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SUMMER 1975

SEARCH AND RESCUE MAGAZINE

OFFICIAL PUBLICATION OF THE NATIONAL ASSOCIATION OF SAR COORDINATORS

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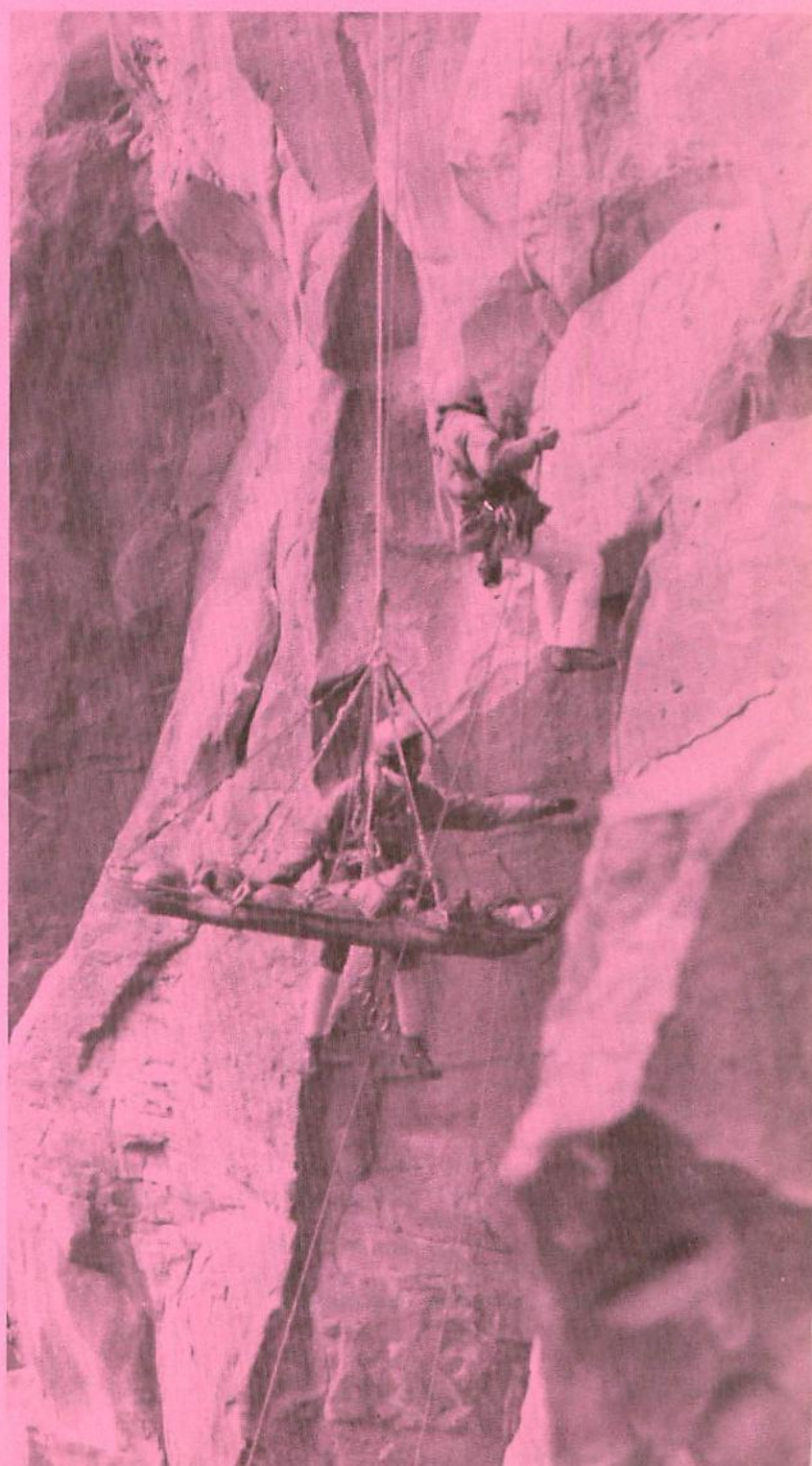
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EDITORIAL:

WE YOU GOTTA HAVE HEART

by Lois Clark McCoy

Was it Don Anderson's banquet speech in Idyllwild, "If the Lord had meant us to talk more than listen, we would have two mouths and one ear"? Or was it remembering my mother who said, "Listen with your heart"?

For whatever reason we began to think of the agencies and organizations active in supporting and controlling search and rescue as parts of a human body.

The Head is the governmental agency in charge — usually the Sheriff in the western United States. His is the legal responsibility for the protection of life and property in his geographical area.

The Helping Hand is the Office of Emergency Services, as liaison between federal, state and special SAR resources for search and rescue workers.

And the Legs are the volunteers, both law enforcement and unaffiliated, who provide much of the manpower that actually get the job done.

To our mind, our Search and Rescue effort has a head, arms, and legs and all these parts make up a fine rescue body. But like Dorothy's Scarecrow, we are still lacking a Heart.

We need to develop a Search & Rescue Heart. True, we have lots of individual hearts. It takes heart and a lot of other things too, to roll out of a warm bed in uniformly rotten weather — but we all do it all the time. We've all got heart — individually.

The catch is that all the individual parts of the Search & Rescue body are in competition with each other. We want to be **the** person, **the** group, **the** agency that finds the kid! This type of competition may be acceptable, — or even healthy. But to find ourselves competing for missions, recognition and control would be inappropriate.

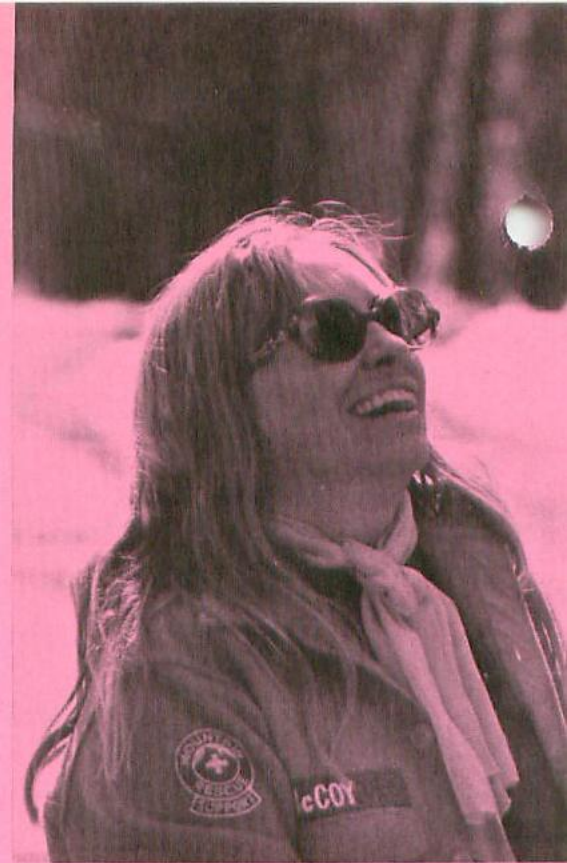
In the human body, the liver doesn't say to the heart, "I'm more important than you because I purify the blood you pump." The heart doesn't say to the brain, "I'm more important than you because you'll die if I stop pumping."

In the human body all the parts try to operate at their peak efficiency to provide the most perfectly functioning body possible.

On the other hand, the competition between the parts of our Search & Rescue body would ultimately constitute a self-destructive form of behavior like the lemmings rush to the sea.

"We gotta have heart" — and the missing Heart of Search & Rescue is COOPERATION — cooperation between all the agencies and organizations active in both supporting and controlling SAR activities.

There are already some forces speaking out for a mutually responsive attitude among the families of SAR. We think this *Search & Rescue Magazine* is one.



Another, and perhaps the most effective influence to date, is the National Search & Rescue Coordinators Association. NASARC exists in relationship to the amount of cooperation it can elicit within its areas of influence. Naturally it devotes much of its time to cultivating this type of responsive SAR climate.

We all know we must work together; that we should be cooperative; that this is a worthy goal. But we're human and we're competitive. Just by saying we want to cooperate, doesn't drive away our humanness of competition.

Dr. Maxwell Maltz in his book "Psycho-Cybernetics" states it this way, "Feelings cannot be directly controlled by will power. They cannot be voluntarily made to order, or turned on and off like a faucet. If they cannot be commanded, however, they can be wooed. If they cannot be controlled by a direct act of will, they can be controlled indirectly.

"If we cannot drive out a negative feeling by making a frontal assault upon it, we can accomplish the same result by substituting a positive feeling."

The feeling of competition cannot be dispelled by a conscious effort, but it can be dispelled by another feeling — the feeling of cooperation.

We would all agree that cooperation is a worthy goal. But it can be thought of, at least in its absolute sense, as a goal to be achieved, as something to reach for, rather than as a "should."

Not as a "we should" be cooperative — but rather as a goal for which to strive.

And in the striving, we can attain our mutual goal of a totally effective Search & Rescue Body with the Head, Arms and Legs all functioning through a listening, cooperating Heart. ■

RAPPELLING

by Bill March

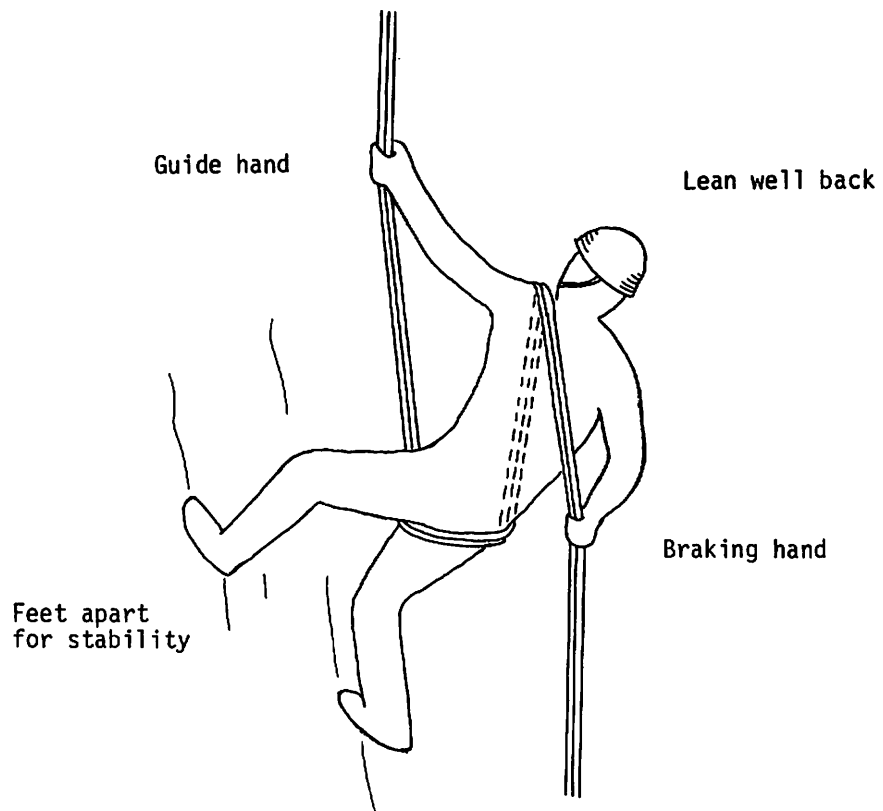
the Italian guide Gervasutti and Scottish climber Tom Patey are but two of the more famous mountaineers who have been killed while rappelling: Gervasutti fell while attempting to retrieve a jammed abseil rope, Patey while attempting to unjam his descender in which the rope had pulled his shirt. Both men were experienced climbers and both were, as is the normal procedure, unbelayed while rappelling.

This factor alone makes rappelling one of the most dangerous skills practiced by the mountaineer - he is vulnerable to anchor failure, rope failure, equipment failure, stone fall and lightning. In spite of these factors many people regard rappelling as fun and practice it as an activity in its own right. Rappelling is the basic skill used in descending rock, snow or ice which may be too difficult or dangerous or time consuming to climb down. By all means, perfect the technique, but if it can be avoided the alternative may be preferred. The purpose of this article is to outline a safe procedure when doing multiple rappelle descents on a mountain.

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Photos by Bill March

THE CLASSIC RAPPELLE



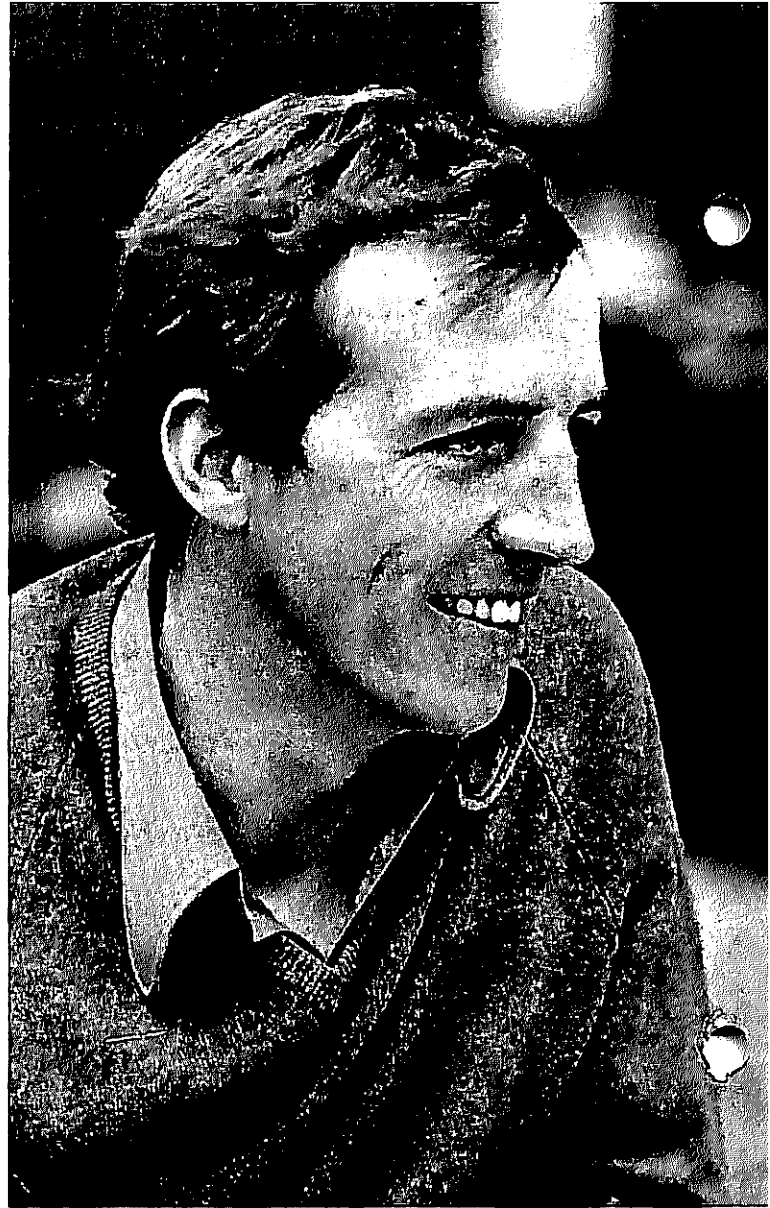
COVER: Rappelling and lowering a litter, members of the June Lake Mountain Rescue Team pass their Mountain Rescue Association rock test.

The first requisite is to find a secure anchor - very often rappelle points have fixed pins and loops of tape or rope in various states of decay. Always test the fixed pins with a hammer and if they are insecure remove and replace them. Never use the tape or slings unless they look very new as nylon deteriorates rapidly in ultraviolet light, which is stronger the higher you climb.

If possible always use slings rather than placing the rope directly around a rock spike as it is more difficult to retrieve and increases the possibility of the rope jamming. When using rock spikes or rappelle anchors blunt any sharp edges which may cut the belay sling using a piton hammer. In the event of you running out of rappelle slings it may be necessary in an emergency to cut off short lengths of the climbing rope for that purpose, although this expediency can only be used a few times. As a general rule it is better to have more than one anchor and these should be linked in such a way that they are equally loaded. Each anchor point should be tied off separately to the suspension point of the rappelle rope so that the failure of one anchor will not result in the shock loading of another.

Once the anchor points have been rigged the two rappelle ropes can be joined through the rappelle sling(s). The joining knot should be the double fishermen knot. Great care should be exercised in throwing the ropes down the cliff face to ensure that they will fall free and do not snag or jam on any rocks or cracks or tangle in themselves. There are several ways of doing this, depending on the terrain below. If the ground below is vertical pay out a loop of one rope from the rappelle rope, keeping it neatly coiled in the hand. When you have about one third of the rope left in the hand or when the loops disappears from view throw the remaining coils horizontally out from the cliff face. When the ground is less steep pay out over half the rope onto the ledge in a pile, making sure that the rope pays out from the top and throw the remainder of the rope horizontally out from the cliff face. This normally pulls out the remaining rope clear of the face to give a clean rappelle. Always coil the rope in small coils for ease of throwing and throw each rope separately, not together.

Some people prefer to butterfly the rope for throwing, ie. loop it to and fro in a series of S's to be held in the hand or laid on the ledge. This takes more time but may in some instances be more efficient. As an extra precaution a knot may be tied in the end of each rappelle rope to guard against rappelling off the end. This does, however, increase the possibility of the rope snagging when it is thrown down the cliff face. On rare occasions, ie. very strong winds blowing up or across the cliff face it may be impossible to throw the rope down. In these instances the climber will have to rappelle holding both ropes in a coil and paying out a coil at a time - this technique does require a certain level of skill and should be practiced beforehand.



Bill March, the author, is a noted contributor to mountain rescue originally from Scotland and author of the fine book, IMPROVISED TECHNIQUES IN MOUNTAIN RESCUE.

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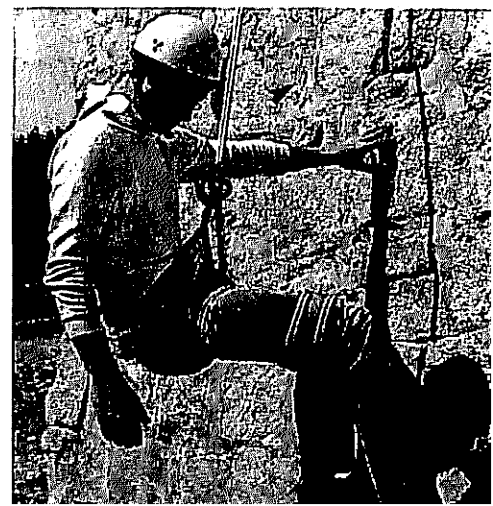


Rappelling at the City of the Rocks.

Once the rappelle has been set up the first man to descend has a set procedure to follow. If the route is a well used descent route there is not too much of a problem, if it is a 'blind' descent certain precautions should be taken. The lead man could rappelle on one rope tied off while being belayed on the second rope. In the event of no descent route being found he would carry prussick slings to enable him to climb back up the rope. The use of a safety rope while rappelling is time consuming and in mountaineering situations safety and speed are always in conflict. It is possible to safeguard a rappelle by attaching a prussick from a chest harness to the rappelle rope and sliding it down the rope with the upper hand. Always carry an extra prussick in the event of the chest prussick jamming from premature loading - the second prussick sling can be attached to the rope and stepped into to facilitate the unloading and loosening of the chest prussick. This self rescue method may also be used to rescue hair, clothing, and rope kinks which have been pulled into the rappelle carabiner or descender and jammed. One should, therefore, always carry at least one prussick sling when rappelling. On occasions it is useful to lock off the abseil. This is achieved by wrapping the lower free ropes around one leg two or three times.

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Locking off the rappelle with wraps around the leg.

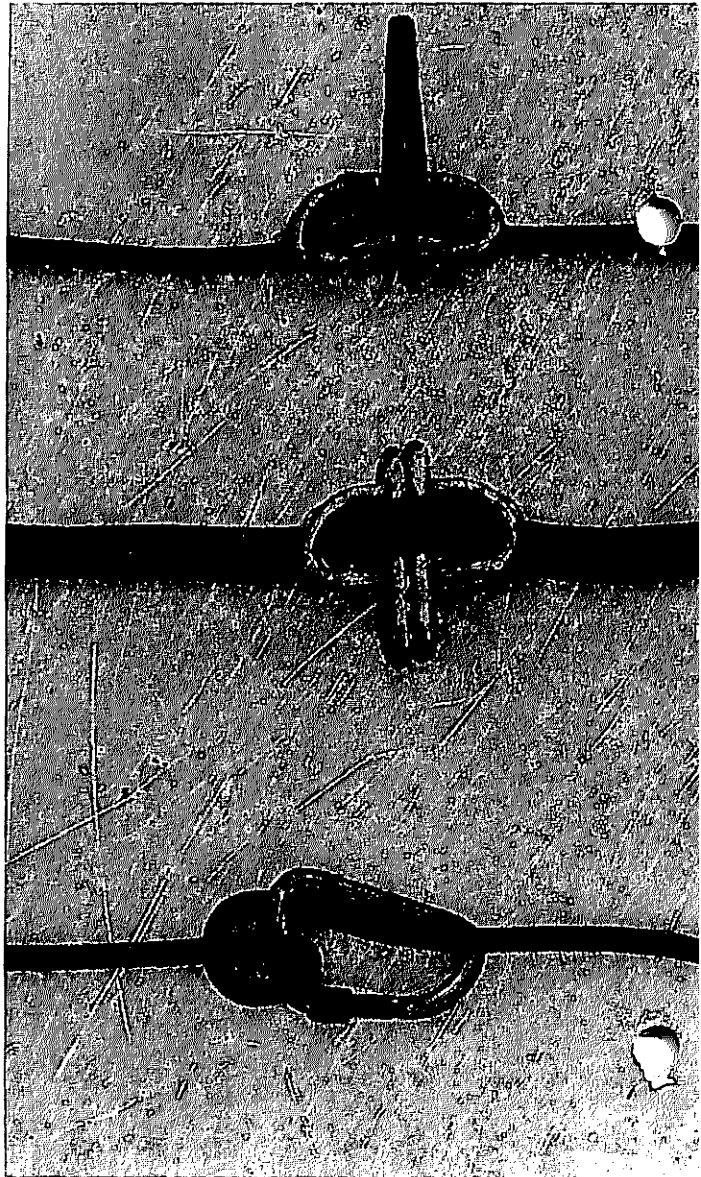


The first man down on the rappelle should clean any loose rock from the descent route, taking care not to dislodge them onto the rope below. When descending zones of loose rock, bounding leaps should be avoided as the vibrations on the rope above may dislodge rocks from the cliff face. Leaping and bouncing on the rappelle also imposes a greater strain on the anchor and causes rope abrasion and even cutting where the rope is in contact with sharp rock edges.

The descent should be smooth and constant with the rappeller sideways onto the rock looking down to check his route of descent and occasionally looking up to check the rope above is not catching on rock projections. If a pendulum is involved great care must be exercised as the possibility of rope dislodging loose rock is greatly increased. When one has to execute a pendulum always start the pendulum above the point and gradually release more rope during the pendulum until you reach your destination. Once the correct calculations have been made it may be advantageous to tie off the rappelle rope so both hands are free to gain the ledge.

Throughout the rappelle a carabiner or a gloved finger should be run between the two ropes to ensure they are not twisted around each other. Once the first man has reached the rappelle point he should check that 1) further descent is feasible, 2) the rappelle rope is running free for ease of retrieval. The use of two ropes of different colors is useful here in order to distinguish the side the knot is on the rappelle. Once these checks have been made the remainder of the party are ready to descend. If the descent is over hanging and involves a pendulum, the end of the rope should be secured to the new rappelle point. When the party members have descended the rope should be pulled down steadily on the knotted side as a sudden jerk could cause the free end to flick around a projection or catch in a crevasse.

Until now little has been said of the different techniques of rappelling. Unfortunately the trend of gadgetry and equipment phobia has affected rappelling as much as any other aspect of the sport of mountaineering. There are numerous different types of descenders and friction brakes and various devices enabling one to rappelle on a single rope and recover it. Generally speaking, the carrying of specialized equipment by the ordinary climber is a waste of time and effort, especially if adequate methods using standard equipment are available.



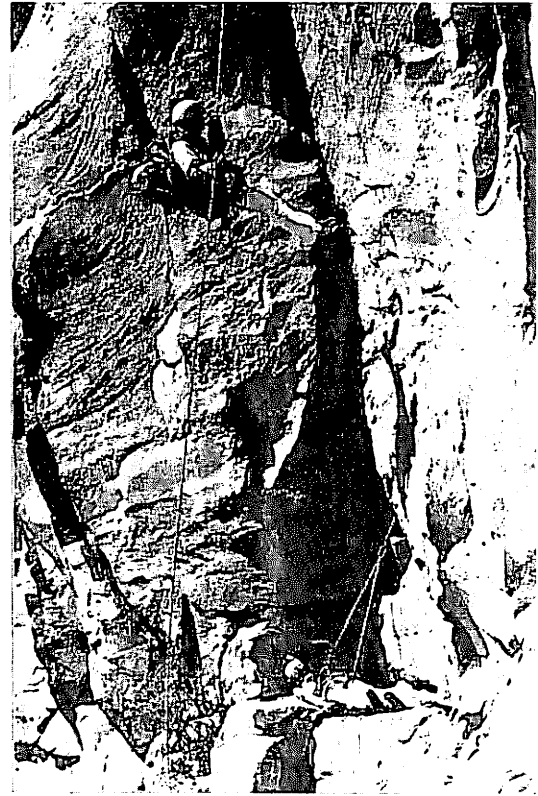
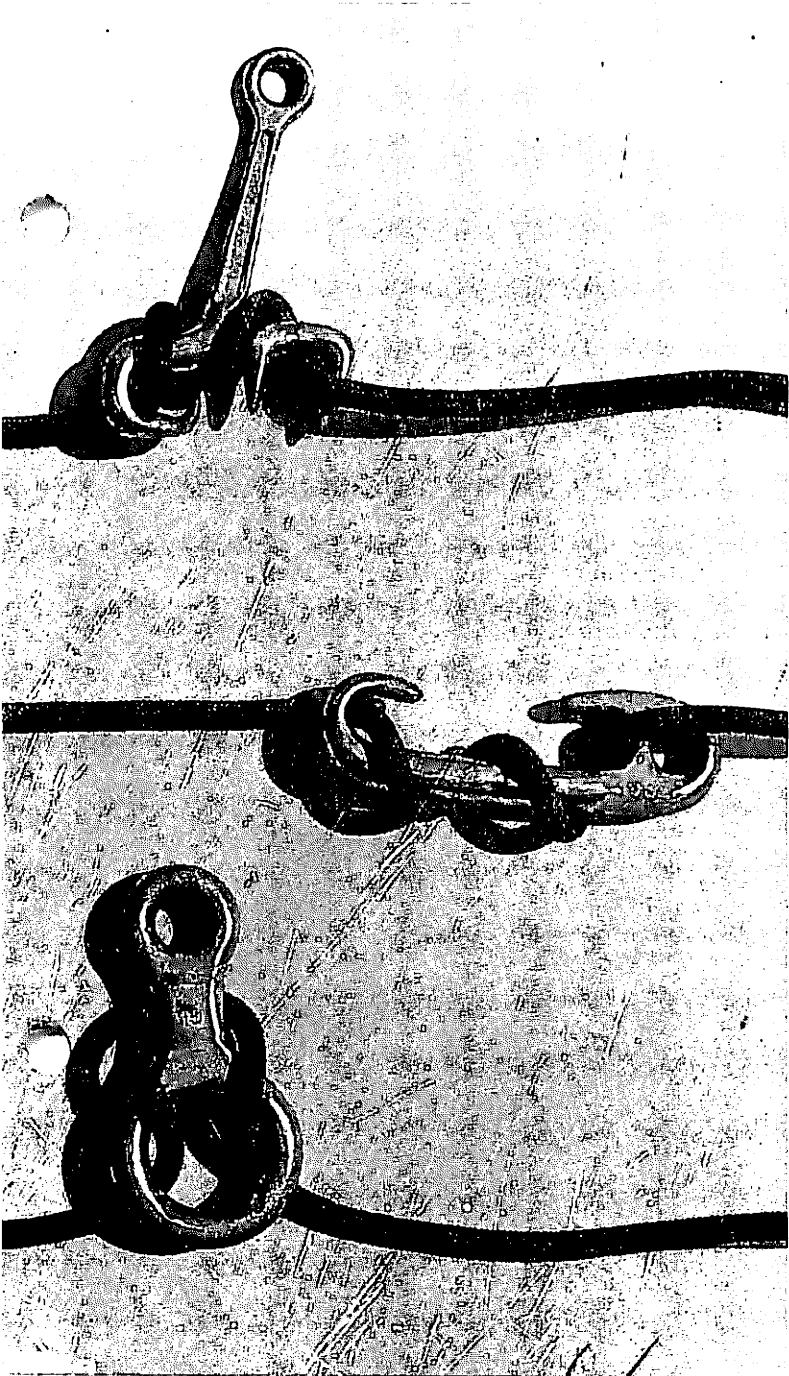
The following brake variations are shown below:

angle piton brake,

carabiner brake with non-screw gate krabs,

Munter or Italian hitch

(Continued)



At a recent California Region, Mountain Rescue Association test of the June Lake SAR Team, a team member rappelles down to a simulated climbing accident.

At left, the following rappelling gadgets are shown:

figure of 8,

Peck descendeur,

Pierre Allain descendeur,

Note that the figure 8 is the safest.

All climbers should be able to rappelle using the classic method, which requires the rope only, the Dulfersitz. The Dulfersitz is simple, there is no equipment to jam up or fail, and it is the only method which allows one to abseil past a knot in the rope. Its main disadvantage is that it can be uncomfortable and adequate padded clothing and leather palmed gloves should be worn. Another effective method of rappelling which is simple and quick is a standard angle piton clipped into a screw gate carabiner and used as a brake bar. This method has the advantage that it is easy to get in and out of the rappelle and can be left in place on the climber's harness. One should check the piton for any sharp edges which may damage the rope.

There are a few general observations to be made on rappelling to conclude this article. The ease of rappelling will depend on the type and stiffness of the rope - kernmantal normally runs more smoothly than hawser laid rope. The further down the rope the rappeller descends the less rope weight there is to assist in the friction braking and the more tightly that he must hold the rope. One should avoid rappelling at all cost in a lightning storm as a wet rope is an excellent conductor of electricity and the rappeller is in an extremely vulnerable position. As with all mountaineering skills, practice and experience are of paramount importance if one is to become proficient. SAR MAGAZINE

1975 - OREGON SEARCH & RESCUE CONFERENCES

by GALEN McBEE

In recent years, interest in search and rescue has grown sharply in the state of Oregon, placing a tremendous burden on the local sheriff of the county in which untrained individuals or groups try to operate. In a few cases, members of rescue teams have arrived in the field eager to assist but for lack of knowledge and equipment have fallen only slightly short of needing a rescue themselves. Concerned over the rise in popularity of search and rescue by citizens who have been attracted to SAR for a variety of reasons The Oregon State Sheriff's Association in cooperation with the State Emergency Services Division has carefully developed a series of conferences, local training programs and a state-wide certification program to meet this need.

With a goal clearly in mind of educating the many would-be SAR volunteers, the Sheriff's Association sponsored a state-wide conference in the spring of 1973 at Camp Rilea, a National Guard training base located on the Oregon coast just south of Astoria, Oregon. This conference was attended by over 700 people from counties throughout the state. The general consensus of the planning committee and participants was that the program and instruction was good and that like conferences should be continued.

But then, alas, the best laid plans of mice and men came to a bitter bit, the energy crisis reared its ugly head and as a direct result of the fuel shortage the 1974 conference was cancelled. During the winter of 1974-75, the planning committee reconvened and began making plans for a conference for the spring of 1975. After careful thought and evaluation, the committee recommended that not one, but two conferences be conducted. One on the west side of the Cascades, and another on the east side. The main purpose for this arrangement was to reduce the driving time for those who live long distances from the coast. Thus, with two conferences, people could attend the program which was the closest to their community or the one which was the most convenient to their schedule. With this all in mind, two conferences were planned, one for May 17-18 at Camp Rileas and the other for June 14-15 at Prairie Campground, at Bend, Oregon.

The registration fee for the Rilea program was set at \$10. which was probably one of the best deals around considering that this included lodging and meals for two days. Meals were provided by units of the Oregon National Guard. It was generally agreed by everyone we talked to that the food was good to excellent plus there was plenty of it.

Following breakfast on Saturday, the conference was officially opened with remarks by Hiram Johnson, Clatsop County Commissioner; Harvey L. Latham, head of the State Emergency Services Division and John T. Dolan, President of the Oregon State Sheriff's Association. Then the fun began with a light, humorous look at the world of search and rescue given by an old mountain rescue veteran, Willie Unsoeld. Unsoeld will be remembered by many mountain enthusiasts for his first ascent of Mt. Everest's West Ridge.



PHOTOGRAPH BY GALEN D. McBEE

Food service was provided at the Camp Rilea conference by the Oregon National Guard. Conference participants line up for one of the noon meals.



PHOTOGRAPH BY GALEN D. McBEE

A Civil Air Patrol Cadet inspects the cockpit of the 304th ARRS helicopter which was on static display during the entire conference.



PHOTOGRAPH BY GALEN D. McBEE

(L to R) Chuck Leierer, Advisor of Salem Post 18, ESAR chats with John Barton, team leader of Cascade East Mountain Rescue Unit (Bend) and Everest Veteran Willie Unsoeld, Keynote speaker at the conference.

Following the opening program, the participants of the Conference broke into small teams to attend sessions on Protection of the Crime Scene; Helicopter Safety; Search Methods and Patterns; Communications; Map and Compass; Team SAR Equipment; On Scene First Aid; and Litter and Rope Handling.



PHOTOGRAPH BY GALEN D. MC BEE

Dick Poole, Mountain Rescue and Safety Council of Oregon, instructs search and rescue personnel in litter and rope handling techniques.

According to John Olson, SAR Coordinator, State Emergency Services Division, the attendance at Camp Rilea was 431 people, and attendance at Prairie Creek was 320. Support by military and state agencies was outstanding. Approximately 30 flying hours were contributed in direct support of the planning and on-site training of the two programs by the Oregon National Guard-Aviation unit and the 304th ARRS unit of the U.S. Air Force Reserve. In addition the Oregon Museum of Science and Industry made a major contribution by loaning Duncan Eader, who served as over-all coordinator for the two conferences. This was no small task when it came to scheduling instructors for all the various sections on both sides of the mountain.



PHOTOGRAPH BY GALEN D. MC BEE

Under the direction of Mountain Rescue veteran, Him Dixon, SAR students learned the proper methods of belaying and carrying a stokes litter over steep terrain.

Many things were learned by the conference planning committee; probably one of the major problems noted was the "burn-out" of the instructor cadre who were called on to participate in both conferences. Other things which Oregon will probably consider in future planning is a search and rescue school and perhaps seminars to deal specifically with one aspect of search and rescue rather than attempting to cover all the subjects in a week-end. However, the fact remains that each year new people arrive on the scene with limited knowledge of SAR procedures and techniques and thus a general conference will continue to provide excellent basic introductions to the field.

Along with the conferences and training being developed on the state level is a State-wide certification program which was initiated by the Sheriff's Association in 1973, and finalized in 1974.



PHOTOGRAPH BY GALEN D. MC BEE

Helicopter from 304th ARRS, U.S. Air Force Reserve arrives Saturday morning at the landing zone at Camp Rilea. Note technique utilized by the 304th; main doors open, observers carefully checking 360 degrees around the landing aircraft for hazards and stray ground personnel.



PHOTOGRAPH BY GALEN D. MC BEE

T/Sgt. Dave Ward, 304th ARRS explains the use of the jungle penetrator rescue device to instructors from the Northwest Outward Bound School.

Continued on next page

OREGON RILEA CONFERENCE Continued

The objective of the certification program is to establish a minimum standard or level of training for all search and rescue personnel in the State of Oregon to provide each sheriff or SAR coordinator a body of trained and proficient manpower to accomplish the search and rescue mission.

The standards established by the Sheriff's Association are:

- (1) Each SAR member must hold an American Red Cross Standard First Aid card.
- (2) Each certified member must be trained to operate all two-way radio communications equipment and know the basic regulations governing the use of that equipment.
- (3) Know how to use a map and compass and demonstrate ability to:
 - (a) Use a map scale,
 - (b) Identify 10 map symbols,
 - (c) Orient a map,
 - (d) Explain difference between a topographic and non-topographic map,
 - (e) Navigate by a compass in a straight line over a ¼ mile with a tolerance of no more than 2 degrees right or left.
 - (f) Plot your location on a map,
 - (g) Determine a bearing between objects on a map.
- (4) Know the three basic types of searches and their uses.
- (5) Be trained in survival techniques and outdoor living so as to survive 24 hours in an overnight environment with no aids other than matches, water and normal clothing for the season.
- (6) Know the procedures to follow if you suspect or know that a crime is involved upon finding the missing person.

The above Oregon certification information was taken from the Policies and Procedures Manual for Standards-Search and Rescue published by the Sheriff's Association.

Certification is the responsibility of the local sheriff of each county, however the standards as set forth above must be met and complied with. No individual may participate in a SAR operation as an official member of a search and rescue team unless he is fully certified. Every indication is that this program is being met in each of the counties. There are the usual problems, of course; this includes those who want to argue with some detail of the certification outline but, over-all the program is being conducted, training is being accomplished, and those who are genuinely interested in SAR are meeting the standards. Those who are only interested in playing, but not in commitment are probably dropping by the wayside and out of the local sheriff's hair. Certification training is conducted on the local level and the purpose of the conferences is to provide additional training and information not readily available on the local level.

Anyone wishing further information on the Oregon State Sheriff's Association's SAR certification program should contact the Association's President, John Dolan, Benton County Courthouse, Corvallis, Oregon.



PHOTOGRAPH BY GALEN D. MC BEE

One of the purposes of all conferences including those on Search and Rescue is that of exchanging ideas. The Rilea conference provided plenty of opportunity for discussions on an informal basis between members of the many units represented at the conference. Here a group of Emergency Medical Technicians talk shop.



PHOTOGRAPH BY GALEN D. MC BEE

Captain John Poorman, 304th ARRS, U.S. Air Force Reserve, Portland Air Base, briefs conference participants on helicopter safety. All who attended the conference received proper instruction in how to approach a helicopter in the field, and how to on-load and off-load safely.

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 *
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NASARC ADVISORY COUNCIL MINUTES

by Paul Koenig

Joint NASARC Board of Delegates and SAR Advisory Council Meeting Minutes
11-12 April 1975, Salt Lake City, Utah.

Meeting called to order by President Nilsson at 0900, 11 April 1975. Roster of members in attendance attached. Invocation by President Nilsson.
Introduction of all participants.

Moved (Lavalla) seconded (Connell) and passed that the following become members of the SAR Advisory Council: USCG Aux., American Red Cross, National Ski Patrol System, Department of Interior, Mining Enforcement & Safety Administration, Aircraft Owners & Pilots Assoc., Explorer Scout Search & Rescue, Defense Civil Preparedness Agency, German Shepherd SAR Dog Assoc. Previously included members present included: Federal Interagency on Search & Rescue, National Park Service, National Jeep Search & Rescue Assoc., Mountain Rescue Assoc., USAF/Director, Inland SAR, US Coast Guard. Absent: Civil Air Patrol, Federal Aviation Adm., and SAR Magazine.

The new Constitution and By-Laws was discussed in detail, and many changes were recommended. A copy, as revised, is attached.

Considerable discussion of goals for NASARC. Some recommended and adopted were: Short Range — Contact states without a SAR Coordinator, and recommend SAR Coordinator status, and also provide a package of information for these states. More articles regarding SAR organizations, procedures, etc. in SAR Magazine.

Medium to Long Range — Attain a position that will support an Executive Secretary. Expand purposes of NASARC, in constitution. Promote legislation that will support SAR activities, e.g., obtain a portion of gas taxes paid on snowmobiles and other off road motor equipment.

It was also decided to send letters to industrial organizations soliciting commercial memberships, and displays for the conferences. Butler will accomplish.

The Vice Presidents will supervise committee actions. Breakdown of committees is: Monroe-Communications, Technical Development, Survival Education, Uniform Map System, Publications, Training, Awards, and Membership. Olson: Liaison, Mutual Aid, Reporting Forms, Terminology, Emergency Medical, Ways & Means, Legal Affairs, Public Relations.

Committees, and members, will be published in SARM. Each committee to prepare functional statement.

The Constitution and By-Laws was discussed in great detail. Final copy is attached.

Moved (Henjum), Second (Connell) and passed to support a display at LANTSAR with up to \$60.00 to pay for a shared booth. LAVALLA will prepare display.

SAR Awards discussed in detail. Decided that all awards will be only as some outstanding service is to be recognized — no time schedule. The Awards Committee will prepare a policy statement.

Introduced Mr. Plimpton, from Mining Enforcement and Safety, Dept. of Interior. Assured that mine rescue personnel could be flown to any mine disaster.

Discussed possibility of a calendar control of events. Decided we could only solicit information on coming events and publish in SARM.

A list of addresses of all SAR Advisory Council publications represented will be published in SARM.

Discussion on the Annual Conference in Denver. Eliminate most panel discussions. Hold more workshops. Have a full day Board/Advisory Council meeting before the general conference. Must be on Thursday to leave Friday, Saturday and Sunday morning open for general meetings and workshops. Each workshop to be long enough, or duplicated, so people can visit more than one. We should ask for critiques from participants. We should have a concentrated program to get non-member state representatives to Denver. The Host will determine whether to hold in a convention center, or a hotel with convention space. We should cut down on formal meals, and permit participants to obtain own food at own price. Possibly hold to one banquet, and one other meal. We should strive for large number of commercial displays. Moved (Connell) Second (McCullough) and passed that time of the 1976 conference be changed to 2nd or 3rd week-end in September. All Coordinators come to first day meeting with bids prepared, so place of next meeting can be announced before the end of the conference.

Moved (Henjum) Second (Lucas) and passed that the order of priority for keynote speakers for Denver be (1) an Astronaut, (2) Gen. Flynn, USAF Ch. of Staff, and (3) Senator Goldwater.

The Advisory Council held a private meeting (less Board of Delegates). They request that a list of the Advisory Council, and current members be published in SARM. Each member will prepare a resolution supporting NASARC for publication in his organization publication. To include a functional statement for the Advisory Council.

Thursday of Annual Conference will also allow time for joint and separate committee meetings.

Communications. There is a need to consider CB receivers and monitoring in SAR Activities in addition to operational frequencies. Committee continue to investigate a band of frequencies for SAR operations. DCPA will provide assistance in this area. Also, to investigate and formalize the adaptation of Ham (RACES, etc.) in SAR operations.

The Federal Interagency Committee on SAR (ICSAR), with McCullough as Secretary, and also our representatives. Needs to be a closer interface between NASARC and ICSAR to get our requirements to them. We can provide input to ICSAR meetings. Hope to discuss further use of federal transportation in SAR operations.

Federal transportation is generally not available for non-government, non-military, or non-CAP transport. There is a paragraph in the National SAR Plan which permits use of military helicopters to be used in isolated area body recovery.

The Liaison Committee to prepare a position statement on excess Federal property from other than current sources. The \$300 limit on excess eliminates many items useful in SAR, and this should be changed. This position statement to go to ICSAR for next meeting, to start possible change actions.

Membership lists will be forwarded to all State Coordinators.

Aviation support agreements, and SARDA plans should be brought up to date.

Meeting adjourned at 1615, 12 April 1975.

Next joint meeting to convene in Denver on 4 December 1975. ■

AERIAL RECONNAISSANCE IN SEARCH & RESCUE (SAR)

by LT.CDR. SCOTT RUBY, U.S.N.

PLANS AND PROGRAMS, VFP-63, MIRAMAR NAS

Light Photographic Squadron SIXTY-THREE is located at Naval Air Station Miramar and represents more than one-third of the Navy's optical reconnaissance capability. You might wonder how Navy Photo Reconnaissance became involved in SAR and what value reconnaissance can be when looking for a lost person. It has been a process of trial and error, sometimes a lot of error, but the Reconnaissance Community has a valuable asset which should be utilized whenever possible in the SAR mission.

Approximately two and a half years ago, VFP-63 was approached by the San Diego Mountain Rescue Team (SDMRT) to help look for a lost hiker in a mountainous desert area. We had never heard of the SDMRT and wondered who was crazy enough to go around rescuing mountains! After checking on their sanity (marginal results) we agreed to participate. Although our efforts were fruitless, we did establish a rapport that was to grow into a feeling of mutual respect and cooperation between our organizations.

Over the past two and a half years we have participated in a number of SAR efforts and have established what we can and cannot do. Our most successful efforts have been directed towards looking for lost aircraft. One night, an aircraft with six passengers went down during a snow storm in the Bryce Canyon area of Utah and VFP-63 was asked to participate in the search. Although not responsible for finding the aircraft, we did cover the area and had a photograph of the actual crash site. The aircraft was found while we were reviewing the film of the crash site. We feel we have a reasonable chance of detecting the crash site as long as the aircraft is generally intact and not burned. Even if the aircraft has burned, there is a distinct probability of locating the site because of the damage to the surrounding terrain.

An excerpt from a recent SAR bulletin from Colorado is quoted in part, "Major report was written on the search last summer for two ladies who disappeared in the vicinity of Mt. Washburn. They were missing four days and during that time a massive search was developed in the area and in the Yellowstone Canyon. Mac reported on the operation in some detail and of their clue checks and investigation. An Air Force plane was brought in to take pictures of the area and infrared was discussed. They took one photo flight for regular pictures to orient the area and then went to Hill Air Force Base to have them analyzed. The girls were located near the river while the plane was gone and it was found that they had placed poles in an SOS and Square near their site. The general area of find was relayed to the Air Force to check whether the pictures showed these symbols. Mac showed the pictures to the board and they did indicate the site where the girls had placed the SOS marker. This has some excellent potential in other SAR operations." This is an example of the successful application of aerial reconnaissance in SAR.

Tracking also appears to be a viable capability of our system. During a search in the Ice House Canyon area, north of Los Angeles, we were able to detect tracks in the

snow. As it turned out these were tracks of the search party, but it did identify a valuable capability which we were not aware of until it appeared.

On two occasions, we mapped areas for specific reasons, one to locate a suitable helicopter landing site and another to set up a grid search. A hiker had fallen off the top of Mt. Whitney and the Sierra Madre Mountain Rescue team requested photos of the area because they had an Air Force helicopter available to go in and recover the body. The availability of a photograph of the immediate area made it much simpler to determine the best location to drop the recovery party.

When there is a lost child in mountainous terrain, a stip map, called an aerial mosaic, is flown and made to identify terrain features and locate trails possibly used by the lost child.

Our most frustrating experience has been our inability to cover the Baja area. Since we are immediately across the border, our position is excellent to assist in the various searches down there. We were asked to provide coverage for the Mundy search, but could not obtain permission to enter Mexico and turn our cameras on. Hopefully established procedures will be set up should we be asked in the future for help.

One of our biggest problems is delay in notification of a search in progress. Obviously we cannot be of assistance in every search. However, in several of the searches, we were called in up to a week late. By this time, the feeling is we are no longer participating in a SAR effort, but trying to determine the location of a crash site. The success of any SAR mission is directly related to the time involved in getting qualified personnel to the scene. Since it appears people do not have the decency to get lost during normal working hours, it may take from one to 24 hours to provide assistance. We will not launch a mission until fully aware of the circumstances and contact has been established with the proper authorities on the scene. Lack of coordination and control have caused more than one unnecessary accident and our limited assets will not permit unnecessary flight.

All of our flights are flown on a "not to interfere basis," which means, flights are flown in conjunction with our normal training program. These flights can be substituted for certain training flights which not only makes our training program more realistic, but provides the aviators additional incentive while going through the program.

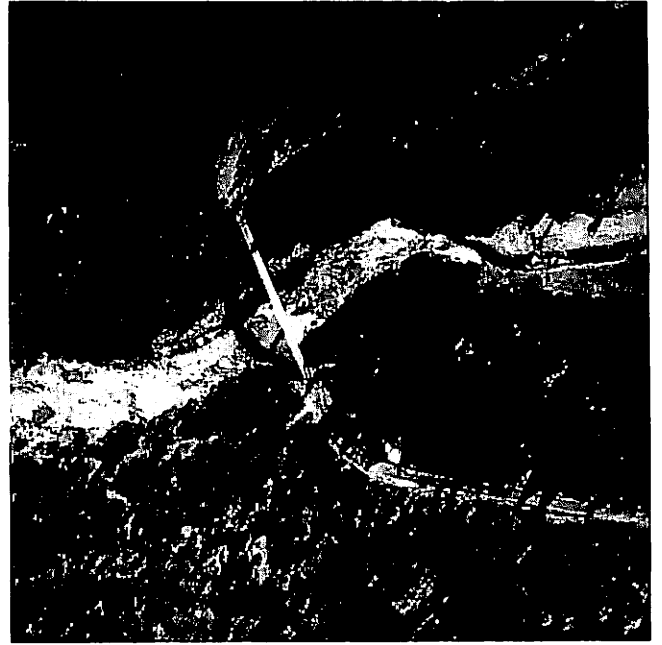
We can be contacted through SAR headquarters at Scott AFB or by contacting our duty officer at NAS Miramar. We do not pretend to speak for anyone other than VFP-63, but it has become a very enlightening experience working with various units associated with SAR.

Light Photographic Squadron SIXTY-THREE has as its motto, "The eyes of the Fleet." We are proud of our reputation and in the interest of community action the officers and men of this command have freely given their time and effort in direct support of numerous SAR operations. The "Eyes of the Fleet" stand ready to help.

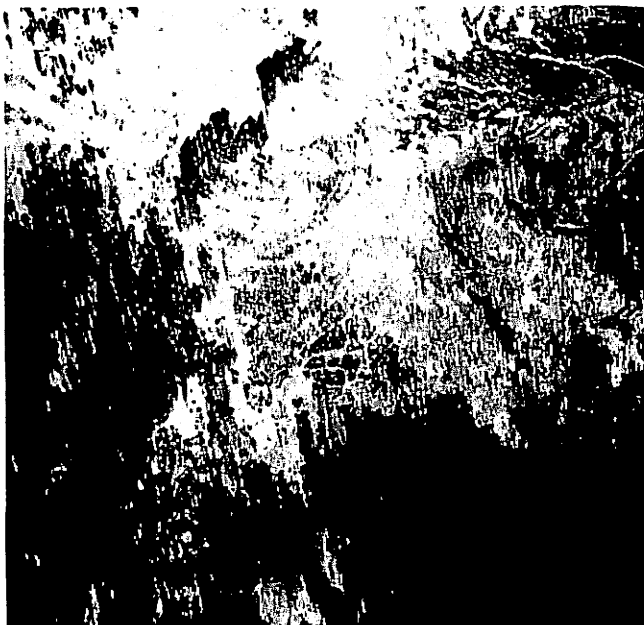
AERIAL RECONNAISSANCE IN SEARCH AND RESCUE (SAR)



RIVER BED



SMALL BRIDGE

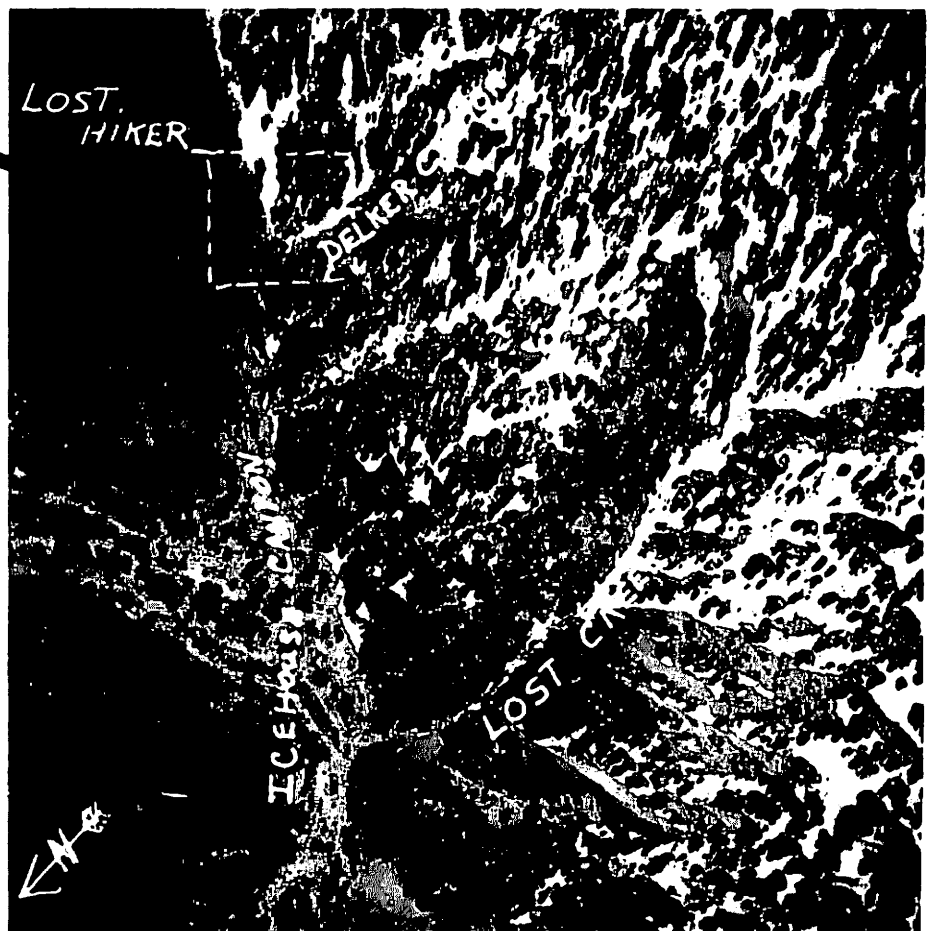


WOODED AREA



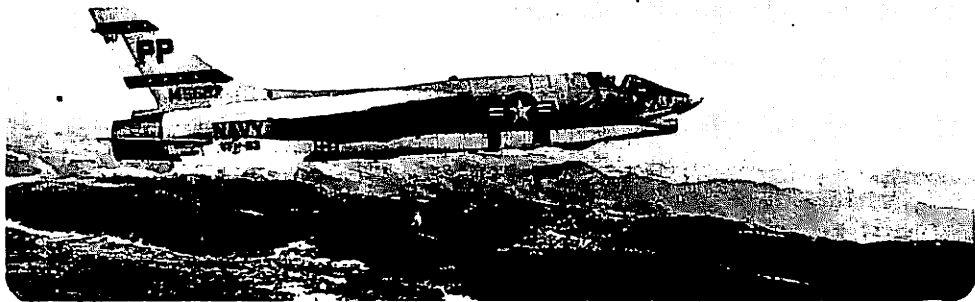
HELL HOLE RESERVOIR

TRACKING IS A VIABLE CAPABILITY OF VFP-63 PHOTO RECONNAISSANCE SYSTEM



ICE HOUSE CANYON AREA

THE EYES OF THE FLEET STAND READY TO HELP



RF-8G CRUSADER



SKI LIFT AREA



CLIFF SIDE AREA

NATIONAL JEEP SEARCH AND RESCUE CONVENTION

As an observer of my first National Jeep Search and Rescue Association (NJSARA) convention, I must say that I was very favorably impressed. These 'Jeep' people extended me a particularly warm hand of friendship as well as demonstrating a significant capacity for positive SAR action. As a visitor I have attempted to identify some of the more apparent and outstanding attributes of this organization. I myself have become an Associate Member through the generosity of the National Commander 'Doc' Dickson, Past National Commander George Connell, and the NJSARA membership.

The first NJSARA attribute which I shall address is the organized competition. Trophies are given for expertise in the Association's specialties; emergency medical care, four wheel vehicle driving, and pistol marksmanship. The benefits of this friendly competition is both maintaining proficiency and establishing a lasting rapport between all the membership. I particularly liked the emergency medical care competition, which was divided into standard first aid and emergency medical technician (EMT), because I believe that most everyone has difficulty maintaining proficiency in this basic SAR skill. The competition itself is very much like the National Registry EMT-A practical examination. It includes cardio-pulmonary resuscitation, extrication, etc.

Another fascinating aspect of the NJSARA National Convention is the drawing for a new Jeep Cherokee. This event, which exists through the generosity of the American Motors, is used to raise money for operating the Association and also money for travel incentive for distant member units. The drawing stimulates a great deal of interest within the NJSARA membership. Interestingly, Bonnie Brockway, the wife of last years Cherokee winner, Gary Brockway, tearfully won this years Cherokee. A brief calculation based upon the total drawing tickets sold this and last year, as well as the number of tickets the winners purchased both years, revealed that the chances of the same family winning the Jeep two years in a row was approximately 1 in 10,000.

Another strong attribute of the NJSARA is its newspaper, Search and Rescue, which is edited by Bill and Madeleine Wilson. This friendly newspaper is used to keep all the Association's members attune to the SAR scene. It is a vital part of the Association's communications and information exchange is vital to the NJSARA.



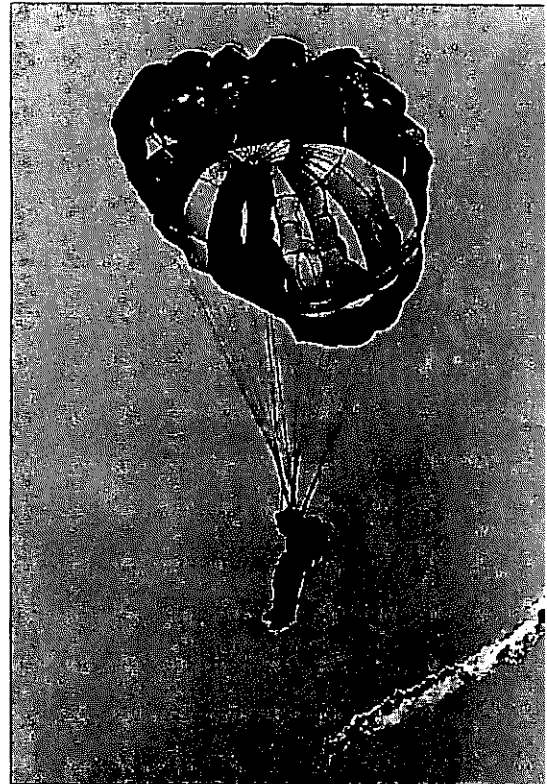
National Commander 'Doc' Dickson at the NJSARA emergency medical care competition.

Dave Miller of Maricopa County Arizona, the next NJSARA National Commander.





Jim Smith and family of Barstow Desert Rescue, San Bernardino County California.



A member of the Nevada Sky Divers in action over the Association's first aid competition. These sky divers are a trained component of the local SAR response.



Jesse Gruver is a friend indeed.

The Association's annual election was an open and vigorous affair with all candidates names put upon a large blackboard for display. Each unit's voting power is a function of the number of its members are in attendance at the convention. The results of the 1975 election were:

Dave Miller, National Commander
 Ken Blackner, 1st Vice Commander
 Jim Miller, 2nd Vice Commander
 Brent Lewis, Treasurer
 Paul Scott, Quartermaster
 Lt. Walter Butts, Communications Off.

Finally, the Association is very much a family affair. Many of the convention activities were planned for the wives and children of the delegates.

In retrospect, these attributes of the National Jeep SAR Association have made it the largest and most powerful volunteer ground search and rescue organization in the United States. It is truly a National organization that deserves the support and respect of all SAR cognizant persons. ■

The National Jeep Search and Rescue Association Convention Banquet.



ANATOMY OF A SAR CONFERENCE



Report on California SAR Conference '75, May 17-18, 1975, at Idyllwild, California.

It is our feeling that much of the success of "Meet & Greet '75" goes to the amount of "lead time" provided for the pre-planning of this Conference.

Wes Reynolds obtained in July 1974, 10 months in advance of the final date, an indication that Cdr. Carlton F. Meredith, Officer-In-Charge, National Search & Rescue School, would respond to a request to moderate a California conference stressing SAR coordination, management and related SAR organizational concepts.

Based upon this indication, the California Region Mountain Rescue Assoc., Wes Reynolds Conference Chairman 1975 at their October 1974 meeting.

Shortly thereafter, he asked Lois McCoy to be Co-Chairman for this event.

Starting immediately after this, the Chairman and Co-Chairman obtained a commitment from the following key personnel felt to be essential in putting together the panels and seminars for the proposed conference. They were, in addition to Cdr. Meredith, Bill Wade, NPS Albright Training Center, Grand Canyon, AZ., Rick La Valla, Assistant SAR Coordinator, State of Washington, Olympia, WA., and M/Sgt. Bob Wheeler, 41st ARRS, McClellan AFB, CA.

At the same time, a tentative agreement was reached with Buckhorn Camp to obtain the week-end of May 17th, 18th for the Conference. Mr. Harry Penn of the Camp remained most helpful and reliable throughout all dealings regarding the Conference. Based upon his projected costs and to provide the margin of profit necessary to cover the (then present) region indebtedness of over \$250. This indebtedness had been incurred by the disappointing attendance at the National MRA meeting in Sacramento in November 1974. (Note: At this time, let us go on record to say that we strongly urge the future format of a conference or seminar-type meeting for National so as to attract a larger attendance and remove the problems of financial failure from the picture.)



EDITOR'S NOTE:

It should be appreciated that this conference was a milestone in California SAR history, however, this report does not necessarily reflect the views of the MRA, California Region's officers and members. This is a report of the authors, pictured here, the Chairman and Co-chairman of the 1975 California SAR Conference.

by Wes Reynolds and Lois McCoy



It was Dennis Kelley's suggestion at the October '74 Regional Board meeting that the California Office of Emergency Services be asked to co-sponsor the 1975 Conference. Mr. Bob E. Hill, with the approval of Mr. Wayne Kranig, Director Law Enforcement OES, did agree to co-sponsor in time for the first advance mailing to include the names of both organizations listed as co-sponsors. (Note: It is well at this time to indicate the Chairmen's opinion that this co-sponsorship by the California Office of Emergency Services added the national stature which enabled the Conference to sell out at 300 overnight fully paid attendees, numbering delegates from all eleven western states. In spite of high unemployment and high inflation cutting into the size of attendance at such meetings during Spring 1975, the attendance rose to 318 from 207 paid in 1971, the last previous CR/MRA Conference in Idyllwild.)

Wes asked John Wehbring of SDMRT to prepare the layout from his preliminary conference notes before Christmas 1974.

The layout was ok'd, printed and 1,200 addressed and mailed by January 15, 1975. This first mailing was done in 3 sections, as it was discovered that no adequate mailing list covering the Search & Rescue agencies and organizations of the eleven western states was available to the California Region/MRA.

Consequently, the co-chairman has now turned over to CR/MRA a mailing list combined from the mailing lists of the National MRA, the National Search & Rescue Coordinators, the National Jeep Search & Rescue Association, the Search & Rescue Magazine, and the San Diego Mountain Rescue Teams publication "Litter Letter." There are now 800 to 900 names plus the 500 to 600 names of MRA members in California and Arizona on this list now filed with the Secretary of the CR/MRA. (Note: This address list, although good, could certainly be improved upon. In any event, it must be corrected and brought up to date for each occasional use. A handy way to catch changes and omissions is for the initial mailing to be imprinted "Forwarding & Return Postage Guaranteed - Address Change Notification Form Requested." There is a 10¢ charge for each change of address, and it is well worth the cost in keeping up-to-date address lists.) The bulk postage rate at this time was .018¢ per piece, and the approximate delivery date throughout the eleven western states was within three weeks.

To continue: The Chairmen at this time were proceeding to finalize the plans for the Saturday night dinner entertainment. The promise of the film premiere "Thermal Wilderness" by Jim Lawless was received January 12, 1975. Conversations were going forward at this same time to obtain Mr. Don Anderson of the Mountain Fuel Supply Co., Salt Lake City, Utah, as principal dinner speaker. The usual difficulty now arose as to travel monies for all these out-of-state speakers. It was obvious that any travel monies would wipe out all chances of a profit.

The only exception was Cdr. Carl Meredith, whose participation had been turned down by the U.S. Coast Guard. Since Cdr. Meredith offered to take personal leave in order to attend, the Co-Chairmen purchased a 4-month reduced fare, New York to California and return excursion airplane ticket for \$270.

On January 27th, the contract with Buckhorn Camp, Idyllwild, California, was signed. A \$50 deposit was required for this.

At this time, it became evident that an advance tab of approximately \$1,000 would be needed to develop the plans as envisioned in order to obtain the greatest benefits for the region through advance publicity, etc.

The Chairmen now decided to fund this advance between themselves and at their own risk.

After the California regional Board meeting in late January 1975, opposition to everything and anything developed. Places, prices, programs, pressures, and panic were all prescribed by the doomspeakers. (Note: To all future Chairmen - Be Not Afraid - Press On.)

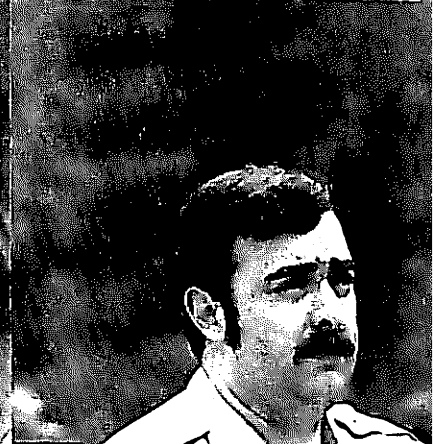
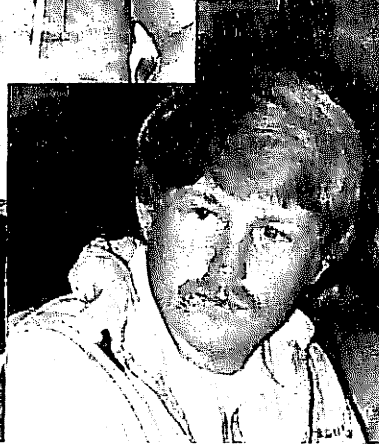
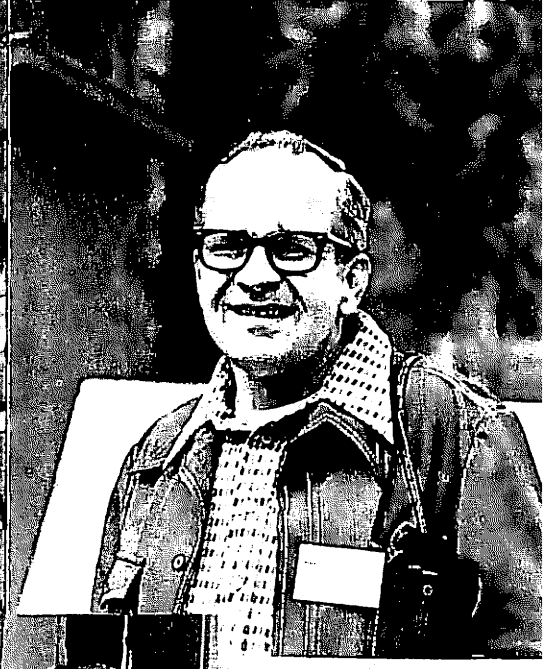
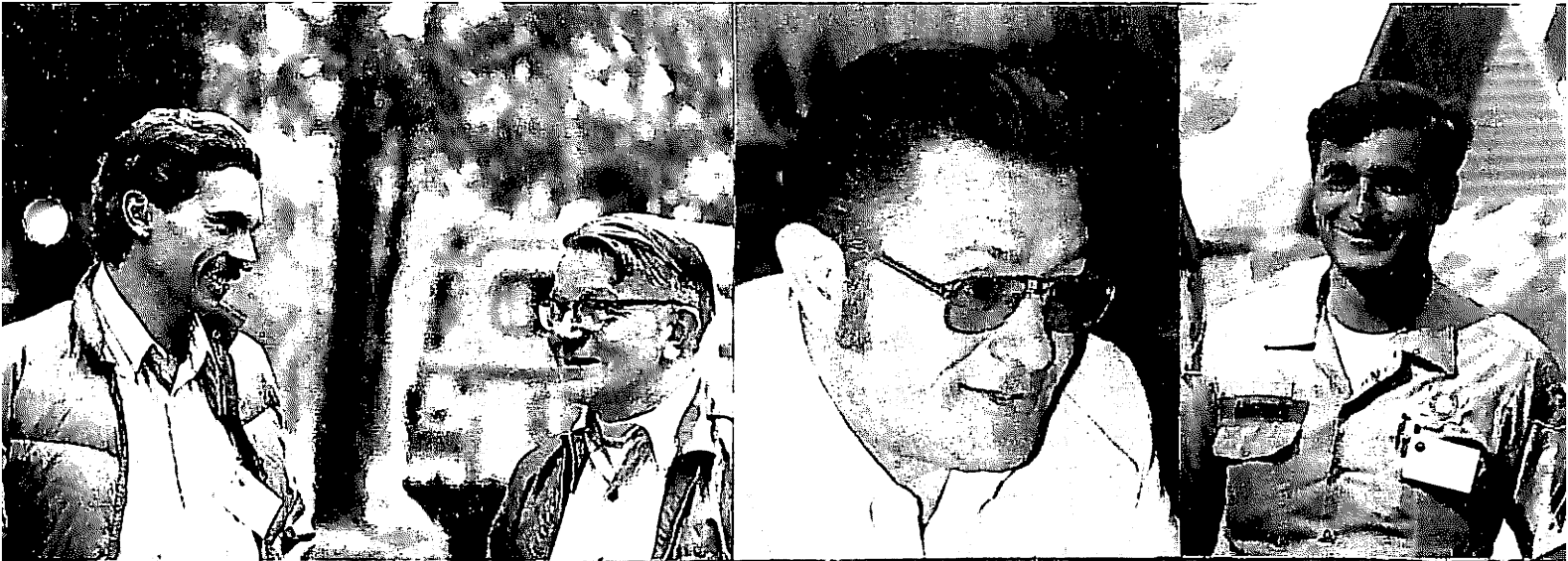
The Chairmen's original concept of the California SAR Conference '75 had been their desire to make available to California SAR personnel for evaluation and comparison the standards of SAR management being used and subscribed to in other organized geographical areas. This concept was a radical departure from the technically oriented Search & Rescue Technique & Equipment Displays previously features at CR/MRA Conferences, and it met with considerable resistance.

The basic questions finally boiled down to "Do We Want to Learn Something New?" vs. "Do We Want to Show Off What We Already Know?"

It was decided to hold to the original idea of the conference being a learning experience, since this was now a joint venture with the California Office of Emergency Services and not exclusively for the benefit of the Mountain Association teams but for the benefit of all SAR agencies within the state.

However, because of the Region's fears that attendance might be limited by the educational format, the Chairmen decided to "Show-Biz" the presentation to ensure a sell-out of the Conference.

(Note: It is the opinion of the Chairmen that the Show-Biz approach did not ultimately increase the audience. Those persons, in or out of state, who were interested in SAR management came because of the calibre and reputation of the men doing the talking. The "spear carriers" who were not originally interested in SAR management did not attend. The fact that 300 persons did attend and that the conference has received no feed-back sheets to date rating it below "good" should have increased the levels of SAR management concepts and understanding, not only in California but throughout the eleven western states. Any increase in efficiency, or any SAR concept made more effective, can produce an increased chance for Live Recovery. This increase in operational efficiency and consequent increase in live recoveries is what we are striving to obtain through training such as this conference.)



The Chairmen also decided to go to the "grass roots" of the California Regional teams' Membership Rosters in order to insure that each region member would have all the conference information and an equal chance to obtain the benefits of the training offered if he so desired.

To that effect, on February 1st, the Chairmen circulated "Insiders News Bulletin #1" giving MRA members a chance to pre-register in the event of the expected sell-out. Also, in an effort to give the MRA teams a chance to show their technical expertise and to provide a technical and equipment oriented side to the conference, the Chairmen distributed a letter to the Team Presidents requesting individual team support of a team exhibit at the Idyllwild Conference. Gene Thom was put in charge of coordinating these exhibits.

Also, the Team Presidents and Training Chairmen were requested to make the Conference team training for the month of May.

Within certain margins of human error, our count for MRA regional team members registered as PAID:

Percent Attendance of Current Roster		
30%	14	San Diego Mtn. Rescue
56%	13	Las Padres
37%	12	Montrose
39%	9	San Dimas
21%	8	China Lake
20%	7	Sierra Madre
18%	6	Inyo
11%	4	Bay Area
17%	4	Riverside
23%	4	Sylmar
8%	3	Hemet
?	3	Yosemite
16%	2	June Lake
6%	1	Altadena
?	0	Sequoia
	<u>90</u>	

CR/MRA attendance approximately 30% of total paid registration.

Also at this time, it was decided to "Show Case" the CR/MRA Regional capabilities not only in the exhibits but in informational handouts requested from each team, headlining anything they wished to feature regarding their own team rosters because of their confidential information, addresses, phone numbers, etc. 400 copies of any brochure was requested. A due date of April 1st for the receipt of these handouts was requested so as to provide lead time for the stuffing of 400 folders to be given out to conference attendees.

At this time, we now realized that we had a wide representation from both the Office of Emergency Services groups and MRA and volunteer rescue personnel. However, we were lacking in Sheriff's representation.

At Bob Hill's suggestion, we contacted Sheriff Larry Gillick, outgoing President of the California State Sheriff's Association, requesting that he consent to being the keynote speaker for our dinner on Saturday night of the conference. We also requested the assistance of the California State Sheriff's Association in obtaining official approval so as to insure a large representation of Sheriff's SAR Coordinators at the Conference.

Here we ran into a scheduling problem as it developed that Monday, May 19th, after our conference of May 17th and 18th, was the State Sheriff's Association meeting for 1975 and Sunday was executive sessions, travel time, etc.

This was eventually solved by Chief John McCoy, Riverside Sheriff's SAR Coordinator, representing the hosting Riverside County and being the Law Enforcement Keynote Speaker for the California SAR Conference '75.

In the continuing effort to gain a larger attendance among Sheriff's SAR Coordinators, etc., the Conference Committee distributed to the region teams a special registration price of \$18 for official team guests such as Sheriff's SAR Coordinators, etc.

Also, in line with the secondary theme of the Conference, "Coordination, Communication and Cooperation," the conference was given the "nickname" of Meet & Greet '75. This name caught on and proved to be a happy choice.

At this time, the original flyer for the first mailing was reprinted free in the February 1st 550-copy issue of the San Diego Mountain Rescue Team's "Litter Letter." It was also considered to reprint it as a full page ad in *Search & Rescue Magazine* at a cost of \$100. This idea was dropped because of the cost. (Note: Because of the number of comments as to *Search & Rescue Magazine* being where people first learned of the Conference, the Chairmen feel we may have made a mistake and recommend that the Conference use paid advertising in *Search & Rescue Magazine* in the future.)

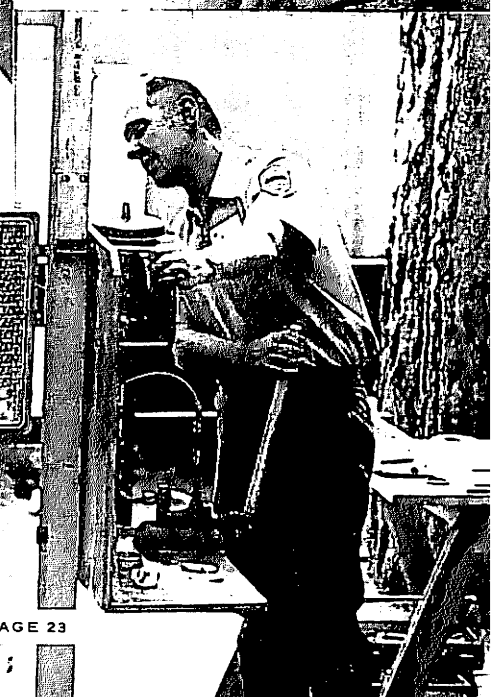
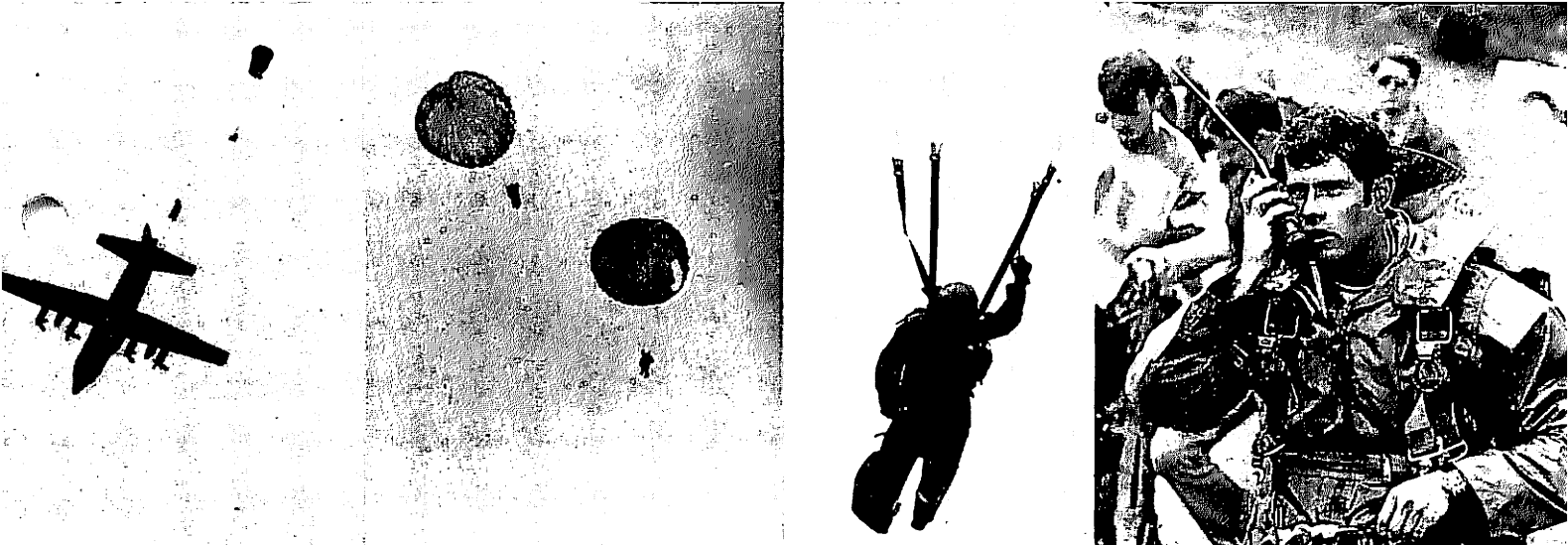
February 10, 1975 — The two chief moderators, Cdr. Carl Meredith and Bill Wade, National Park Service, had sent their written first drafts to the Chairman, Wes Reynolds.

The format was to be kept loose, questions and answers from the floor — much feedback, etc. The actual programming never was a problem as all the speakers were of a calibre which permitted an easy mastery of their topics and an enviable ability to "hang loose."

February 24, 1975 — Follow-up letters were sent, urging CR/MRA teams to supply team brochures for the SAR Conference Registration Packet.

Ultimately, only San Diego Mountain Rescue, the California and Washington State Offices of Emergency Services, Gene Fear's Survival Education Committee, and the California Region/MRA Preventive SAR Committee responded in time to pre-stuff the information in the Registration Packets.

However, China Lake, Riverside, and the U.S. Border Patrol did bring informational publications with them on the day of the Conference. This gives us a composite response from region teams of 21%.



March 1, 1975 — Saw another follow-up letter requesting cooperation for Gene Thom in arranging for CR/MRA team exhibits.

Ultimately, China Lake and Montrose had indoor exhibits; Riverside, Sierra Madre and San Diego had outdoor exhibits. This gives us a regional team response of 35%.

March 4, 1975 — This was the final date for mailing of the largest mailing for *Registration*. This mailing included the flyer giving all pertinent information, date, place, map, program, telephone number, a return registration envelope, and *most important*, indicated a \$5 late registration fee after May 5th. 1,500 pieces were mailed.

March 1975 — The negotiations for additional exhibits, demonstrations and expertise continued: Col. Jos. Henjum, Director, RCC, Scott AFB accepted. U.S. Border Patrol refused. Conference Co-Chairman arranged to meet with U.S. Border Patrol chiefs in Washington, D.C. in April. Don Anderson still undecided, etc. (Note: To future Chairman — In other words, Situation Normal — Press On.)

March 1975 — CR/MRA President OKs Feed-Back (Critique) Sheets. Teams asked to check on phone numbers and OK for CR/MRA informational distribution at Conference. Ten teams returned as OK, giving us a 70% response on this item. Buckhorn Camp Maps, Feed-Back Sheets, and CR/MRA telephone list ready for inclusion in Folder.

March 19, 1975 — John A. Duffy, Sheriff, San Diego County, agrees to enter resolution to endorse California SAR Conference before the 81st annual conference of the California State Sheriff's Association in Santa Rosa.

March 24, 1975 — Through the cooperation of Mr. Wayne Kranig, O.E.S., Sheriff John Duffy, and the members of the California State Sheriffs' Association, "Resolution to Endorse" passed unanimously. This seemed to increase the number of counties represented by Sheriff's personnel and was deemed highly beneficial as an indication of our effort toward mutual cooperation within the state.

April 1, 1975 — The reservations started to trickle in. See attached report of Reservation Chairman, Barbara Chaney. (Note: To future chairmen — have Barbara handle the reservations. Her's was the outstanding performance of the seminar.

April 1975 — Reservations appeared slow. It seemed indicated to put out a follow-up mailing. It had been hoped that this wouldn't be necessary, but we now believe it is an important concept to the whole package of "selling" the conference and that, in the future, the follow-up mailing should be budgeted and planned from the start. It doesn't have to be elaborate — just a single sheet flyer as a reminder that the time has passed and it's NOW. It should have a registration coupon form incorporated in it. 1,400 were mailed. It would have been helpful to have had them out by April 11th instead of April 19th, but no harm appears to have been done. 3 week delivery estimate needed for all bulk mailing.

May 3, 1975 — Board meeting CR/MRA. 165 reservations received to date. It now appears we must plan for split sessions. Figures predict that an attendance of 225 paid @ \$25 each is required to break even.

CR/MRA Board, over protest of Chairman and Co-Chairman, voted to establish a \$10 registration fee for persons not sleeping or eating at the camp. The Conference is not only a training effort but a California Region/MRA fundraising effort as well. For that reason, we feel that each CR/MRA member should support these efforts to the best of their ability and should pay full price for these same rewards.

It is also interesting to note that at least half of the late registrations received by mail from other than MRA personnel paid the \$30 late fee instead of the \$25 amount. This late fee had originally been thought of as only a "gimmick" to get reservations in on time. We feel it was very successful and should be continued.

Working very closely with Harry Penn, we decided to set up chairs for 275 in the Main Lodge and 75 in the Small Dining Room. Split sessions, simultaneous workshops, etc., are never satisfactory. We don't like them ourselves, but they seem to be a part of large conferences. We leave a better plan to the devising of future chairmen.

It is of interest to know that the meal with the largest attendance was Sunday breakfast with 299 trays being served.

The Chairmen were well pleased with the Conference. Our hope had been to assist in establishing a mutually responsive atmosphere in Search & Rescue in California, and we believe this aim was realized to a substantial degree.

We would like to conclude this report with a plea:

That volunteers in Search & Rescue assume the leadership in providing the impetus and focus for insuring that the lost victim receives the best in humanitarian assistance. Since we, as volunteers, have no budgets, no funding, and have done so much for so long with so little, now there are no limits to hold us. We're now "expected to do anything, forever with nothing." Therefore, let our understanding of the sometimes ill-perceived subject of Land Search & Rescue be the focus for our creative imagination in putting forward workable new solutions to some old SAR problems.

This would be an exercise in futility, however, if we could not share these new ideas, shortcuts and improved techniques with the other agencies and organizations who operate in SAR in our State. Many of these other SAR families are more deeply involved at the command levels of Search & Rescue than we are. As volunteers, we respond to their commands. Certainly then, if we only upgrade our capabilities without upgrading all the levels of SAR, we are headed for a frustrating era.

We have the tools. We have the interest. Now is the time for us to lead in cooperation, communication and coordination between the various groups and agencies involved in both controlling and supporting SAR activities in California.

We did faithfully try to make "Meet & Greet '75" a mutually responsive endeavor to include feedback from all organizations in order to benefit SAR groups, law enforcement agencies, and others interested in both training and actual operations. ■

LANTSAR '75 by Lois McCoy

(The Atlantic International Air & Surface Search & Rescue Seminar held at the Hotel Biltmore, New York City, April 22-25, 1975)

This international Seminar of 35 nations was hosted by the United States Coast Guard. It was designed to provide insights, guidance and recommendations to responsible international SAR organizations and it succeeded in all of that. It also opened an astonishing view into the future of Search & Rescue. Some examples: Search planning by computers; Global communications via satellite; Artificial habitats for protection of both air and sea passengers in arctic waters; Thermal jump suits for sub-freezing temperatures; Retro-reflective marking materials to glow in the dark and assist night searches; Water-activated emergency radio locator buoys called IPIRBS, which transmit the call of their ship. We felt like Buck Rogers in the twenty-fifth century — only it's still 1975.

And we weren't the only ones who felt that way. The following quotation is from the opening remarks of Admiral Owen W. Siler, Commandant, U. S. Coast Guard.

"The term 'Future Shock' from the book of the same name, has come into vogue here in the United States. One of the author's premises is that things are not only changing — it's getting faster. Maybe the word "snowballing" has gone out of fashion, but that is what is happening in the Search & Rescue profession — things are snowballing. Our job is to bring ourselves up-to-date, to see what new technology government and industry may have developed. See what new problems have evolved and determine which older problems may no longer exist."

The four-day Seminar was packed with new ideas, displays and demonstrations. The following speakers caught our interest:

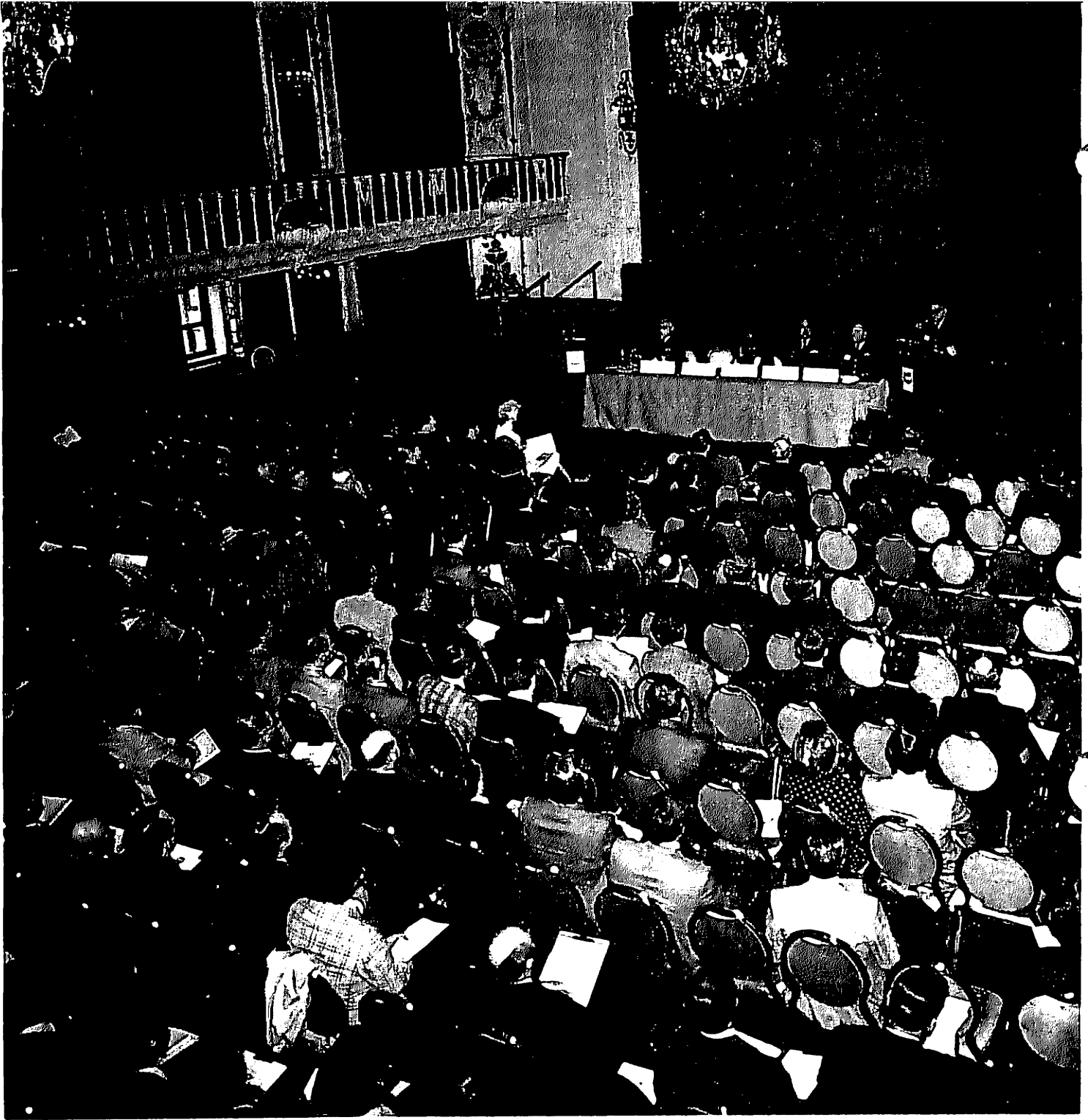
Interesting person and idea #1 on survival and safety design, George Sigler, one of two men who sailed a rubber raft on a U.S. Navy survival experiment from San Francisco to Hawaii in 52 days with a solar still and 1½ lbs. of Charms Candy each — nothing else to eat, that's all — honest.

Interesting person and idea #2, on Satellite Communications, Mr. Joseph Gutwein, U.S. Dept. of Transportation, Chief AEROSAT Project Office, relating to Satellite Data Communications. Formerly, among other things, he was project manager at Teledyne ADCOM for tactical communications systems hardware, satellite telemetry and navigation/tracking systems.

Mr. Gutwein's paper and the Dept. of Transportation display booth were concerned with test satellite communications for SAR applications. These tests involved coordination via the satellite ATS-6 of several ships, aircraft and ground/shore control centers. The taped recordings of the L band communications evidenced high intelligibility. Occasionally the voice signals were 20 to 30 dB above the noise floor.

Involved in this test were the U.S. Coast Guard cutter "Gallatin," the European Space Research Organization Nuclear ship, "Otto Hahn," the FAA's KC-135 aircraft and the ground/AMVER & RCC Centers of the Port of New York, thousands of miles apart. This time we weren't reminded of Buck Rogers — it was straight out of Star Trek.





Interesting person and idea #3, Mrs. Gloria Heath, one of only two women registered among the 400 attendees. She is Principal Director, SAR-ASSIST, Inc. and was formerly appointed as Expert (Consultant) to NASA. She holds a commercial pilots license and is a former winner of the Amelia Earhart Medal and the Barbour Air Safety Award.

Ms. Heath's presentation concerned the detailed NASA investigations that went into the development of the survival equipment necessary for life support and the safe recovery of the men aboard the space missions. For example: flame-retardant materials; liquid cooled garments for lunar missions; reflective insulation (now used in the

commercially available "space blanket"); a multi-layered insulated polar suit to balance the metabolic heat production and heat losses of a person, exposed to sub-zero weather and at rest while awaiting rescue (will hypothermia become a thing of the past?); shark-repelling devices featuring electrodes to surround the swimmer in the water and adversely stimulate the nervous system of the shark; a life jacket to support a pressure-suited astronaut, and "space food sticks" now sold in supermarkets. These are a low residue, compact, stable, balanced source of nutrition containing 44 calories per stick. What more can a grounded search and rescue man ask?



Interesting person and idea #4, John A. Douglas, MBE, Chief Inspector Her Majesty's Coast Guard, U.K., responsible for the communications modernization programs and for development of SAR coordination procedures for HM Coast Guard. Chief Inspector Douglas' paper was of special interest because it involved the use of VHF/FM communications in the coordination of SAR incidents. HM Coast Guard operates on a frequency (156.0 MHz) adjacent to the Mountain Rescue Special Emergency Frequency.

H.M. Coast Guard is well pleased with its VHF/FM communications system which includes lifeboats, helicopters, shore stations, 200 Coast Guard Land Rover vehicles, and 250 portable radios for cliff rescue work and beach searches.

Of interest is their use of a "high point" land repeater. It is operated by solar batteries and requires maintenance only once every two or three years.

H.M. Coast Guard is now looking at the cost effectiveness of satellite communications.

Interesting person and idea #5, Lt. Cdr. Joseph Discenza, Chief, Operations Analysis Branch, U.S. Coast Guard. Cdr. Discenza, while at Monterey Navy Postgraduate School, wrote his thesis on a Search & Rescue Computer Program which was accepted by the Navy and has been used operationally by the Navy and Coast Guard since 1969.

Computers are coming to Search & Rescue. We remember someone's penciled note found in the margin of our original draft of "Land Search Organization" re our remarks on the future of computerized SAR - it read "ARGGGG"

Well, purists aside, the future is here and so are the computers - AMVER, the original program, plots merchant vessels on ocean voyages, SARP solves the drift problem using standard procedures. CASP uses the technique of simulation in a new approach to search planning.

It is the CASP system which promises a possible application to Land SAR problems. It is now being used on an experimental basis for downed aircraft search. It shows promise for use in deploying ground forces on ELT searches in bad weather.

CASP can compute the highest area of probability, the probability of success, and search effectiveness for a mission.

SUMMARY

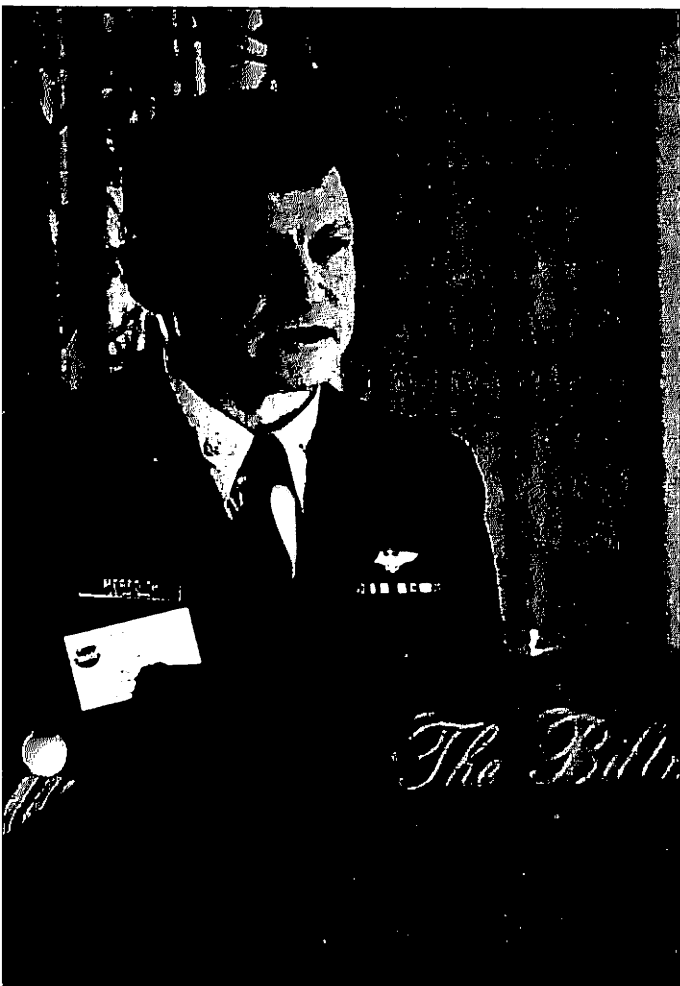
To know where we're going we have to know where we are. And in Search & Rescue "where we are" is hurtling down the roads of change.

Everyone deserves the same degree of personal safety, whether he decides to sail the sea, fly the airways or walk the mountains.

Air, maritime, and land SAR are all involved, each in our own way, in the effort to better provide this safety.

"After four days, we 400 people are certainly not of unanimity," said Adm. William Rea, III, USCG at the closing session of **LantSAR '75**, "but at least agreement is more likely, and disagreement more informed."

"**PacSAR**" the West Coast version of **LantSAR** is due in '78. We wouldn't miss it and suggest you don't either. ■



NATIONAL ASSOCIATION OF SEARCH AND RESCUE COORDINATORS
AWARDS PROGRAM

1. **POLICY:** Awards presented by the National Association of Search and Rescue Coordinators (NASARC) should recognize particularly outstanding service or achievements which have done most to fulfill the goals of NASARC.

a. **Hal Foss SAR Service Award:** This is the highest, most-esteemed, national award presented by NASARC. It will normally be presented no more frequently than once each year at the annual conference to the individual or organization who has made the most outstanding contributions to Search and Rescue.

b. **State SAR Coordinator Award:** This NASARC Award may be presented during the year, according to desires of State SAR Coordinator, to the individual or organization which has made the most significant contributions to Search and Rescue within NASARC member states. Based on the desires of the State SAR Coordinator, as expressed to the NASARC Awards Committee, this award may be presented at the annual conference; or, it may be announced at the annual conference and presented by the State SAR Coordinator at an occasion of his choice. State SAR Coordinators should attempt to get thorough local publicity in the area of the recipient.

2. **NOMINATIONS:**

a. The Chairman of the Awards Committee will contact each of the State SAR Coordinators from NASARC member states no later than two months prior to the annual conference and ask for nominations to be presented to the Awards Committee no later than one month prior to the annual conference. The State SAR Coordinator will either submit a maximum of three nominations or inform the Awards Committee that he will not be submitting individual(s) for consideration during the current year. All nominations received by the Awards Committee from the State SAR Coordinators will be considered for the Hal Foss SAR Service Award and the State SAR Coordinator Award.

b. Nominations for the Hal Foss SAR Service Award may be submitted by persons other than State SAR Coordinators who are familiar with the stature of this award and who are knowledgeable of individuals or organizations deserving this esteemed recognition.

c. Each nomination will contain information sufficient for fair selection by the Awards Committee and will not exceed two single spaced typewritten pages. The nominations may contain any information considered pertinent by the State SAR Coordinator, also, the nomination may, but not necessarily must include information concerning the following factors:

- (1) Individual daring, skill and perseverance while performing an especially outstanding SAR task.
- (2) Continuing SAR training programs and mission preparedness.
- (3) Length of service to and relations with the local community.
- (4) Establishment and maintenance of professional standards of SAR performance.
- (5) Individual self-discipline or organizational self-discipline.
- (6) Safety standards and safety record.
- (7) Individual or organizational membership in NASARC or other national SAR organizations.
- (8) Survival education and preventive SAR.
- (9) Efforts to promote coordination and cooperation between SAR individuals and organizations.
- (10) Recommendations from local and state authorities.
- (11) Technical contributions to the state-of-the-art in SAR.

3. SELECTIONS:

a. The Awards Committee will meet at the Annual Conference, consider all nominations, and submit recommendations for the Hal Foss SAR Service Award to the NASARC Board of Officers who will make the final determination on presentation of this award. All nominations will be considered, by state, for the State SAR Coordinator Award. The Chairman of the Awards Committee will submit a list of selectees for this award to the President of NASARC who may present the awards at the annual conference.

b. The Awards Committee will consider all factors contained in each nomination; however, the selection policy will remain flexible and there will be no fixed criteria or frequency for selecting and presenting the NASARC Awards.



P. O. BOX 8100 SALT LAKE CITY, UTAH 84108

7th ANNUAL NATIONAL ASSOCIATION of SAR COORDINATORS CONFERENCE



P. O. BOX 8100 SALT LAKE CITY, UTAH 84108

NATIONAL ASSOCIATION OF SEARCH AND
RESCUE COORDINATORS
1975 ANNUAL CONFERENCE

DATES: 4-7 December 1975

HOSTED BY: Colorado SAR Organizations

LOCATION: Regency Inn, Denver, Colorado

THEME: "SAR Life Saving - The Greatest Expression"

ORGANIZATION: This annual conference will be a forum wherein representatives of government, industry, states, national SAR organizations, local SAR organizations, and SAR volunteers can evaluate the state of all mediums of SAR lifesaving, using identification of persistent problem areas, critiques of existing procedures and discussions of newly-developed technology.

GOAL: Increased State, Federal, local and volunteer cooperation, improved techniques, full exploitation of the newest technology, greater precision and effectiveness in saving lives.

PROGRAM: General sessions may likely include: inland search strategy, preventative SAR, wide-bodied aircraft crash problems, SAR mission coordinators, computerized SAR, mission data to improve effectiveness, satellite communications, ELT SAR problems and procedures.

Workshops are likely to include: SAR operations, search status reporting, emergency medical, special SAR problems, SAR qualifications, helicopter SAR operations, SAR training exercise development, and discussion of the 1978 International Convention for Search and Rescue.

PAPERS ARE

REQUESTED: SAR interested personnel desiring to present papers in workshops are urged to forward suggestions by September 30, 1975 to:

President
NASARC
Colorado EOC
Camp George West
Golden, CO 80401.

Papers which are accepted will be distributed to all attendees during the conference and will be included in the final published proceedings.

"That Others May Live"

"SAR LIFESAVING - THE GREATEST EXPRESSION"

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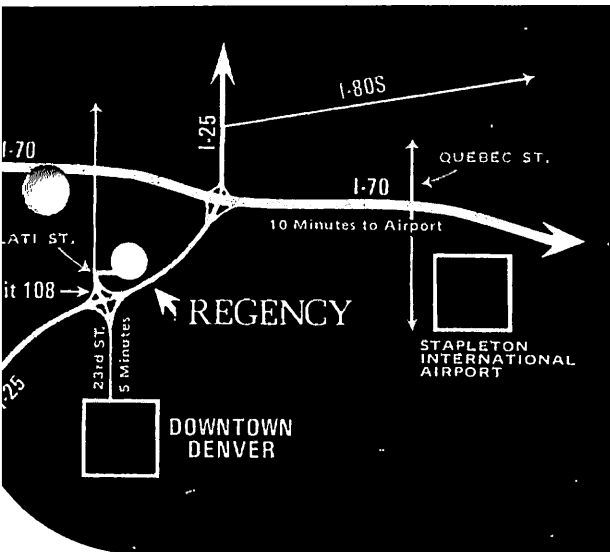
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| <input type="checkbox"/> Suite | <input type="checkbox"/> King Size |

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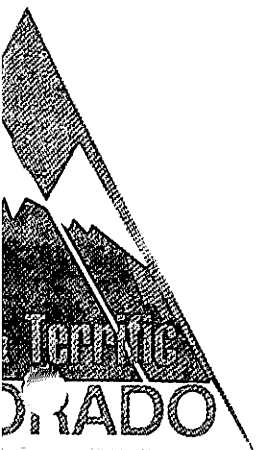
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COLORADO



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dial (303) 458-5555

★ Los Angeles Times Fri., June 27, 1975

RATTLER WAITING

Plunge in Shaft Only Half of It

BY ROBERT KISTLER
Times Staff Writer.

It wasn't a particularly good day for 13-year-old Charles (Dougie) Rice of Ridgecrest.

Rice, who was rabbit hunting in Kern County's Rademacher Mountains Wednesday with a friend, Dennis Turbett, 18, had followed a pair of wild pigeons to an abandoned mine shaft.

Peering over the side of the 60-foot-deep chasm, Rice lost his balance and fell in.

There was a momentary silence from the bottom of the pit, then Rice's shaky voice, telling first the good news . . . then the bad: "I guess I'm ok . . . my arm hurts a little, but . . ."

"Holy cow! There's a sidewinder down here!"

The youth had landed within 2 feet of the coiled rattlesnake.

But, instead of jumping back in panic, which probably would have produced an immediate strike from the 29-inch sidewinder—Dougie slowly inched himself to the far side of the pit.

Up above, Turbett, who had taught the younger boy the ins and outs of snake hunting, ran to the youths'

pickup truck parked some distance away and retrieved a snake capture stick.

The older boy lowered the stick to the pit bottom and Dougie carefully slipped the loop of wire attached to the end of the stick over the snake's head and pulled tight.

Then, apparently in no mood to try to take the snake to the surface alive, Dougie bashed the sidewinder's head against the side of the pit.

The boy then settled back to await his rescue.

Turbett went off to get help and, three hours later, Dougie—grinning from ear to ear—was hoisted to the surface in a sling provided by members of the Indian Wells Valley Mine Rescue Team.

"Thanks a lot," the boy said.

Dougie was taken to Ridgecrest Community Hospital, where he was treated for cuts and bruises and X-rayed for possible broken bones. There was none.

Thursday, while he remained in the hospital for observation, Dougie's friend, Turbett, busied himself skinning the rattlesnake.

"Dougie wants to make a hat band out of it," Turbett said.

Rescue Cost \$9.5 Million

From Reuters

WASHINGTON—The rescue of the cargo ship Mayaguez and its 39-man crew cost the United States \$9.5 million, according to Defense Department figures released Wednesday by the House Appropriations Committee.

'Kidnaped' Baby Found Alive in Desert by Police

LAS VEGAS (UPI)—A baby girl reported kidnaped five days ago was found alive by a police search helicopter late Tuesday night wrapped in two blankets and lying under a cactus, police said Wednesday.

The girl's mother, Pamela Clark, 20, reported to police that she returned to her home in Henderson Saturday night, was struck on the head and knocked unconscious by an assailant, and that the child was kidnaped.

Police asked Mrs. Clark to submit to a lie detector test Tuesday.

Officers said the woman, failing the test, confessed she made up the story. Mrs. Clark said she thought the child had died of natural causes and that she abandoned the body in the desert.

A police helicopter crew launched a search for the child and sighted her from the air with powerful spotlights Tuesday night.

The baby had been wrapped in two blankets, placed in a plastic car seat and abandoned under a large Joshua tree west of here. Police took the infant to Southern Nevada Memorial Hospital.

The baby had been exposed to heat and cold for several days without food, but hospital attendants said the child appeared in good condition other than a diaper rash.

The baby, Heather Clark, was born April 28. Mrs. Clark's husband, Jerry, is a hotel steward.



Amateur Radio operators are becoming still more deeply involved in SAR activities in California. Always of assistance in SAR emergency situations, they're now adding a weekly scheduled SAR communications net to aid the California Region/Mountain Rescue Association in the coordination of committees and SAR related activities. Ron Carlson, (WB 6KAU) San Diego Mountain Rescue Team, had the idea for establishing this net. He felt that the California Region Mountain Rescue Association teams spread throughout the State could be brought into closer communications and could more easily develop better working alliances through the weekly meetings via ham radio. Many MRA teams, both in California and in other MRA Regions, have amateur radio operators as regular, as well as support members. If successful, the California Mountain Rescue net hopes to expand to include MRA teams in other states as well as federal agencies with amateur radio capabilities.

The National Park Service will conduct a 5 day training session entitled "Managing the Search Function" at Grand Teton National Park, Wyoming, September 15-19, 1975. The course is designed specifically for those people who will be on-the-scene and in charge (the boss) of managing a search for a lost person. It is not for those "behind the scenes" coordinators nor for those actually doing the searching. It will concentrate on Search Theory, Strategy, Tactics, Planning and Utilization of Resources. It will also involve a field exercise.

Though primarily for National Park Service personnel, the course will be open to 15 people from outside the NPS. Total class size will be limited to 40. Approximate costs are:

- Lodging - \$12.50 per night per person
- Meals - Participant's choice
- Course Materials - \$25.00

Questions can be answered by calling Bill Wade (602) 638-2691. Interested individuals should apply by letter to: Albright Training Center, P.O. Box 477, Grand Canyon, Arizona 86023. Do not send money with application letter.

The National Association of SAR Coordinators (NASARC), administrators of the Hal Foss Memorial Fund, would like to acknowledge the following contributors.

Wilderness Institute of Survival Education
Bob Whitmore, President
3380 Parfet Street
Wheatridge, Colorado 80033

Blair Nilsson
Colorado SAR Coordinator
216 North Ford Street
Golden, Colorado 80401

U.S. Air Force Coordination Center
Commander Glenn R. Sullivan, Brig. Gen. USAF
Scott AFB, Illinois 62225

Mrs E. A. Kelly
Pocatello, Idaho

Mr. and Mrs. Ome Daiber
8837 NE 161st Place
Bothell, Washington 98011

Northwest Bloodhounds SAR
307-5th Avenue NW
Puyallup, Washington 98371

CALENDAR

September 9-10, 1975
NATIONAL SYMPOSIUM ON CATEGORIZATION OF EMERGENCY CAPABILITIES
Conrad Hilton Hotel, Chicago, Illinois
Lee Shuck
U.S. Dept. of Health, Education and Welfare
Div. of Emergency Medical Services
6525 Belcrest Road, Suite 320
Hyattsville, Maryland 20782
(301) 436-6290

September 15-19, 1975
MANAGING THE SEARCH FUNCTION
Grand Teton National Park
Bill Wade - National Park Service
Albright Training Center
P.O. Box 477
Grand Canyon, Arizona 86023
(602) 638-2691

September 20-21, 1975
NATIONAL SURVIVAL FAIR
Camp George West, Golden, Colorado
Capt. Tom Staadt
P.O. Box 13117
Ft. Carson, CO. 80913
(303) 599-8218

October 2-5, 1975
CIVIL AIR PATROL NATIONAL BOARD MEETING
St. Louis, Missouri
HQ CAP-USAF/AC
Maxwell AFB, Alabama 36112

October 14, 1975
Rick LaValla's 20 Birthday.

October 29-November 1, 1975
MOUNTAIN MEDICINE SYMPOSIUM
Yosemite National Park
Donald Rees, Exec. Dir. Yosemite Inst.
Yosemite, CA. 95389
(209) 372-4441

November 10-14, 1975
NATIONAL AVALANCHE SCHOOL
Reno, Nevada
Dale Gallagher
Deschutes National Forest
211 NE Revere St., Bend, OR. 97701
(503) 382-6922

December 4-7, 1975
NATIONAL ASSOCIATION OF SAR COORDINATORS
7th ANNUAL CONFERENCE
Regency Inn, Denver, Colorado
Blair Nilsson, NASARC President
Colorado EOC, Camp George West
Golden, CO. 80401
(303) 279-1101

LETTERS TO THE EDITOR

Dear Dennis:

The article "Man Tracking" by Lois McCoy of the San Diego Mountain Rescue Team (SAR Magazine, Spring 1975) was most inspiring, and I was glad to see additional credit given to Ab Taylor's formulas for effective search.

One problem which occasionally confronts us all is the situation where a child (or an adult) is lost but no immediate tracks are identified and the search personnel are furnished only the victim's shoe size. The obvious question might then go like "How big is a child's 8-1/2 shoe?". The accompanying table is offered as an aid to solving this problem, and it should be a handy tool for isolating the subject's track from among others that may be in the area.

Note that the tabulated sole dimensions are for tennis shoes. Tennis shoes have surprisingly uniform sole outlines among the different brands (say, within 1/8 inch consistency) and this is not true for leather shoes in general. The writer can't guess probably within an inch the length of a given shoe size so the table is used; tracks from any kind of shoe can then be ignored if they are smaller than the table indicates. To handle half-sizes, it is easy to interpolate between the full size dimensions shown.

Incidentally, the table should never replace efforts at obtaining a duplicate shoe to aid in positive track identification whenever doubts exist.

Kind regards,

Fred Camphausen

China Lake Mountain Rescue Group
Indian Wells Valley Search and Rescue Team



Tennis Shoe Track Dimensions in Inches (See Notes)

Shoe Size	Overall Length	Sole Width	Heel Width	
Youth's	8	6-7/8	2-3/4	2
	9	7-1/8	2-3/4	2
	10	7-1/2	2-7/8	2-1/8
	11	7-3/4	2-7/8	2-1/8
	12	8-1/8	3	2-1/8
	13	8-1/2	3-1/8	2-1/4
Boy's	1	8-7/8	3-1/8	2-1/4
	2	9-1/4	3-1/4	2-3/8
	3	9-5/8	3-3/8	2-3/8
	4	9-7/8	3-1/2	2-1/2
	5	10-1/8	3-1/2	2-1/2
	6	10-3/8	3-1/2	2-1/2
Men's	7	10-3/4	3-5/8	2-5/8
	8	11-1/8	3-3/4	2-3/4
	9	11-1/2	3-7/8	2-7/8
	10	11-3/4	3-7/8	2-7/8
	11	12	3-7/8	2-7/8
	12	12-3/8	4	3

Notes:

- 1) Grant's Jumpshot and WDF shoes.
- 2) Dimensions to nearest 1/8 in. for new shoes.
- 3) Add 1/8 in. to each dimension if wear is more than 1/16 in. (to include edge of band around sole) or if track is deep.
- 4) Approximation for other shoe styles: sole dimensions vary, but add 1/4 in. for rough estimate.



HORSE COLLAR PERIL

A member of the Mountain Rescue Council of Seattle received severe injuries in a fall from a "horse collar" in January, 1975 while attempting to cable from a Chinook helicopter into a plane crash site. The light plane which had crashed in dense timber had known survivors on it. The Chinook hovered nearby and lowered Al Givler the full length of his cable into the trees. Al was still 40 feet off the ground. By the time the winch had pulled Al back into the helicopter he had slipped out of the harness and fell 150 to 200 feet into soft snow, receiving a basal skull fracture. Al reported that his arms had gone to sleep, and he had lost his strength. The crew subsequently experimented with the "horse collar" suspended from a hanger and found that the "horse collar" interfered with the flow of blood into the arms and that all of them eventually fell out in between three to six minutes. The moral of this story is either use a jungle penetrator or your own rappelling harness supplemented with a chest loop (if they will let you). Use a "horse collar" only on a short, clean lower. Fortunately, Al is recovering very nicely.

Paul M. Williams - Operations Leader ■

by Rick LaValla

WASHINGTON STATE SAR COORDINATOR

SUPER GREAT NEWS! The National Association of Search and Rescue Coordinators (NASARC) has been appointed an Ad Hoc Member of the Federal Inter Agency Committee on SAR. Representation on this committee will provide a channel for grass-roots information flow to our government on our SAR problems.

The Washington State Helirescue Manual (1972) has been reprinted under a new title *Helicopter Operations and Personnel Safety*. These guidelines are intended to assist ground rescue personnel in performing safe and efficient operations in and around helicopters. Single copies are available by writing to me.

Stormy Weather SAR for ELT's is a 14-page publication containing guidelines and SOP's to aid in the initiation of a ground search for an Emergency Locator Transmitter. It also contains schematics and details for the construction of a DF receiver and antenna. 25¢ will cover the cost of printing and mailing. Write to: Survival Education Association, 9035 Golden Given Road, Tacoma, Washington 98445.

The San Diego Mountain Rescue team has been doing a lot of work in the development of preventative search and rescue (PSAR) programs: "The most successful rescue is the one that wasn't needed". For a packet of information on PSAR programs and guidelines for public presentations (bulletin #2) write to California Region/Mountain Rescue Association, Public Safety Education Committee, P.O. Box 2123, La Jolla, California 92038 or write to me. Also ask for copies of *Man in the Heat* by Mike Corcoran and *Exploring Energy* by B. R. Spitz, M.D.

An excellent manual on establishing a base camp information unit has been developed by the Seattle Explorer Search and Rescue Information team. The comprehensive manual covers duties and functions of an information team, training, mapping, plotting, surveying, maintaining rosters and radio logs, gathering and disseminating information ad infinitum. Send \$1.00 to Western Region Explorer Search and Rescue, 1111 NE 195 Seattle, Washington 98155.

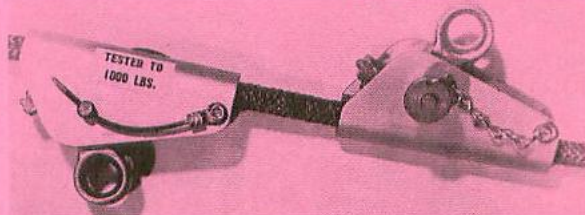
We still have plenty of free SAR cost accounting guides.

What is new, innovative, or happening in your area? One of the keys in updating SAR techniques is sharing ideas. I need your input. Send anything (we will print it) to Rick LaValla, 4220 E. Martin Way, Olympia, Washington 98504. ■

GIBBS ASCENDERS

Each Ascender is tested to 1000 pounds. Its smooth rounded teeth produce little or no rope damage.

Especially applicable to equipment haulage, group ascents, fixed rope and rescue operations. Operates on icy or muddy ropes.



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ELT DIRECTION FINDER

THE LITTLE L-PER

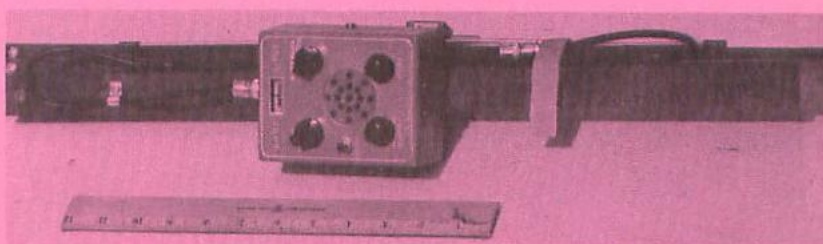
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Now, after three years of field testing and engineering refinement, the LITTLE L-PER DF unit is available to your rescue team and police and sheriff's departments at a reasonable cost. We invite your comparison with any other unit, even at many times our prices. We think that the more you look, the better we look. Some features:

- *Left-right pointing as well as signal strength meter.
- *Set-up, take-down time: 10 seconds, with gloves.
- *Rugged, shielded metal case. Operates in rain/snow.
- *Selective and spurious-free; you hear only what you're supposed to hear.
- *Almost unbreakable antenna rods.
- *Adaptable to aircraft, vehicle, monitor use.
- *No 180° ambiguity.
- *Selectable polarization.
- *Crystal control for stability.
- *Built-in meter light.
- *Built-in UHF receiver optional.
- *12/24 volt external power.
- *Extensive operating manual.
- *One-year parts and labor warranty.
- *In lab and field comparison tests, we won!

L-Pers are now in use in all corners of the U.S. by CAP, mountain rescue teams, FAA, NASA, National Guard, law enforcement, and amateur radio groups. Typical comments are: "If you get the impression that we are happy with our Little L-Per, you're right!" (Alaska). "You can borrow my L-Per, but I come with it," (Indiana and Colorado). "The model...performed much better than any other previous units tested...including the very high priced units..." (Independent State Laboratory).

Interested? Write or call for complete data and options list. We are proud of our statistics. L-Tronics, 5546 Cathedral Oaks Road, Santa Barbara, California 93111, Phone (805) 967-4859.