
NZLSAR News

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SAR Goes to the Dogs

The following photograph and article is received with appreciation from the **Westport News**.



Miska sits with her find "victim" Jason Hawes, owner Larry Charles (left) and Buller SAR member Pam Cocker at Conns Creek

Search dogs could become Buller Search and Rescues next recruits. Local SAR members and others as far away as Karamea and Greymouth SAR watched as two Murchison based Alsatians performed a frenzied search at yesterday's (19/20 February) annual training exercise.

Buller SAR Adviser Ross Cocker said dogs could be another tool in the search for missing people, just as global positioning systems and helicopters were used.

I think the dogs are a tool that we would use in difficult circumstances to find people. The

dog was absolutely marvellous, she bolted up the track looking for the lost party.

SAR would be more than happy to hear from anyone with a dog that could be trained to the high level required.

Some dogs and trainers cover 25km a day over flat terrain in the search for a missing person.

About 30 people attended the exercise which revealed only a couple of minor changes to the way Buller SAR operations are run, Mr Cocker said.

Larry Charles sent in the above article. Larry with his Police assessed dog Miska is keen to be involved in training and operations in the Tasman area and can be contacted on **03-523-9946**. For those who live in this area, putting these details in your "SAR Plan" could be a wise investment in time.

Canterbury District SAREX

The Canterbury District SAREX was held on the weekend of 10 – 12 March near Lake Lyndon in inland Canterbury. The weather was clear and fine.

98 people, including members of the NZ Land SAR National Training Subcommittee and the National Police SAR Co-ordinator, participated in a weekend of navigation, observation skills, search techniques, problem solving, a field exercise and watched a search dog demonstration.

Navigation

Teams of four to five participants were given a list of 32 locations to find. Four methods of navigation were used:

- ?? specific grid reference,
- ?? triangulation from known positions to identify the unknown location,
- ?? 'Feature' identification,
- ?? Following a specific bearing for a nominated distance.

The results indicated that navigation skills varied considerably between participants and that this is a topic that should be included in future training.

Observation

The observation round-robin activity involved three phases.

- ?? A "static" observation exercise. This was a "tennis court" sized roped off area of grass and scrub. The participants looked into this from a ten metre long walk at one end and had a set time to spot the 20 "foreign objects".
- ?? A "mobile" observation exercise. This was a 100 metre long track through scrub, over a small stream, trees and tussock. Each participant had a "guide"

to ensure it was done at no less than a slow walk.

- ?? A "distant scanning" exercise. This was a 300 metre high tussock hillside viewed with binoculars from a distance of half a kilometre. Objects were laid out or partly concealed and included small cairns, paper targets, a strobe light that occasionally flashed and an battery driven mechanical arm that from time to time appeared, waved and then disappeared

The overall results indicated that the observation skills are improving since this type of exercise was started about three years ago. The more time allowed "to observe" increased the success rate to about 60 to 70%.

Search Techniques

Participants were introduced to "purposeful wandering" a search technique that was used in a search late in 1999. Purposeful wandering involves a line where every third person followed a specified compass bearing and the two people on either side "wander" and search likely areas.

Field Exercise

The field exercise, or SAREX, started late Saturday afternoon. Exercise planners had three identical scenarios in order to maximise the training opportunity for the headquarters "overhead teams" and field teams.

The search areas were allocated to enable each HQ and their four field teams to operate in a specified area searching for a distressed person. Emphasis was made of "lost person behaviour" and what actions a "despondent" is likely to have followed.

Radio communications were on VHF radio with a repeater and radio frequency allocated for each area.

All searches were successful with the "victims" being located late on Sunday morning and all participants returned to base for lunch and a de-brief on the various activities.

Search Dog Demonstration

After the de-brief and lunch a briefing and demonstration of how search dogs work was held. The demonstration ended with a question – answer session before participants dispersed.

Peter Summerfield

O/C SAR Canterbury District

Siting of Repeaters

Search and Rescue communications on VHF are becoming more widespread and have proved to have many advantages. There is no time wasted between scheduled transmissions as with HF and the radios used are lighter and more convenient.

Search teams in the field appreciate being able to monitor the progress of the search. Search Controllers are able to quickly divert teams and resources at any point in time. Hand-held VHF radios have an effective range of 500 metres in wet bush. This can be extended considerably with the use of VHF repeaters or lightweight cross-band repeaters positioned to provide maximum coverage.

There have been many instances where Base operators have found that they have better communications with teams in the field on simplex (talk-around) than through repeaters which have been poorly sited. This paper is offered in an attempt to assist in the correct location of repeaters whether they be standard VHF Repeaters or the smaller Cross-Band (Pole-top) type of repeater. A separate paper will be prepared to compare the virtues of each type of repeater.

There is no substitute for experience, and every location has its own particular problems, but the points below may help to avoid some of the difficulties experienced in the past:

1. Consultation

The boundaries of the search area should be defined to determine the coverage required. It may be necessary to deploy more than one repeater to achieve complete coverage. The Communications Manager and the Search Controller should discuss the problem together and investigate the various options for

the repeater site(s). If the chosen site is a success, they share the credit - if it fails, they share the blame.

2. Access

It is preferable that the site chosen for the repeater be readily accessible. If the defined search area changes or is expanded, it may be necessary to retrieve and re-locate the repeater. VHF repeaters are fairly heavy and should not be carried long distances. For long or steep hauls, the use of a cross-band (pole-top) repeater should be considered.

Repeaters are fairly complicated and there is much to go wrong. Failure may result from a loose connection in either the coaxial cable or the battery supply, or the battery itself may have expired. There may be times when it is necessary to change the channel being used because of interference. These alterations or repairs can best be carried out quickly and efficiently if the repeater is located close to base or accessible by road.

3. Locating the best site

The worst place to install the repeater is under the canopy in dense bush. Choose a location where at least half the length of the aerial can protrude above the bush or scrub. Cross-band repeaters could be installed by climbing a tree and fastening the poles to the trunk of the tree to ensure that the aerial has a clear view over the search area. One of the most common mistakes is to choose the highest available site. The nature of VHF vertical aerials is to radiate signals sideways and at an angle **upwards**. Apart from the effort in carrying the equipment to a high point, there will be an effect, which

gives better communications to field parties furthest away from the repeater. As field parties move closer to the shadow area under the repeater, signals will become weaker or even disappear. A lower hill or mound within the search area could be ideal and it is easier to set up and retrieve the repeater by search parties moving through the area as part of their normal routine. By locating your repeater in an area **below** the search area, the radio signals can travel up the valleys to the parties in the field. It is most important that the repeater is sited not only for the field parties but also so that Base has access. There are many theories as to why repeaters work so well in the bush, which is an unfriendly environment for VHF. In practice, it has been found that best results are achieved by placing the repeater in a position where the radio signal is not too far above or below the forest canopy. It is thought that the signals are able to skip along the tops of the trees or scrub in a manner similar to skipping a stone across water. This may explain why the low angle of entry is more successful than a high take-off point. In those parts of the country where there is little or no bush coverage, it is probably better to mount the aerial closer to the ground - perhaps even on top of the repeater itself.

4. **Multiple repeaters**

If the search area is large, or if a large SAREX is taking place, it may be deemed necessary to install two repeaters. Placing the repeaters on the same site should be avoided. It has been known for the radiation from one repeater to affect the other to such a degree that the microprocessor chips inside the repeater have become contaminated and need to be re-set in the workshop. There could also be problems with the repeaters de-sensitising each other or in some instances, cross-modulation may occur. Should there be no other choice but to install them on the same general site, the repeaters should be located at least 20 metres apart and separated by ground contours. The

decision to utilise more than one repeater would also increase the number of operators and equipment required at Base.

5. **Installation**

It is preferable that at least one member of the party installing the repeater has had previous experience. A recommended practice would be to set up the equipment under supervision before leaving base to ensure that it works and that it is on the correct frequencies. There are many different types of repeater and any problems would best be solved before leaving base. On arrival at the proposed site, the Base station should be called on a hand-held radio to ensure that Base will be able to access the repeater once it is installed. If it is now considered that the site chosen may be too high and could transmit over the heads of the search teams, the aerial could be installed with a pronounced lean in the direction of the search area so that there will be some radiation in the downward direction. It is most important that at least part of the aerial be above the bush canopy. If this is not possible, radio to Base for further instructions. A clearer site lower down may be preferable to a higher altitude. In all cases, the repeater should be protected from the weather and aerials securely fastened so that they are not blown over by high winds. After installation, operation of the repeater should be checked with Base. Careful note should be taken of the location and the Grid Reference should be transmitted to the Communications Manager.

6. **Base set-up**

There are many considerations when choosing the site for Base. There should be consultation between the Search Controller and the Communication Manager before a final choice is announced. As far as communications are concerned, Base should be located away from high tension power lines, out from under the bush canopy with room for HF aerials if required, and with potential to operate simplex to search teams

prior to repeaters being installed, or in the event of repeater failure. Because of the need for transportation of heavy batteries and equipment, good vehicular access would be preferred. Aerials should be mounted on poles, which are at least 7 metres tall. This may not be necessary for repeater access, but could make simplex contacts possible for teams outside the repeater coverage area or in the event of repeater failure. At least two sets of poles should be available for use at base. Cables and equipment should be checked after each operation to ensure they are in good repair.

7. Care of the equipment

When the repeaters, poles, cables and aerials are being transported

either by road or in packs, it should be remembered that this is not military-spec equipment. In vehicles, the repeater is best placed on a seat or cushion. The aerial should be secured alongside poles, or with the poles in a proper carry bag. Cables should be neatly coiled without twists. Any defects after use should be noted on paper and left with the equipment. If log sheets are provided, they should be completed to record the proper history of the use of the repeater. The repeater and associated equipment and cables should be checked carefully after each operation by a designated person and batteries re-charged ready for the next operation.

Jim Rowe
AREC Thames

Comments of appreciation from two lost people

Recently Thames SAR was involved in an operation for two middle aged Dutch tourists. It extended over two days for the 65 and 63 year olds and the rescue phase took some six and a half hours with the lady being carried the last few kilometres in a stretcher. Shortly after the event Thames SAR received a generous donation and a letter of thanks. A copy of the letter was forwarded to me with the thought of including it in the News, which I do with pleasure. The sentiments and message of appreciation are universal and can be extended to all who are involved with land SAR. The letter reads:-

Dear unknown helping friends.

The first thing we will do is to make our apologies about the lot of work we made you, as well as the Police and the volunteers of the rescue team.

The wasn't the kind of adventure we were seeking. We like very much walking special in the Coromandel with the big trees and famous kauris. However we made a big mistake in continuously following of the orange signs. To tell you the whole story takes to much time, but as you know we walked a lot of hours and we also made a lot of prayers and we believe. He save us again in his own way. He saved us from raining, accidents, and very important panic and fear. It was cold in the night but not very cold, the moon was shining very bright.

So we tried to sleep a little, very close together and in the morning we walked up to the Tapu Road and in that way a team of your volunteers meet us so we hugged them as you understand very well with tears in our eyes. And then there was the excellent service and care:- chocolate cake, hot tea or coffee, a warm jersey and his warm interest in our situation. There was no condemnation in the whole team of about 10 or 12 people, only kindness, helping hands and comfort and that are things who makes a country great.

What we saw from NZ was very very nice but in the way we were helped and saved makes your country nicer than any other thing.

We thank you really for your service and we wish you too what Jesus said "and I the King will tell them, when you did it to these my brothers you were doing it to me. Matt 25 : 40

*Marius and Hannie de Graaff
The Netherlands*

North Island Vertical Rescue Workshop

A NZLSAR sponsored vertical rescue workshop for North Island practitioners of this SAR discipline was held over the weekend 28/29/30 April. The site, some 20 kilometres from Cambridge, was a 20 metre high line of bluffs abutting a lush cow paddock, which provided suitable camping. Arriving in the dark one was fully aware of being in the Waikato dairy country from the odoriferous wafts of the mounds left by the recently departed inhabitants. Care was needed in choosing a tent site!

Saturday morning dawned misty, sufficient to hide the tops of the cliffs but cleared midmorning. In the night nearly 70 people had assembled and after breakfast an introduction and briefing session was held.

The first item on the agenda was safety and with a mistake perhaps meaning a longish drop with a sudden stop, this was stressed all weekend. Three "Safety Officers" were appointed and were: -

Don Bogie from St Arnaud. Don's background as Rescue Team Leader at

Ruapehu, Mt Cook and author of a number of rescue manuals was a good choice.

Grant Prattley from Mt Cook. Grant is the Rescue Team Leader at Mt Cook and is fully involved in SAR on a daily basis. He was fresh back from a week long rescue course in Canada.

Murray Cullen. Murray is the Leader of the Christchurch Alpine Cliff Rescue Team and was heavily involved in writing the draft ACR Standards when he was the NZLSAR Specialist Subcommittee Chairman.

The ten different groups present were given as a "show and tell" exercise, three tasks for the day. These were:-

- ?? Set up an anchor and systems for a patient lower.
- ?? Arrange a system for a casualty raise.
- ?? And finally to rescue a person dangling on the cliff.

When the Teams had installed their systems everybody gathered at each site and watched as it was performed. Weaknesses and strengths were assessed and from the

ensuing discussion individuals gained ideas for improvement of their methods.

After lunch the task changed to lifting a patient or weight from the paddock below. This worked with various degrees of success, in part dependent on the weight in the stretcher. It was dark as the last patient came up and the usefulness of the caving fraternity was put to good use in aiding all off the cliffs.

Sunday morning and each Team gave a report on the teams history, composition, training and operational activities. The Teams that contributed and the information that came to light included:-

- ?? **Auckland Cave Rescue Team.** This Team concentrates on wilderness type rescues, aiming to be "lightweight" and able to effect a rescue with the member's personal gear.
- ?? **Blackwater Rafting Rescue Team.** A commercial company based at Waitomo Caves, they are a 15 person strong group who undergo a specific four day training course per year. They are using Single Rope Techniques (SRT) on a daily basis with clients and are available for local rescue very quickly.
- ?? **Auckland Fire Service High Rescue Team.** Based in the city, they have 40 persons (ten per watch) trained for high angle rescue. They are well practised in urban situations and have the equipment and training for confined space rescue with toxic gases.
- ?? **Laingholm Cliff Rescue Team.** A long established group from West Auckland with lightweight portable gear.
- ?? **North Shore CD Rescue Team.** Reformed in 1998 and with some land SAR participants, this group trains for largely urban rescue three times per month.
- ?? **Opotiki CD Rescue Team.** This team is also made up of land SAR participants
- ?? **Tauranga CD Rescue Team.** A small team with a CD background that meets weekly.

?? **Thames SAR Rescue Team.** This was a group from within the Thames SAR organisation. They saw their role as having sufficient capability to stabilise a situation only. The Thames rescue strategy is to then bring in experts to effect the rescue.

?? **Waitakere CD Rescue Team.** This is a comparatively young rescue team and not yet fully operational. They meet weekly and have members in the Auckland FIRST SAR group

?? **Wellington Police/Free Ambulance Rescue Team.** This is a composite group with personnel from both organisations. They have documented procedures and rescue manuals and individual training and operation log books. They have to train for a minimum of 75 hours per year and have an individual annual assessment for physical and technical competency.

Finally a display on how easily a loaded rope can be cut through was given by the Auckland Fire High Rescue Team and a rescue half way down the cliff by the Hamilton Tomo Group finished the weekend.

While much was learnt by the participants, the members of the NZLSAR Specialist Sub-Committee present also have much to think about. Such things as Cliff Rescue Standards, the training required to reach the Standards and how this will be given, all require further development. The weekend has given the Working Group plenty of direction for these Standards. Another aspect is the number of other organisations, ie Civil Defence groups, involved in this activity and the need for NZLSAR to ensure application of Standards if these groups are to be operational under the auspices of NZLSAR.

Barry Were	Chairman	Underground Subcommittee
Peter Cameron	Chairman	Specialist Subcommittee

A Reminder – A Reminder – A Reminder – A Reminder – A Reminder – A Reminder

- ?? **MSO Courses.** Are you an Adviser, do you want to go on one of the week long MSO Courses? All Advisers have been sent a letter calling for interest in attending. If you wish to be considered, please send your application form to **NZLSAR, PO Box 12081, Thorndon, Wellington** to arrive by **9 June**. The Training Subcommittee, in consultation with the Regional Committees, will make a final decision as soon as possible after that date.

- ?? **A Conference.** The Committee is considering holding some form of Conference on the weekend of **19/20 August** when they are together for a committee meeting. If you wish to attend or have thoughts on this subject, please contact the NFO **by 9 July**
- ?? **National office contact details.** The contact details on the organisations letterhead have changed. I am reluctant to throw out several reams of paper so if by some remote chance I overlook blanking out the incorrect details, please remember the ddi is **04-470-7247** and the fax is **04-498-7406**.
- ?? **Positive media comments.** The West Coast has started a policy of turning peoples mistakes into opportunities for positive reinforcement. This has occurred after the local committee became concerned over the number of critical comments made in the media over people who get lost and are subject to a SAR operation. They decided to turn it into an opportunity to get a positive message across. For example, "if the people had been better equipped (with modern equipment) then the incident may not have happened", as opposed to "some idiot has gotten into strife" etc. This policy has merits and others could perhaps consider following a similar line when dealing with the media.
- ?? **Definition of SAR.** The definition of SAR that the Police operate under for land operations is: *Search and rescue shall be defined as any search for a lost person; or any rescue operation for a person who is known to be sick or injured in a remote bush, mountain or close to shore setting where there is or may be difficulty in locating the person; or where distance or location can be affected by weather conditions (e.g. alpine terrain) and also includes any operation mounted solely for the purpose of recovering bodies from a remote location.*
- ?? **RNZAF Helicopter Support.** At a recent meeting between Police and RNZAF the latter reaffirmed their continued availability for SAR. Although they have moved to Auckland and closed the South Island base temporarily because of the Timor crisis, they are still available to attend SAR's throughout New Zealand, with a crew on standby. Any area that needs the capability of a RNZAF helicopter or has an operation going into a second day should contact, via their SAR Coordinator, RNZAF Whenuapai for assistance.

Editors Comments A big thank you to **Larry, Peter, Jim, Barry and Peter** for your articles. To those who proof read and check the spelling and grammar, thank you also. Copy for the **August News** is most welcome and the close-off date is **Tuesday 25 July 2000**. Articles on gear, SAR training or operations are most welcome. Please either mail as neatly hand-written, printed hard copy or on a disc to **NZLSAR, PO Box 12081, Thorndon, Wellington**. Alternatively email it to **tristram.nzlsar@xtra.co.nz** Even if you have some thoughts on an article but are diffident in putting pen to paper, feel free to give me a ring on **04-470-7247** and we can talk it through. Regards **John P Tristram**, National Field Officer