet there were several treats provided after the meal. First the Centennial Singers gave an outstanding performance in group song. This entertainment was such a pleasure that the group was given a standing ovation.

Later that evening the special guest speaker, Apollo 9 Astronaut Rusty Schweickart, entertained the assemblage with his insight and interpretation of modern space flight. In attempting to describe space flight to his audience, Rusty elaborated on two aspects of his Apollo 9 mission.

First, weightlessness was described as a source of endless entertainment to the astronauts, even though it was not conclusive to drinking fluids. Rusty assured us that the physics of weightlessness was very fascinating.

Secondly, Rusty said the view of earth from space was heartening for the soul as well as majestic to the eye. He said that for color, Africa was particularly beautiful from space.

In addition, Rusty Schweickart touched upon the present space flight rescue capability and spin-offs to civilian SAR. This man of space of significant historic proportions made a considerable impression on everyone in attendance. It is very understandable how he was chosen for this special space mission.

NASARC President Blair Nilsson, in the Banquet finale, gave personal awards to persons making contributions to NASARC this year. These persons were:

John Olson Lois McCoy
Jeff Monroe George Butler
Paul Koenig Jake Herzog
Roy Dreibelbis Dennis Kelley

LTC Jim Bigelow of the California Wing CAP made a presentation to Jack Bottoms of the National Environmental Satellite Service for his contributions to Satellite SAR application.

Colonel Roy Dreibelbis USAF, the NASARC awards committee chairman, then took charge of the proceedings to make the prestigious NASARC State SAR Coordinator's Awards as follows:

Alaska, Maurice Powell, CAP - winner
Arizona, District 16 Helicopter Operations - winner
California, U.S. Border Patrol - winner
Colorado, Stan Bush, CSARB - winner
North Dakota, N.D. Wing CAP - winner
Utah, George Connell, NJSAR - winner
Washington State, Gene Fear - winner



RUSTY SCHWEICKART, Apollo 9 Astronaut, NASARC Special Guest Speaker.

GEORGE BUTLER, NASARC Displays Chairman

ROBERT HARRIS, U.S. Dept. of State, Foreign Disaster Relief Coordination.

SHERIFF WILLIS L. LARSON, Weston County, Wyoming



These state awards, as well as the Hal Foss Award, were created by Jack Farmer and his wife.

Finally, NASARC President Blair Nilsson concluded the evening's festivities by announcing the 1975 Hal Foss Award winner. This NASARC award of highest esteem is given to that individual who best epitomizes the dedication and resolve of Hal Foss himself toward SAR and helping SAR victims everywhere. The 1975 winner was Gene Fear.



BLAINE A. PETERSON, University SAR, Idaho demonstrating mountain rescue techniques.



BILL MAY, President Rocky Mountain Rescue Group and author of "Mountain Search and Rescue Techniques"

EFRAIN AYMAT, Puerto Rico, SAR Coordinator

'DOC' DICKSON, National Commander, National Jeep Search and Rescue Association

GLENN BRAND, Aspen, Colorado



Some of the accomplishments and background of Gene Fear are:

- Is considered to be the "father" of modern survival philosophy (i.e., more emphasis on why and how environmental stress affects the total body while away from modern civilization and its technology.
- 2. Experienced outdoorsman, mountaineer, and volunteer mountain rescue team member for more than 20 years.



DENVER PRESS CORPS await NASARC Conference SAR rapelling demonstration from the 18th floor of Regency Inn Tower.



STAN BUSH (R) receiving the Colorado State SAR Coordinator's Award from BLAIR NILSSON, NASARC President.



JACK BOTTOMS, National Environmental Satellite Service receiving a CAP Award from BLAIR NILSSON (L) and JIM BIGELOW, Californiw Wing CAP.



(R-L) GENE FEAR, Hal Foss Award Winner, RUSTY SCHWEICKART Apollo 9 Astronaut, and BLAIR NILSSON, NASARC President.



GEORGE CONNELL (L) receiving Utah State SAR Coordinator's Award from PAUL KOENIG NASARC Secretary/Treasurer.

- Active currently in SAR management training curriculum and aids; ELT - Direction Finding Equipment, design, testing and training.
- Author of survival books, curriculums, brochures, articles and training aids.
- 5. Pioneered the concept and implemented a total survival education program for the public schools.
- There are documented cases where Gene Fear's efforts have saved lives.

In accepting the Hal Foss Award from Blair Nilsson and NASARC, Gene Fear gave a memorable talk on his personal involvement with Hal Foss and how survival education influenced his life.

Sunday morning Lee Lucas, Chairman of the California Region, Mountain Rescue Association, presented a paper by Lee Lucas, Bill Syrotuck and Dennis Kelley on "A Search Model for Land SAR." This paper was a real milestone for inland ground search research and because of it an evaluation of search tactics is now beginning to evolve.

Jon D. Larson of 3M Company next presented "Night SAR" elaborating on the attributes of reflective materials for life-saving SAR applications. It was very apparent that such reflective materials would, in fact, save lives.

John H. Olson, Oregon State SAR Coordinator, spoke about "SAR Qualifications, Standards and Certifications." Oregon is in fact one of the few states certifying SAR personnel officially.

Henry Winters then gave an informative presentation, "Capsizing of Boats, A Special SAR Problem."

Finally, Lars Grayholm, Office of Boating Safety, gave a presentation on, "Recreational Boating SAR Problems."

After these papers were presented, the workshop moderators gave the following summaries and recommendations:

Preventative SAR - Skip Stoffel

The following conclusions were reported:

- The creation of a National SAR data base a must for preventative SAR research. Washington State already has one.
- Help must come to SAR team members who are teac.
 ing Preventative SAR. Teaching aids must be developed to support these activities.
- Saturday morning children's TV an ideal vehicle to communicate Preventative SAR to pre and new school age children.

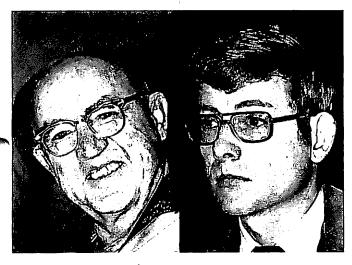


TOM McGUIRE, Washington State Dept. of Emergency Services.

DR. LEE LUCAS, Chairman, California Region Mountain Rescue Association

'BUDDY' ADOLPHSON, Coast Guard Auxiliary, Hawaii.

BILL GRIMM, Alpine Paramedic Rescue, Oregon



Search Theory — **Dennis Kelley**.

It was reported that inland, ground search is in a transition from a skill to a science. Yet there are many controversies and problems to be solved such as follows:

- Lost human behavior?
- Search is an emergency?
- When to start and stop searching?
- Search information processing?
- Sign cutting?

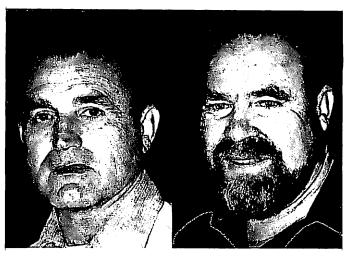
It is apparent that considerable research is needed to address these controversies and get desperately needed answers. It was the conclusion of the workshop on Search Theory that:

- The scope of inland ground search research has exceeded the means of volunteer individual efforts.
- Organization, leadership and funding are desperately needed to provide continuity and direction to the present fragmented research effort.

Therefore, it was the recommendation of the workshop that the Federal Interagency Committee on SAR (ICSAR) be approached regarding this research effort as potential victims all over this nation depend upon it.

Training - Rick LaValla.

The following summary was reported:

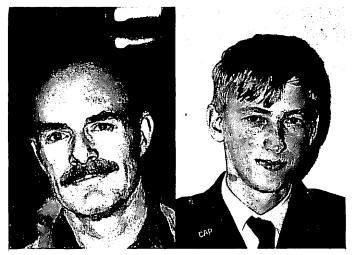


SGT. JOHN COLEMAN, Emergency Services Detail, Los Angeles County Sheriff's Dept.

BOB WHITMORE, President Wilderness Institute of Survival Education, Inc.

HAL DUNN of the Alpine Rescue Team, Colorado

GARY BOYD, Idaho Civil Air Patrol.



- Members of the Training Workshop were at odds over the nucleus of active SAR teachers not possibly being representative of the National SAR scene.
- A SAR Training Manual will be created containing the latest SAR concepts.
- A means for establishing a national SAR resource inventory was discussed without specific results.
- Finally, an annotated SAR bibliography is being prepared by the Washington State Office of Emergency Services.

Helicopter - Tom Staadt.

This exciting workshop had many fascinating aspects including a resolve by several of its pilot attendees to write a rebuttle to the Fall '75 issue of SAR Magazine, article "The Dilemma of Helicopter Rescue" by Paul Williams. It was reported that next year's workshop should be called "SAR Aviation" to encompass all forms of aircraft and its support in SAR. In addition, there are plans to again update the Washington State SAR Helitac Manual.

Communications - Rick Goodman.

The conclusion was that everyone in SAR is on a different radio frequency. The workshop recommended that NASARC prepare a national SAR communications plan that integrates current political communications and includes the fast changing communications also.

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BILL SYROTUCK, President, American Rescue Dog Association and noted SAR author. DARRELL C. THORSETH, Advisor, ESAR Post 106 Sault Ste. Marie, Michigan JAKE HERZOG, Wyoming State Delegate and NASARC Communications Committee Chairman. LOIS McCOY and RICK LaVALLA celebrating her new appointment to NASARC Executive Secretary.



4x4 SAR - Dave Miller.

The history of the National Jeep Search and Rescue Association (NJSARA) was elaborated upon. It was announced that the NJSARA National Convention would be held June 10-13, 1976 at Grants Pass, Oregon. Dave discussed the law enforcement orientation of NJSARA and its newspaper and printing policies.

Underwater Search and Recovery - Mike Stir.

This workshop on black water search and recovery addressed a number of fascinating points of this specialty SAR. These points were:

- Underwater SAR is in fact search and recovery not search and rescue.
- 2. Underwater SAR most properly is an integral part of normal inland ground search.
- 3. Success criterion is:
 - a. recovery.
 - b. elimination of a search area (a body of water) from the over-all search effort.
- 4. Training and standards are needed.
- 5. Specialized equipment has been evolved including homemade items.

SAR Dogs - Bill Syrotuck.

The workshop report commented on the apparent confusion about the different kinds of dogs involved in SAR and their specific applications. Three types of SAR dogs are:

- 1. Tracking
- 2. Trailing
- 3. Search

In addition, the workshop discussed the methods used to recognize a well trained dog.

Natural Disaster SAR Response — Stan Bush.

The report described the usefulness of volunteer SAR personnel in response to natural disasters. Specifically SAR volunteers are trained for organized emergency care situations where individual volunteers are self sufficient. The report also described a recent Colorado SAR Board wide-bodies plane crash exercise using volunteers.

Emergency Transmitter Locators (ELT's) — Bruce Gordon.

It was reported that many government agencies and civilian organizations are interested in ELT's. This includes NASA, AOPA, CAP, FAA, and the USAF who were also attendees at the workshop.

Conclusions of the workshop were: (DF = direction finding)



- a. The state-of-the-art of inland ground search ELT/DF in foul weather is in its infancy.
- b. 24-hour airport monitoring and manning will be recommended to the FAA.
- c. Funds should be made available to procure sophisticated equipment as a trade-off against other ELT/DF investments.
- d. FAA safety investigations were discussed.

New Concepts in Grid Searching - Jon Wartes.

The workshop report had several nuggets of importance:

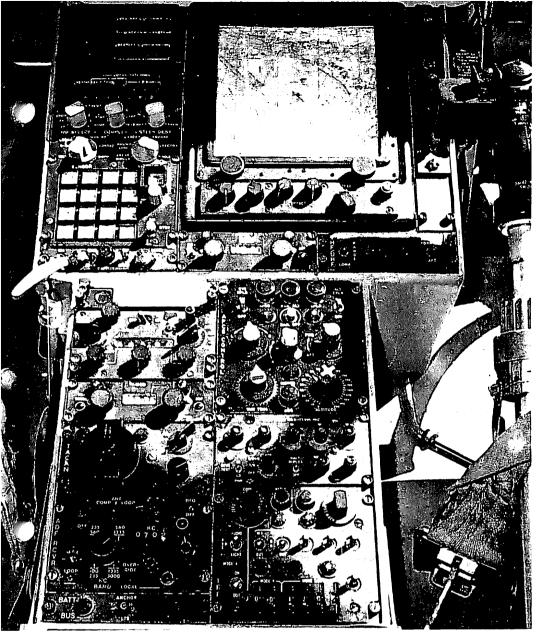
- Two methods of grid searching are proposed. Loose and tight grid for greater effectiveness. Multiple loose grid is more effective than one pass tight gric^{ed}
- Loose grid searching should be adaptable to signcutting.
- Time confinement of the subject simplifies the search effort.
- 4. Base camp staffed with an information unit greatly enhances the search effort.

After lunch Sunday the SAR Advisory Council held its final meeting. Items discussed were:

- NASARC to send a letter to NASA in support of satellite monitoring of ELT's.
- NASARC to send a letter to NOA in support of weather satellite SAR.
- The Spring '76 SAR Advisory Council meeting is to be held at Scott AFB, Illinois at the Air Force Rescue Coordination Center (AFRCC).
- 4. The 1976, 8th Annual NASARC Conference is to be held in Wyoming in September at a site to be determined.
- Lois McCoy was introduced as the NASARC Executive Secretary.

The 7th Annual NASARC Conference was adjourned at 3:23 P.M., Sunday, December 9, 1975 by Blair Nilsson.

In conclusion, the NASARC President Blair Nilsson deserves special praise for hosting an outstanding Conference of exceptional merit. It was apparent that both Blair and his wonderful wife, Arlene, had put a tremendous effort into making this Conference a success for all. It was a success because significant advances were made in SAR at this meeting. The range and content of all the SAR papers and workshops has opened up new vistas. Howev the most significant event was the naming of Lois McCoy as Executive Secretary of NASARC. First because she is so capable. Secondly, because the State SAR Coordinators are now free to address national SAR problems.



The Lower Cockpit Control Panels of a U.S. Coast Guard HH-3F Search & Rescue helicopter.

These craft, adapted exclusively for SAR use, have some of the widest range of communications capabilities in operation today.

These capabilities include maritime frequencies, aircraft frequencies (both UHF and VHF), and tunable VHF/FM and HF gear.

This permits them to have broad spectrum coverage of essentially all bands in coordinated emergency SAR operations including military, civilian and law enforcement frequencies.

In addition these helicopters carry sophisticated navagationally accurate computers to maintain control of their position in bad weather and over long distances at sea.

Photographs by Mackintosh Photos

COMMUNICATIONS — THE VISIBLE PART of PLANNING

by Lois Clark McCoy

The maxim "you can command only as far as you can communicate" has become almost obsolete in these days of total global satellite communications.

One of the more interesting demonstrations at the International Air & Surface Search & Rescue Conference (see article LANTSAR '75, page 25) was the SAR operation conducted via satellite over thousands of miles of ocean. This mock mission took aplace between the West German nuclear merchant ship "Otto Hahn," the U.S.C.G. cutter "Gallatin," and the FAA Aircraft

KC-135. The communications were clear, concise and completely readable. They involved ships and aircraft of two nations, three SAR organizations, the AMVER station in New Jersey and the RCC Center of the Port of New York. It was fascinating evidence that the "future" is nearly here.

However, in the words of one Apollo rocket scientist, "I have a re-occurring night-mare. We have put men on the moon and successfully recovered them. Then, in my dream, I am asked before Congress to show the amazing films of this feat--but...

the movie projector won't work!"

To some extent, our own inventive genius has out-stripped our ability as ordinary men to understand, maintain and fully use (let alone afford) our newest inventions.

At least one benefit of the usual low Search & Rescue budget is that we are not faced with coping with this latest range of exotic equipment.

Rather it seems our problem today is an under utilization-or perhaps an unimaginative utilization, of the communications equipment and resources which we already own.

This lack of creativity may be caused by the extremely rapid advances in the technology of communication. This could explain our own "jet lag" in applying these advances to Land Search & Rescue. Radios and communications systems are major investments. Obtaining the necessary dependable equipment is often a monumental task for Search & Rescue groups.

In the past, due to a lack of money, equipment or for other reasons, a large part of Search & Rescue's communications emphasis had to be directed toward improving an inadequate system.

Too much of our SAR communications effort has been focused on trying to cope with the eventuality of our losing contact with Command.

Why not give new emphasis toward establishing a 100% effective total SAR communication system? With the new advances in technology, creative pre-planning can replace money and utilize existing equipment to insure such a Fail-Safe system.

The concept of communications "as the visible part of pre-planning" is like the sailor's iceberg. It is only the tip of that floating mass--as is the radio and its traffic, only the tip of the communications potential of Land Search & Rescue.

VHF-FM FREQUENCIES

Both high band and low band VHF-FM frequencies are recognized as having very desirable characteristics for SAR operations. These frequencies are a good place to start our new total pre-planning. High band VHF-FM can be used, not only to coordinate land Search & Rescue groups, but also to coordinate air, land and maratime forces.

Her Majesty's Coast Guard, United Kingdom, operates its SAR resources on a frequency very close to that of the Mountain Rescue Association.

Some 25 years ago, either through good preplanning or a sheer stroke of luck, the Mountain Rescue Association obtained from the FCC under a grandfather clause, the Special Emergency frequency of 155.160.

This frequency has been assumed as the coordinating frequency for the state Emergency Operation Centers by both the State of Washington and the State of Colorado.

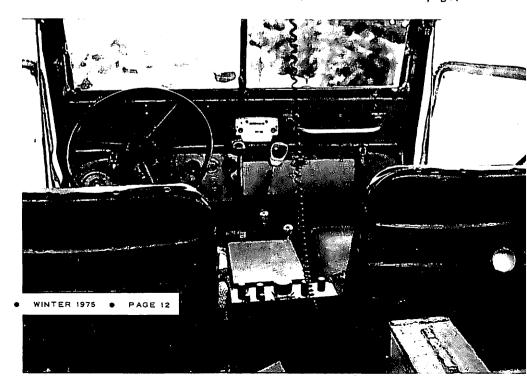
In these states, the number of radios on 155.160 that each SAR unit may operate is restricted to a limited number of units used for coordination between different SAR groups.

In these states, much of the individual unit's operations are conducted on their own secondary frequency. This concept of

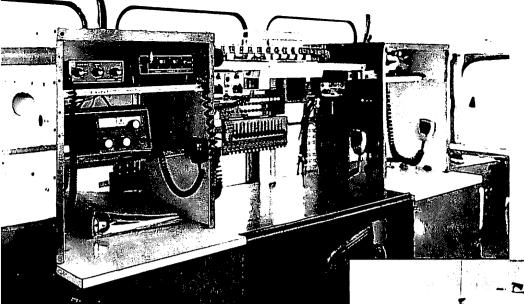
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4 wheel-drive vehicles outfitted with both VHF/FM and HF radios can provide both short and long range communication links with rough terrain capability. This type of vehicle can double as either a forward command post or as a relay as needed.

Mackintosh Photos



SEARCH AND RESCUE MAGAZINE . WINTER 1975



Uncrowded working areas in a Mobile Command Post are essential in handling the pressure of emergency traffic in many operations.

Mackintosh Photos

separating the traffic of coordination and operations could be more fully explored by Land SAR groups. A compatible secondary frequency for operations, would free the coordinating frequency for inter-agency communications and provide for a better interface on join joint operations involving cooperating agencies.

Lacking these two channels for coordinating inter-agency communications, we can obtain the same interface by physically assigning a radio to Command from each SAR group on the operation. As an example, this can be accomplished by the Forest Service allocating one radio to the Sheriff's Command Post, or by the Command Post assigning one of their radios for coordination to the Forest Service's operation leader.

On the face of it, this seems a simple enough concept. It can become an unobtainable goal without pre-planning. "Not enough radios to spare" etc. are often heard as excuses for a lack of interagency coordination. Most such rationales can be summed up as "not enough pre-planning."

We've been extolling the virtues of high band VHF-FM for SAR operations and coordination. What about the drawbacks of its line-of-sight characteristics and its relatively limited range? A typical operational range might be considered as 20 air miles, under optimum terrain conditions and with relatively high-powered transmitters. This operational range varies widely however. We have accidently talked peak to peak over 200 miles

with a 10-watt set. On another day, we have also been unable to contact a unit in a "hole" less than a quarter mile away.

In the average in-county SAR operation the above limitations do not usually present a problem that cannot be solved by establishing a relay.

RELAYS & REPEATERS

One of the drawbacks of VHF-FM high band for Land Search & Rescue is the difficulty of obtaining repeater licenses on the Special Emergency frequencies. However, there are no prohibitions against remotecontrol of transmitters and this possibility has been used by several teams and agencies who have used pre-planned communications to advantage.

Instead of mechanical repeaters, relay operators have been used to extend the operational range of VHF-FM. Usually the Relay has been someone on the highest point in the area reachable by either mountain climber or 4-wheel drive vehicle.

Now, however, we are beginning to see more and more use of aeronautical mobiles as relays. Here in the sky is an ideal relay station with only low power necessary—a "straight—shot", so to speak, to both Command and the searchers on the ground. The regular use of pre—planned aeronauti—cal mobiles should be part of our 100% (continued on next page)

The installation of an exterior antenna mount and interior wiring will permit the use of a portable "lunch box" VHF/FM radio on SAR frequencies in law enforcement helicopters for temporary emergency operations.

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effective concept for Land SAR Communications. The traditional relay on some peak could then be a second choice for foul weather conditions.

Airplane pilots like action too, and with more and more tactical use being made of helicopters, SAR pilots are happy to provide communications assistance, in addition to their obvious air search capabilities. They can also provide close in ground support once a communications link between air and ground forces is established.

The installation of an antenna jack on the inspection plate of many types of the private aircraft used by aero squadrons and CAP is a relatively simple procedure. A regular 1/4 wave whip antenna tuned to the correct frequency, can then be quickly mounted. This will greatly improve the efficiency of the radio transmissions from the portable radio inside the metal plane.

The adaptation of the radio with a cigarette-lighter power cord to use the plane's own power can cut down on battery cost and possible battery failure caused by the unusual heavy transmissions needed by most relays.

LONG DISTANCE COMMUNICATIONS

We have all been faced with missions where long distance communications were an absolute necessity. We remember such a case on Piute Peak—a long way from nowhere when you multiply 22 miles x 10 mph which equals 220 minutes = 3 hours 40 minutes one way or 7 hours 20 minutes round trip. That is nearly an 8-hour drive to the nearest telephone for flash—light batteries, food, or any other logis—tical problem.

Fortunately, that day on Piute Peak, the Mel Tracking Foundation's dog handler had a mobile telephone in his truck. This was most effective, although mobile telephones don't come cheap. But it certainly offers a good solution if cost is no object.

More units have found it less expensive to go to HF (high frequency amateur band)



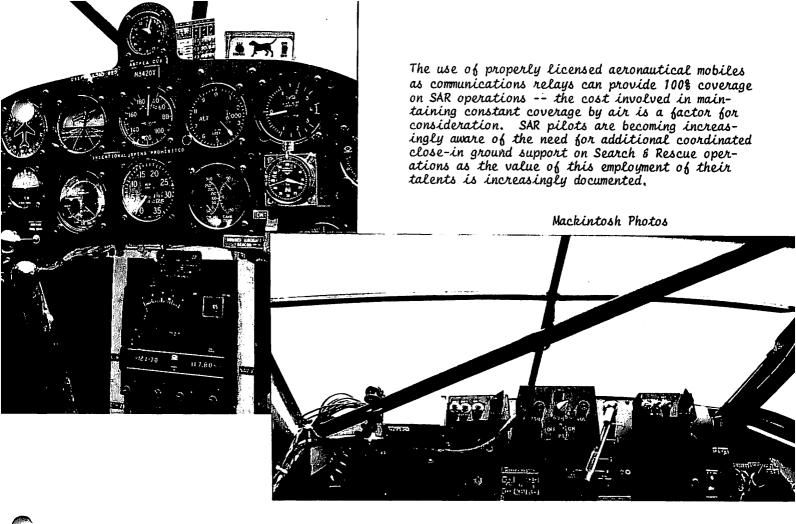
radio equipment for long distance communications. This method has proven extremely reliable in maintaining communication between the Search Mission Coordinator and the On-Scene Commander. These communication links greatly lessen the time lag in the resupply of men, aircraft and material on the more complex search missions.

HF communications has its own drawbacks in that it needs an FCC amateur radio operator's license for each radio operator. This is in addition to the regular FCC station licenses needed for the other types of radio frequencies which we have been reviewing.

But again, pre-planning can take care of this by establishing either a pool of "ham" radio operators who are willing to train to become search and rescue personnel, or rescuemen who are willing to become licensed radio operators.

Perhaps another type of amateur radio has an even greater potential for SAR than the long distance HF bands of 40 and 75 meters.

(continued on next page)



2 METER AMATEUR RADIO

"2 meter" amateur radio has developed repeater stations for clear, crystal controlled radio transmissions over moderate distances. An example is the San Diego County Repeater Association's Mt. Laguna machine which has linked San Diego with El Centro, Calexico, and Yuma, Arizona. These crystal controlled 2 meter radios are as simple to use as a CB set, but without CB "skip" or interference.

2 meter Handi-Talkies are the same size and weight as the SAR VHF-FM equipment now used. Again, an important drawback to the larger use of 2 meter radio is that each radio operator must be FCC licensed as a radio amateur technician or better. Again, we need to pre-plan for our radio operators pool.

The full potential of this type of communication is just beginning to be felt. For example, there is now a Mexican 2 meter repeater operating in the Laguna Salada linking San Felipe and Mexicali.

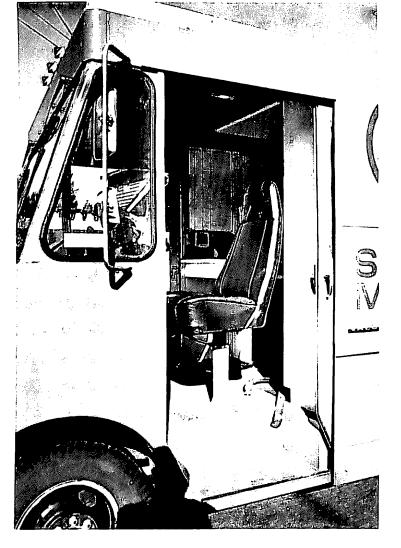
In addition, a request for a license is being considered for a repeater scheduled for installation on top of Picacho del Diablo, the highest peak in Baja California.

This link between the most rugged parts of Baja California and the cities of Tijuana and Mexicali is a giant step in a country where dependable communications has been a long-time problem. Although these Mexican repeater stations are private Mexican Amateur Radio Club efforts, their application to a SAR emergency could prove invaluable in Search & Rescue operations below the border.

OFF ROAD RACING

SAR communications can borrow some good ideas from non-SAR agencies with the same needs for a 100% effective communications system. For example, the SCORE off-road race in Baja California in June 1975 maintained an emergency first-aid net over the 390 miles of the course with 2 meter communications. They set up a temporary licensed 2 meter repeater high on the Corona of the San Pedro Martir, with a 6 meter link in the hills below Ensenada. These links provided a communications chain between Race Control, all checkpoints and the first-aid helicopter and Medivac

(continued on next page)



Amateur Radio has great capabilities for long distance communications. By this means the Search Mission Coordinator can maintain direct emergency communication with the On-Scene Commander in the most isolated Search areas. Often SAR operations in isolated areas present enormous logistic problems which take the coordination of all resources in order to maintain the search effort.

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aircraft. This is another example of careful pre-planning for the optimum use of pre-existing equipment.

FEDERAL COMMUNICATIONS

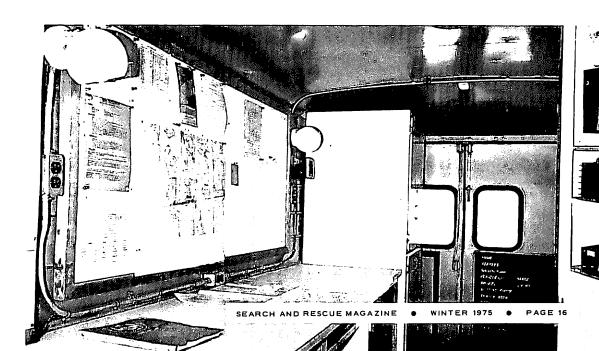
An excellent pre-planned SAR communications system exists in the United States Coast Guard. Installed on their HH3-F helicopters is the widest range of communications capabilities we know of to date. These capabilities include maratime frequencies, aircraft frequencies (both UHF and VHF), and tunable VHF/FM and HF gear. This enables them to communicate with ships, land stations, law enforcement agencies, search and rescue teams, military SAR groups, and most other cooperating SAR agencies.

Imaginative pre-planning on the part of all SAR agencies could duplicate this capability—at least to the extent of the needs of the individual agency.

It is not always essential to spend large sums of money to dramatically increase a SAR agency's communications capability. For example, one of the continuing SAR bottlenecks has been the difficulty of communicating with military aircraft which traditionally use UHF frequencies. These frequencies are not compatible with most law enforcement or non-military SAR communications systems.

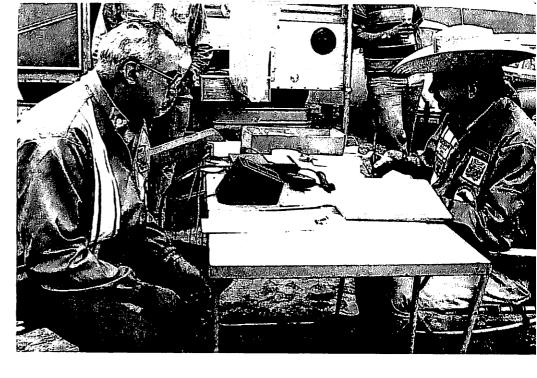
However, many military aircraft carry HF radios tunable to amateur radio frequencies. By pre-arranging frequencies, call signs, and contact schedules, emergency communications between military aircraft and civilian ground forces can be made via this unusual but workable procedure.

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Motorcycle racing has had to go farther and farther away from rules and regulations in order to continue its sport. Welcomed by the officials of Baja California, it has developed its own temporary communications for the safety of competitors and spectators of races such as the Score 500. This is the control point at Camalu last June.

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Also by pre-arrangement, it may be possible for the military aircraft to carry portable UHF transeivers on their operational frequencies. These can be delivered and placed in Command Post or at forward airstrips to provide communication with the aircraft.

COMMUNICATION CODES

A new problem now develops due to the solving of our previous problem. We have succeeded in establishing a 100% effective communications system linking all cooperating agencies into one coordinated net.

However, each agency today has its own "in-house" radio procedures and all are different. Law enforcement uses 10 and 11 codes, the military uses its own version of plain language, amateur radio regulations prohibit the use of codes, etc. Obviously for the immediate mission, clear, concise, plain language is the answer.

For the future, we suggest consideration of the United Nations IMCO international Phrase vocabulary as a concept for coordinated inter-agency Land SAR communications. This vocabulary is a short list of english phrases most commonly used in orders to helmsmen for ship operations. We are not sure in our own minds if a similar short list of land SAR terms would prove a helpful coordination tool or if it would become just one more code in a communications system already overburdened with codes and procedures.

Military Portable UHF Transreceiver

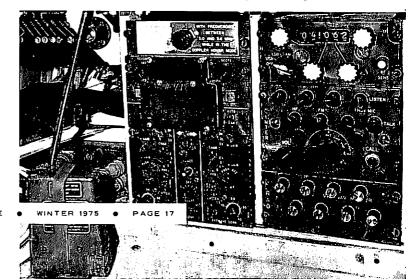
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A LOOK THROUGH THE MAGNIFYING GLASS

Where has our look through the magnifying glass at pre-planned SAR communications taken us?

We can have two complimentary short-range frequencies, one for Command and one for Operations. We can increase the range of these frequencies by providing relays, either in the air or on high points. We can have intermediate range communications via 2 meter repeater stations. can have long-range communications via HF radio. We can coordinate air, ground and marine units. We can coordinate military and civilian frequencies by sharing equipment or by pre-arranging frequencies and schedules. And we can coordinate SAR operations between different countries, as well as between different cooperating agencies for a complete 100% pre-planned communications system.

It took some money, some equipment; but mostly it took a clear look at the submerged part of the iceberg—the potential for communications to increase effective SAR operations through pre-planning.



EMERGENCY PREPAREDNESS BIBLIOGRAPHY by Skip Stoffel



Survival Education, Department of Emergency Services



This bibliography has been prepared in the hopes that it will aid you in obtaining literature pertaining to survival and emergency preparedness. It is by no means a complete bibliography. We are in the process of gathering many of the texts mentioned and hope to have one of the most comprehensive libraries on the subject in the country. Prices have been included where known but are subject to change with time and locale.

Handbook of American Mountaineering

Kenneth A. Henderson Haughton Mifflin Company Boston, Massachusetts \$4.75

Mountaineering - "The Freedom of the Hills"

Harvey Manning, Editorial Chairman The Mountaineers P.O. Box 122 Seattle, Washington

Mountain Flying Sense

DA Pam 95-8 Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402 \$.25

Mountain Operations FM31-72

Dept. of the Army Field Manual Headquarters Department of the Army Washington, D.C.

Mountain Search for the Lost Victim

Dennis Kelley Dennis Kelley P.O. Box 153 Montrose, California 91020 \$5.00

Ropes, Knots & Slings for Climbers

Walt Wheelock La Siesta Press Glendale, California

Wildwood Wisdom

Ellsworth Jaeger The MacMillan Company 866 Third Avenue New York, New York 10022 \$5.95

Women's Guide to Household Emergencies

Readers Digest Box 10 Pleasantville, New York 10570

Literature Review of Eskimo Knowledge of the Sea Ice Environment

AAL-TR-65-7
Artic Aeromedical Laboratory
Aerospace Medical Division
Air Force Systems Command
Ft, Wainwright, Alaska

Northern Operations FM31-71

Dept, of the Army Field Manual Headquarters Department of the Army Washington, D.C.

Paradise Below Zero

Calvin Rustrum
Collier Books
New York, New York \$2.45

Polar Manual

U.S. Navy U.S. Naval Medical School National Naval Medical Center Bethesda, Maryland 20014

Rescue Below Zero

lan Mackersey Modern Literary Publishing Company New York, New York \$.75

Snowmobile Safety Course Instructors Manual

Western Snowmobile Association, Inc. Washington State Parks Airdustrial Park Olympia, Washington

Snowmobiling Safety Manual

Western Snowmobile Association, Inc. Western Snowmobile Association, Inc. Box 28 West Yellowstone, Montana

Snow-Survey Safety Guide

U.S. Dept, of Agriculture Handbook #137 U.S. Government Printing Office Washington, D.C. 20402

The Snowy Torrents

Dale Gallagher, Editor
U.S. Department of Agriculture Forest
Service
Wasatch National Forest
Wyoming

Survival in Cold Water

W. R. Keatinge Western Printing Services, Ltd. Bristow, England

The Effects of Nuclear Weapons

Samuel Glasetone, Editor Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402 \$3.00

Nuclear Survival Manual BOSDEC—The Concrete Curtain

James R. Fairlamb Drexel Winslow & Farrington P.O. Box 55 Butler, New Jersey

Nuclear Weapons - Accident Hazards, Precautions/Emergency Procedures

Dept. of Defense & U.S. Atomic Energy Commission Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402 \$.25

The Wilderness Handbook

Paul Petzoldt W.W. Norton & Company, Inc. New York, New York \$7,95

Organizational & Group Behavior in Disasters

Edited by E.L. Quarantelli & Russell R. Dynes American Behavioral Scientist 275 South Beverly Drive Beverly Hills, California 90212 \$5,00

Disaster Handbook

Solomon Garb & Evelyn Eng Springer Publishing Company, Inc. New York, New York

All About Camping

W.K. Merrill Stackpole Books Cameron & Kelker Streets Harrisburg, Pa. 17105 \$2.95

At Home in the Wilderness

Sun Bear Naturegraph Publishers 8339 W. Dry Creek Road Healdsburg, California 95448 \$3,00

Boy Scout Handbook

William Hillcourt Boy Scouts of America

Camping - Merit Badge

Boy Scouts of America Boy Scouts of America

Complete Book of Outdoor Lore

Clyde Ormond Outdoor Life-Harper & Row New York, New York \$4.95

Golden Book of Camping

Robert E. Smallman Golden Press New York, New York \$3.50

How to Enjoy Backpacking

Gerry Cuningham Colorado Outdoor Sports Corporation Denver, Colorado

How to Stay Alive in the Woods

Bradford Angier Collier Books, The MacMillan Company 866 Third Avenue New York, New York 10022 \$.95

NRA Hunter Safety & Conservation Program

Chapter S-2 National Rifle Association 1600 Rhode Island Avenue, N.W. Washington, D.C. 20036

Nelson's Encyclopedia of Camping

E.C. Janes Thomas Nelson & Sons New York, New York \$7.50

Outdoor Survival Skills

Larry Dean Olsen Brigham Young University Provo, Utah 84601

Professional Guide's Manual

Volumes I & II North Star Guide Association Herter's, Inc. Waseca, Minnesota

Better Ways of Pathfinding

Robert S. Owendoff The Stackpole Company Harrisburg, Pennsylvania

Map & Compass

Bjorn Kjellstrom American Orienteering Service Laporte, Indiana 46350 \$2.95

Map, Compass & Campfire

Donald E. Ratliff Binfords & Mort Portland, Oregon

Orienteering - Teaching Guide

Institute for Survival Education
Institute for Survival Education
P. O. Box 1466 - Greenwood Station
Seattle, Washington 98103

Common Edible & Useful Plants of the West

Muriel Sweet Naturegraph Company Healdsburg, California \$1.50

Edible? Incredible!

Furlong, Marjorie & Virginia Pill ERCD, Inc. P.O. Box 91648 Tacoma, Washington 98491

Field Guide to Edible & Useful Wild Plants of North America

Myron C. Chase Nature Study Aids, Inc. 411 Dakota Street Red Wing, Minnesota 55066 \$2.00

Food in the Wilderness

George W. Martin & Robert W. Scott Life Support Technology Beaverton, Oregon 97005 \$1.00

Guide to Common Edible Plants of British Columbia

A.F. Szczawinski, G.A. Hardy British Columbia Provincial Museum Victoria, B.C., Canada

Know Your Poisonous Plants

Wilma Roberts James Naturegraph Publishers Healdsburg, California 95448 \$2.95

Western Edible Wild Plants

H.D. Harrington
University of New Mexico Printing Plant
Albuquerque, New Mexico

Surviving the Unexpected

Daniel E. Fear, Editor Curriculum Guide Survival Education Association 9035 Golden Given Road Tacoma, Washington 98445 \$2.50

Surviving the Unexpected Wilderness Emergency

Gene Fear Survival Education Association 9035 Golden Given Road Tacoma, Washington 98445 \$3.50

Syllabus for Outdoor Survival Skills

Compiled by David Westcott Brigham Young University Provo, Utah

Teaching Survival Objectives

Institute for Survival Education
Institute for Survival Education
P. O. Box 1466
Greenwood Station
Seattle, Washington 98103 \$2.50

Your Chance to Live

Defense Civil Preparedness Agency Department of Emergency Services 4220 East Martin Way Olympia, Washington 98504 Free

Your Plan for Survival

Tucson-Pima County Civil Defense Agency Tucson-Pima County Civil Defense Agency Congress Avenue Tucson, Arizona

Desert Survival

KTAR-TV News KTAR-TV News P. O. Box 711 Phoenix, Arizona 85001

Desert Survival

Maricopa County Dept. of Civil Defense & Emergency Services Arizona Game & Fish Department Information & Education Division 2222 West Greenway Road Phoenix, Arizona 85023 Free

Poisonous Dwellers of the Desert

Natt N. Dodge S.W. Parks & Monuments Association P. O. Box 1562 Globe, Arizona 85501

Safety & Survival At Sea

E.C.B. Lee & Kenneth Lee W.W. Norton & Company New York, New York \$8.25

The Skipper's Course

Dept. of Transportation U.S. Coast Guard Office of Boating Safety 400 Seventh Street S.W. Washington, D.C. 20590

Standardized Boating Safety & Training Guide

Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402

Staying Alive

Maurice & Maralyn Bailey David McKay Company, Inc. New York, New York

Submerging Vehicles

Inst. For Road Safety Research Institute for Road Safety Research P.S. Box 71 Deernsstraat 1, Voorburg 2119 The Netherlands

White Water Handbook for Canoe & Kayak

John T. Urban Appalachian Mountain Club 5 Joy Street Boston, Massachusetts 02108 \$1.50

Alive: Story of the Andes Survivors

Piers Paul Read J.B. Lippincott Company 521 Fifth Avenue New York, New York 10017 \$10.00

Protection of the Extremities in Extreme Cold

Technical Report 59-19 Artic Aeromedical Laboratory Ladd AFB, Alaska

Basic Cold Weather Manual FM31-70

Dept. of the Army Field Manyal Headquarters Department of the Army Washington, D.C.

Avalanche Safety

E. R. Lachapelle Outdoor Sports Industries Denver, Colorado \$.95

Cold Facts for Keeping Warm

Dept. of the Army, #21-52 U.S. Government Printing Office Washington, D.C. 20402

Down in the North

ADTIC Publication # A-103 Air University Maxwell AFB, Alabama

The Wonderful Human Machine

American Medical Association Order Dept. 535 North Dearborn Street Chicago, Illinois 60610

Wild Edible Plants of the Western U.S.

Donald R. Kirk Naturegraph Publishers Healdsburg, California 95448 \$3.95

Emergency Care & Transportation of the Sick & Injured

American Academy of Orthopaedic Surgeons George Banta Company, Inc. Menasha, Wisconsin \$6.00

First Aid

American National Red Cross American National Red Cross Washington, D.C.

First Aid & Emergency Rescue

Lawrence W. Erven Glencoe Press 8701 Wilshire Blvd. Beverly Hills, California 90211

Cold Injury

Josiah Macy Jr. Foundation (6 volumes) University Microfilm 300 North Zeeb Road Ann Arbor, Michigan \$15/20 per copy

First Aid for Psychological Reactions in Disasters

American Psychiatric Association 1700 - 18th Street N.W. Washington, D.C. 20009

Frostbite

Bradford Washburn Museum of Science Boston, Massachusetts

Hypothermia: Killer of the Unprepared

Theodore G. Lathrop, M.D. Mazamas 909 - 19th Avenue Portland, Oregon 97209 \$.75

Industrial First Aid

Department of Labor & Industry Division of Safety Education Olympia, Washington

Medical Aid in the Wilderness

Dennis Bleything Life Support Technology, Inc. Beaverton, Oregon 97005 \$1.00

Mountaineering First Aid

Dick Mitchell The Mountaineers P.O. Box 122 Seattle, Washington 98111

Mountaineering Medicine

Fred T. Darvill, Jr., M.D. Skagit Mountain Rescue Unit P.O. Box 2

Mt. Vernon, Washington 98273 \$1.00

Cutdoorsman's Fitness & Medical Guide

Lawrence Galton Outdoor Life - Harper & Row New York, New York

The Physiology of Human Survival

Dr. O.G. Edholm & A.L. Bacharach Academic Press, Inc. 111 - 5th Avenue New York, New York 10003 \$29.00

Emergency & Disaster Planning

Richard J. Healy John Wiley & Sons, Inc. New York, New York \$16.25

Nature on the Rampage

Ann & Myron Sutton J.B. Lippincott Company New York, New York \$6.00

Physiology of Man in the Desert

E.F. Adolph & Associates Hafner Publishing Company 31 East 10th Street New York, New Yorl 10003

Volcanic Hazards at Mt. Rainier Washington

Dwight R. Crandell & Donal R. Mullineaux Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402 \$.45

Natural Disasters in the State of Washington

Compiled by the Washington State Library Dept. of Emergency Services 4220 East Martin Way Olympia, Washington 98504

Crescent City Disaster

Rosemary S. Young Rosemary S. Young P. O. Box 1307 Medford, Oregon \$1,00

1001 Questions Answered About Natural Land Disasters

Barbara Tufty Dodd, Mead New York, New York

Teaching Basic Skills in Survival Education (Lesson Plans)

R.C. Stoffel Survival Education Association 9035 Golden Given Road Tacoma, Washington 98445 \$2.50

An Annotated Bibliography of Basic Survival, Combat Survival and Counterinsurgency.

G-110 & G-110A. Department of the Air Force, OL/0A00 3636th Combat Crew Training Wing (ATC) Maxwell AFB, Alabama 36112

Annotated Bibliography of Training Aides & Training Devices

Robert T. Root George Washington University Washington, D.C.

The Art of Survival

Cord Christian Troebst Doubleday & Company, Inc. Garden City, New York \$5,95

Building Practices for Disaster Mitigation #46

U.S. Department of Commerce Superintendent of Documents Government Printing Office Washington, D.C. 20402 \$5.30

The Book of Survival

Anthony Greenbank The New American Library, Inc. P. O. Box 2310 Grand Central Station New York, New York 10017 \$.95

Down But Not Out

RCAF Survival Manual Information Canada 171 Slater Street Ottawa, Canada

Emergency Preparedness

Boy Scouts of America North Brunswick, New Jersey

How to Survive on Land & Sea

U. S. Naval Institute George Banta Company, Inc. Menasha, Wisconsin \$4.50

CFP Land & Sea Emergencies

DC3-974 Information Canada 171 Slater Street Ottawa, Canada

Man Versus Nature

Howard G. Earl, Frederick T. Jung, Ph.D., M.D. Holt, Rinehart & Winston, Inc. 383 Madison Avenue New York, New York 10017 \$1.00

999 Survival - ADTIC

#T-100 Artic, Desert, Tropic Information Center Air University Maxwell AFB, Alabama

Outdoor Living

Eugene H. Fear, Editor Tacoma Unit, Mountain Rescue Council P. O. Box 696 Tacoma, Washington 94801 \$2.50

Personal & Family Survival

Defense Civil Preparedness Agency Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402 \$.40

The Survival Book

Paul H. Nesbitt, Alonzo W. Pond, William H. Allen Funk & Wagnalls New York \$1.95

Survival in the Wilderness

Calvin P. Burt, Ronald L. Dawson, Frank G. Heyl Life Support Technology, Inc. Portland, Oregon \$1.00

Survival - FM21-76

U.S. Army Field Manual Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402 \$3.50

Survival on Film

Harvey A. Buskirk, Maj., USAF G-111 Department of the Air Force OL/0A00 3636th Combat Crew Training Wing (ATC) Maxwell AFB, Alabama 36112

Survival - Search & Rescue

AF Manual 64-5
Department of the Air Force
Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402 \$1,50

Survival Techniques & Procedures

ATC Study Guide S-V80-A-STP-SG Department of the Air Force 3636th Combat Crew Training Group Fairchild AFB, Washington 99011

Survival: 23 True Sportsmen's Adventures Outdoor Life

Outdoor Life
E. P. Dutton & Co., Inc.
New York, New York

Survival-Training Addition

AF Manual 64-3 Department of Air Force Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402 \$4.25

SEARCH AND RESCUE DOGS

by KENNY MacKENZIE

Just ten years ago, on 28th May 1965, four people met in a cottage at Allt-na-Righ, Glencoe, to discuss raising a unit of mountaineers using specially trained dogs to locate people getting lost on our hills. A 'pilot' course for six climbers and their dogs had been run by Hamish McInnes, Leader of the Glencoe Mountain Rescue Team and Secretary of the Scottish Mountain Rescue Committee, the previous December at Glencoe. The course proved to be an outstanding success and those attending that first meeting of the Search and Rescue Dog Association, Hamish and his wife, Dr. Catherine MacInnes, Walter Elliot and myself, voted to establish an organization to co-ordinate a network of rescue dogs based in close proximity to the mountain ranges throughout the United Kingdom.

To appreciate the value of the rescue dog one must imagine searching over a vast expanse of snow-covered mountainside for a person who could have fallen exhausted and become covered by drifting snow or trapped by an avalanche. To the human eye, gazing over the white wilderness, there is nothing to indicate where the victim might lie. In such situations it is clear that the rescue dog offers the best chance of finding the victim alive.

The idea of forming a rescue dog unit had been in MacInnes' mind ever since a visit in 1963 to an avalanche dog course in the Swiss Alps when he foresaw that, in addition to their undoubted value for avalanche search, trained dogs could be utilized for open-country searching. The age-old problem of climbers and hill-walkers dying on our hills in snow and mist conditions had concerned MacInnes for sometime and he realized that the rescue dog's avalanche training could be adapted for this type of search. Not that avalanches are not a hazard in Scotland - in by-gone days, avalanches were seldom encountered in the Scottish hills except by gamekeepers and shepherds whose work took them high into the mountains in winter. However, with the advent of the skiing and winter-climbing boom in Scotland, avalanches are being reported with surprising frequency and many hill parties have been caught out by this new menace. Once the decision to form a Search and Rescue Dog Association (SARDA) was taken all taken all our efforts were concentrated on convincing local authorities and other bodies connected with mountain rescue on the value of trained rescue dogs. Since the formation of the Association rescue dogs have been instrumental in saving many lives and valuable man-hours of rescuers' time. Unfortunately, a large increase in the numbers attending the Annual Course at Glencoe meant a corresponding rise in costs and often only a 'miracle' warded off financial disaster for the Association. It was a case of living dangerously and by 1971 it was manifestly evident that the old organization could no longer continue to function. A referendum was held and the membership voted overwhelmingly for separate regional associations in Scotland, England and Wales, and at the present time the three associations cover the country with over 60 operational dogs.

KENNY MacKENZIE, Highland Regional Police Dog Handler, Secretary and Call-Out Organizer, Scottish SARDA, Member of Scottish Mountain Rescue Committee.



CAIRNGORM SEARCH. In foreground, left: KENNY MacKENZIE. Right: HAMISH MacINNES

Suitable Dogs — When one mentions the 'rescue dog' most people instantly think of the St. Bernard with a cask of brandy slung under its neck. In fact, even on the Continent of Europe it is the Alsatian (or German Shepherd Dog) that is the most widely used for rescue. In the United Kingdom the Alsatian has also proved to be the most popular breed for this purpose, although the Scottish Collie and the Labrador have been equally responsive to the specialized training. It is essential that dogs chosen for this work possess exceptional scenting ability and, regardless of breed, any trainable dog capable of withstanding intense cold, negotiating difficult terrain and deep snow conditions will soon become an invaluable asset on rescue operations.

(continued next page)



TYPICAL RESCUE ENVIRONMENT

SEARCH & RESCUE DOGS—continued

In the Soviet Union, where they place great faith in hounds like 'Laiki (who travelled through space), many hold the view that an ideal dog for mountain rescue work should possess the following qualities, vix., (i) temperament of St. Bernard, (ii) training capacity and strength of the German Shepherd Dog, and (iii) be compact and thick-coated like the Scandanavian Dog. Obviously, each country develops the dog best suited to its own needs and conditions and it is worth considering that, in Scotland where the Collie reigns supreme, we have a dog which has all these attributes and the majority come from working stock. Could it be that with our penchant for imitating our Continental cousins we are overlooking a superior working dog on our own doorstep?

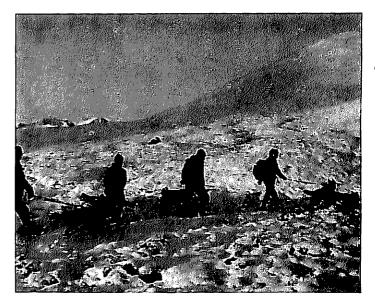
Handlers: The Association recruits its handlers from all walks of life but it is of vital importance that each handler is fully competent on the mountain. The SARDA conditions of membership include the following: "Members must belong to a mountain rescue team, be capable of climbing to 'difficult' standard on rock, possess sound navigational ability and a good knowledge of first-aid. In addition, both handler and dog must be able to ascend a Grade Two snow climb." The necessity for such a high standard becomes obvious when one considers that dogs and handlers frequently operate alone on mountainous terrain and in bad conditions — it is rare to get a 'callout' in good weather!



DOG AND HANDLER WORKING TOGETHER

Training: The Search and Rescue Dog Association organizes two training courses for novice dogs each winter. A two-day course in the Cairngorms is held during December to select suitable dogs for rescue work. Stringent tests ensure that only the best dogs are chosen — it is normal for only 50% of the dogs to pass. These dogs are then eligible for the five-day Annual Course at Glencoe the following March, when they undergo further training and final assessment. Only dogs showing good potential are considered for enrollment.

The Scottish Association employs a system of grading dogs 'A', 'B' and 'C' according to their proficiency, with 'A' being the highest standard. In the event of a dog performing some meritorious act during a rescue the Executive Committee will consider it for the award of the special Certificate of Merit.



GLENCOE: RESCUE DOG TEAM SETS OUT -LED BY DR. CATH MacINNES

With experience it has been found that the dogs require continuation training on a regular basis. One-day exercises are therefore organized in various parts of the country in conjunction with the local Mountain Rescue Team. Quite apart from the practical training, the following benefits are obtained from these exercises — closer liaison with local Teams — handlers become familiar with mountains outwith their home area — opportunity to demonstrate the value and availability of the rescue dogs.

Radio Communications — There are now 30 dogs and handlers operating in Scotland and fourteen of the handlers have been equipped with radio equipment. In order to avoid extraneous scents which might confuse the dog, the handler must work apart from other search parties and radio communications are vital to keep him abreast of developments — the search could be switched to another area or called off entirely or the handler be unable to notify Control of the finding of the victim. Ideally, all handlers should be in contact with Base Control throughout an operation but obviously the heavy expenditure involved in equipping each handler with a radio would be prohibitive.

(continued next page)



GLENCOE: left - WALTER ELLIOT; right - HAMISH MacINNES

SEARCH & RESCUE DOGS—continued

Rescue Operations — During 1974, rescue dogs were summoned to assist with 23 searches in the following parts of Scotland — Ben Nevis (10), North-West (7), Central (3), Glencoe (2) and Cairngorms (1). Of these call-outs ten were simply "Alerts" but this is much preferable to being called upon when a search is two or three days old and there is little hope of finding the victim alive.

The foregoing figures show an increase over previous years and 1975, with 23 call-outs at the end of August, has all the signs of even heavier demands being made upon our members. The Association's efforts to assist at mountain rescue operations have noe gone unnoticed and, so far this year, testimonials paying tribute to the value of the rescue dogs on these operations have been received from three grateful Police Forces.

By far the most notable rescue operation this year was the search concentrated on the Cairngorm mountain range by many rescue teams for a missing skier. Eleven SARDA rescue dogs were engaged in the various stages of the search, which was severely hampered by high winds and extreme cold, as well as deep, drifting snow. The

skier's body was finally located on the third day of the search by a Labrador rescue dog.

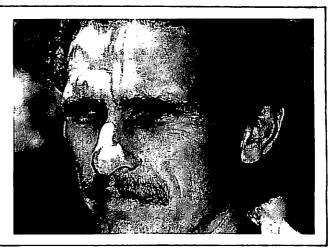
A significant development this year has been the introduction of helicopters to air-lift rescue dogs to areas well ahead of other search parties. Although it is customary in the Continent and the United States for rescue dogs to be flown from their homes to search locations often as far afield as Peru and Alaska - in Scotland we have urged a closer liaison with helicopters for many years and it is hoped that we are now seeing the start of a more highly organized system here. In conclusion, the call-out figures indicate that the fair measure of success achieved by the rescue dogs has encouraged a growing acceptance by the mountain rescue service. There is no doubt that the rescue dogs have a great potential and it is only a matter of time before their value is acknowledged as an essential aid in the initial stages of all search operations. The SARDA members are unpaid volunteers with an acute sense of being "thy brother's keeper" and being mountaineers themselves accept each call on their services with a "there but for the Grace of God go I" attitude. Every rescue dog handler is bound by unwritten law to respond to such a call.



SEARCH IN CAIRNGORM MOUNTAIN RANGE — Combined operations (Helicopters and Rescue Dogs)

MINI-EDITORIAL by Dennis E. Kelley, Publisher

HELP!!! SEARCH AND RESCUE MAGAZINE is in the midst of several changes which will ultimately affect you its readership. I would sincerely like to hear from each of you regarding changes that you would like to see. What kind of articles, features, departments and photos do you enjoy and use most often. let me know as it is my intention to incorporate your comments into forthcoming issues. I want to keep SEARCH AND RESCUE MAGAZINE in your rescue bag.



LETTER TO THE EDITOR

Darrell C. Thorseth P. O. Box 293 Sault Ste. Marie, Mi. 49783

Sept. 24, 1975

Dennis E. Kelley P. O. Box 153 Montrose, Calif.

Dear Dennis,

In a previous letter, I told you I would like to comment on the Spring 1975 article by Lois McCoy, on AB Taylor's Man Tracking. My comments here are meant to 'back up' this article and maybe add some new thoughts.

I've been teaching tracking and trailing to Scouts and ESAR Explorers for over ten years and have experienced how hard it is to convert thinking to the benefits of tracking. We are far from 10,000 hour experts, but we're working on it.

As advisor of ESAR Post 106, in 1970 we developed what we call our 'four step method.' On a search line you have several problems at once. A. Keeping track of the person on each side of you and thereby keeping your line together. B. To search the area for sign. C. Plan your own movements through the bush. D. Be able to start and stop your line without losing control. Our four step method solves these problems for us.

First, we search quietly; no talking unless absolutely necessary, especially while searching for runaways and children; you can possibly hear them and there is less chance of frightening them. Our Northwoods bush can be very thick and is usually the reason the person is lost. For positive control in thick bush we put the team leader in the center of the line with a 5 watt radio, with the two flankers carrying 100 mw sets. The line is started, moved sideways and stopped with hand signals. The only talking done is by the team leader into the radio, to increase the speed of control to the flanks.

Step 1: Upon the signal to move out, each person in the line starts with their eyes to the center behind the next person in line. (WRESAR studies verify that looking behind is a very desirable procedure.) On your first step you examine the area to your immediate front. You are looking for any track, sign or clue and, for your personal safety, looking where you are going to put your feet. For instance, a good woodsman always steps over a fallen tree, not on it; it may be rotten and not hold your weight. The lost subject doesn't need a searcher with a sprained ankle.

- Step 2: Continue your sweep, ending up checking the area behind the person on your other side.
- Step 3: Begin your sweep back to your front, checking as far in front of you as possible. Again, you're looking for the subject or any sign and at the same time picking your route. If you see that your route is blocked by an impenetrable thicket and you will lose sight of the person on your right, all you have to do is snap your fingers at him and point. He will see what you are up against and expect to lose sight of you. If your movements create a gap in the line, the other person should stop the line until your end regains its proper place.
- Step 4: Continue your sweep and end up looking behind the person on the other side, then start the procedure over again.



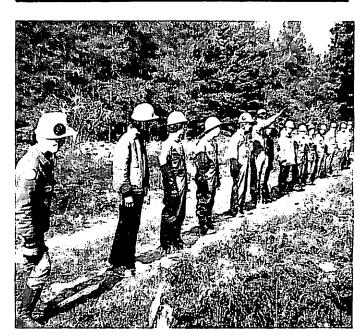
D. C. THORSETH UPON RECEIVING THE WM. H. SPURGEON III COUNCIL AWARD

Every searcher's head and eyes should be moving constantly. When coming to the flanks of your sweep, turn from the waist to look behind your flanker.

When restarting the line in thick bush, the controller should give the forward sign and then delay a couple of beats to allow the signal to get down the line to everyone before stepping off. This will keep your line straighter.

Emphasize to everyone that you are not running a race, go only as fast as the terrain will allow. A thorough sweep the first time, so you can eliminate the area, will save time later on.

(continued next page)



PREPARING TO JUMP OFF AND DISECT AN AREA

LETTER TO EDITOR - continued

A major problem in using groups of untrained volunteers is that they fear becoming lost themselves. Because of this they spend their entire time keeping in sight of each other, missing any sign that might be there. Law enforcement agencies are compelled by the situation and family to use these groups. We have found that the short time it takes to brief these people on this four step procedure can make things a lot easier in the long run.

One way for searchers to quickly eliminate or possibly identify a footprint, (if you have a positive print) is to have each person carry two sticks in their pocket, one for width and the other for length of what you're looking for. In an area of many prints this quick check can save a lot of delays to the line.

When manpower isn't available and time is against us (which is usually the case); we prefer to split into small teams and disect the area. We've had success in three cases where relatives saw the person go into the area. In the first case we came into the picture two and a half days after relatives and others had failed. We picked up the subject's tracks two and a half hours later. We moved to one side of where he was last seen and made a beeline across the area. He was located by a chopper the next morning, in line with the tracks we located at dark.

In two more cases the subjects were located by foot prints in one track of a two rut road and a large toadstool that had been stepped on. In the first case the search party almost missed a second print a couple hundred yards

away coming back across the road. Before beginning a search on the assumed route, check both ways. This same idea payed off in finding the toadstool.

The 'toadstool' incident is one of the reasons I am in SAR. When we located the man and his son, I've never seen anyone so happy and have never had anyone shake my hand harder

I am happy to say that because of our successes in tracking that the law enforcement agencies in our tricounty area rely on us to jump right in if the dog fails or isn't available.

I was happy to see AB Taylor comment that you don't have to be born with something special; tracking is a learnable skill.

I'd like to see every SAR group teach some tracking and trailing and use some method of picking up sign, instead of just running a line through the bush and hoping to find the person or body.

To a person trained in tracking, a heel scuff the size of a quarter in the moss on a downed tree, stands out like a neon sign and can be your first big clue to whether your subject is or has been in your area.

D.C. Thursell

Darrell C. Thorseth Advisor, ESAR Post 106 SAR Coordinator Chippewa County, Mich.



SECOND TEAM GETTING BEARING PREPARATORY TO MAKING THEIR DISECTING SWEEP



TEAM MEMBERS CHECKING SIGN ON A DISECTING SWEEP

THE NASARC EXECUTIVES MESSAGE

by NASARC President Blair Nilsson

NASARC's growth has been phenomenal and we are real pleased with the progress of NASARC and its potential. With growth comes greater responsibility and responsibility means greater participation by the membership. We acknowledge the fact that our Creator has inspired and guided the leaders of our organization in the things that have been done.

All credit goes to God for the inspiration and guidance. However, all the inspiration and guidance in the world is no good without the work of the members of the organization. The members of the SAR advisory council, the members of committees, the general membership, and the NASARC Organization Executives must work together in a concerted effort to carry out the inspired plans and programs of NASARC. This does not mean that we have had any lack of cooperation. Far from It. The cooperation and assistance has been excellent from all concerned. But we need more participation by the members on all phases of our growth. We wish to continue to gain state members so we may present a united, powerful organization of States within NASARC. If we can say NASARC represents fifty (50) states plus its territories all kinds of doors will open to us that will benefit the people of the United States and since the International participation in our last conference, the World.

University of Colorado Coach Dan Stavely recently told this story at a high school football banquet. A father and his son were given the responsibility of taking care of a small church in a rural community. This included the collection box at the back of the church. They did a fine job of getting everything ready for Sunday Services and there was a good sized congregation for their first Sunday. After the service was over and everyone left they thought of the collection box and opened it to see how much had been donated. The box was empty. They were very disappointed because they thought with such a fine attendance there should be a lot of money in the box. Finally the son said to his father, "you know Dad, if we had put something in the box we would have had something to take out."

In applying that story to NASARC we can say if you expect or want anything out of NASARC then you have to put something into NASARC. You can do this by sending in your news, requirements and ideas and by working in NASARC on a committee or if your state does not belong to NASARC influence them to join.

Let's all put something in this box so we can realize the great potential of NASARC.

ANNOUNCEMENT: The following prices are effective January 1, 1976.

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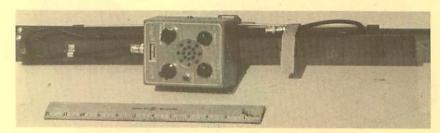
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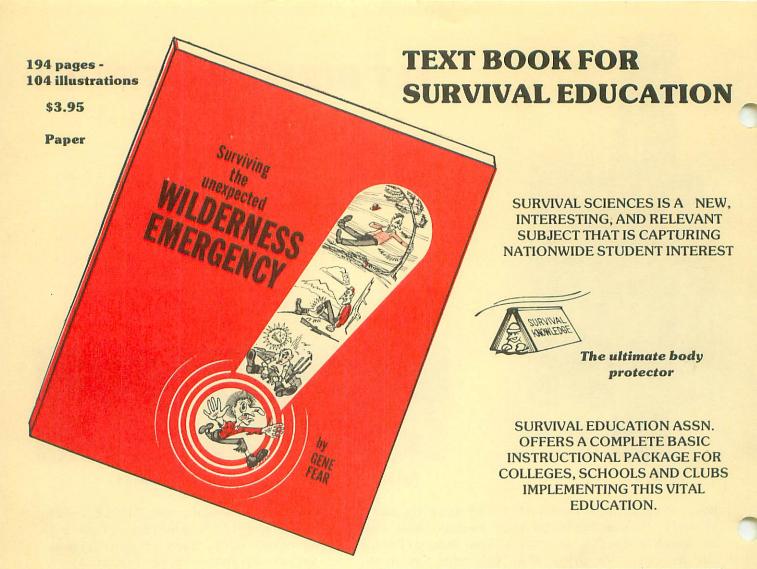
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