
NZLSAR News

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Congratulations

The contribution of two people involved in land SAR were noted in the New Year Honours. **Richard Hayes**, helicopter pilot for Southern Lakes Helicopters received a Member of the New Zealand Order of Merit (MNZM). His company undertakes a variety of work around Fiordland and for the past 15 years has operated the Lakes District Air Rescue Trust. As a senior Te Anau Police Officer stated "Richards talent as a pilot, particularly when night flying has been vital to many rescues".

Another to receive recognition for his contribution was **Derek Quickfall** of New Plymouth who received a Queens Service medal for Public Service. Derek was first active in land SAR about 1953 when he was in the field as a team member. Team Leader, Field Controller and then he became an Adviser in the early 1950's. Derek has contributed, as a volunteer, thousands if not tens of thousands of hours. This has been not only on operations and exercises but in so many of the less spectacular areas such as exercise planning, organisation meetings and even investigation of new technology so the job "can be done better".

To both, from all involved in land SAR, congratulations. I am sure all who have been aided by your actions would add, "thank you".

Graham Thorp
Chairman, NZLSAR

4th Bush/Wilderness Search Dog Training and Assessment Course

The fourth annual bush/wilderness SAR dog training and assessment course was held in Dunedin 22-26 November 2000 with 19 dogs and 18 handlers in attendance. As well as more local participants, dogs and handlers travelled from Waitomo, Tauranga, Murchison and Canterbury at their own expense.

The instructors for the dogs/handlers on the course included in addition to myself, Robert Gibson, Andrew Pealing, John Wise, Dave

Steel and Dave Miller with one of his Police Dog handlers. All of these instructors brought to the course extensive knowledge and experience in training dogs for SAR, Police Work or as Gun Dogs. In addition, we were assisted by Clair Stafford, Paul Kelly, Paul Bedwell, Tric Moller, and Terry Thomas covering various aspects of navigation, canine first aid, SAR planning, and track and clue awareness. Peter Cameron, John Tristram, and Roger

Barrowclough also attended as observers for some of the course. The attendees and

grades are shown below.

Surname	First	City	Breed	Dog's Name	Assessment
Charles	Kim	Murchison	Shepherd	Echo	Trainee
Charles	Larry	Murchison	Shepherd	Mishka	Operational
Dodd	Mathew	Christchurch	Flat-Coat	Sara	Operational
Dougherty	Barry	Dunedin	Shepherd	Minou	Trainee
Grice	Jo	Waitomo	Bloodhound	Tellus	Trainee
Hartnell	Tim	Christchurch	Munsterlander	Sam	Not Suitable
Hickford	Ross	Tauranga	Lab	Zula	Trainee
Joseph	Graham	Christchurch	Lab	Jess	Trainee
Lambie	Ian	Dunedin	Lab	Nala	Novice
McDaniel	Lia	Christchurch	Lab	Manuka	Trainee
McKinley	Dave	Twizel	Lab X	Rocky	Novice
Milne	Markus	Dunedin	Curly-Coat	Kinsey	Operational
Pealing	Andrew	Dunedin	Lab	Khola	Trainee
Pearce	Emma	Christchurch	Lab	Jas	Trainee
Pike	Linda	Christchurch	Lab	Mij	Operational
Read	Chris	Dunedin	Bloodhound	Elle	Novice
Ronald	Graeme	Dunedin	Bloodhound	Bayley	Novice
Wooley	Brenda	Christchurch	Collie	Milo	Trainee

The Assessors on the course included myself, Robert Gibson, Andrew Pealing and Dave Miller. Final operational assessments were determined by myself, Dave Miller and Robert Gibson. Contact phone details for dogs/handlers in your district are available from the National Field Officer (John Tristram), the Chairman of the Specialist Sub-Committee (Peter Cameron), or myself.

Course Assessments

Interpretations of the assessments should be made in the light of the following criteria, which were also included as part of the course handbook. The operational assessments were conducted against the draft Dog/Handler standards. Each assessment is based on field observations made by assessors and senior handlers over the three course days. In addition, for operational assessment, a formal assessment is made on the last course day in conjunction with the local NZ Police Dog Sergeant.

Trainee:

Usually awarded to dog/handler teams at their first course. This grade recognises that the dog/handler team are suitable to undertake SAR Dog training for at least another twelve months, and that they have the promise of continuing to make progress to novice status. Typical factors considered are

the keenness and motivation of the dog and handler, good behaviour of the dog to other people and dogs, transportability, ability to be controlled and confidence. Where these are severely lacking, progress to the next level will be difficult, and the handler will be advised they are wasting their time. Usually awarded to dogs 6-12 months old.

Novice:

Usually awarded to dog/handler teams at their second course. Novice status recognises dog/handler teams that have progressed in training to a point where they can undertake short blind search problems. In the case of an air scent dog, a single subject, location unknown to dog and handler can be located by the dog with a reliable and spontaneous indication. In the case of a tracking dog, the dog can be cast for and find a track unknown to dog and handler, follow it and locate the track layer. Usually awarded to dogs that have received at least 12 months training, but it is not unusual for dogs to remain at novice status for a further twelve months. Dogs typically 1-3 years old.

Operational:

Operational status recognises a dog/handler team that have progressed in training to a point where they can work complex search problems lasting up to an hour or more in duration. Dogs will have typically received at

least two years training to reach this standard, and consequently, this grade would unlikely be reached before a team's third course. Dogs/handlers will have passed a formal assessment (see assessment standards) undertaken by approved assessors. Dogs typically 2-4 years old.

The relatively low number of operational assessments reflects the low number of dogs that have been in training for 2-3 years. I do anticipate this number to increase over the next 2-3 years.

Markus J. Milne
SAR, Southern District

Hamilton SAR Competition Saturday 28th October 2000

We had a great time on the Hamilton SAR Competition, held on a fine humid day on a site near Ngaruawahia. It got even better at the end of the day when we found we had won the event by 2.7 points. There were seven teams that took part; some of the teams were put together just for the competition and not sure what to expect.

We, the Hamilton SAR Group were

Team Leader	John G
First Aid	Lynette
Radio	Colin
Navigation	Ralph
Scribe	Andrew
Scribe	Terry
Gofer	Graham

Practice paid off for our team. Everyone had a job to do and things just flowed nicely. All the problems had been sorted out before hand and we all knew what gear and methods were to be used. The competition showed the importance of GPS and how useful they can be. Our team was first to finish without trying to beat any speed records, just good teamwork. There were no points for time taken to complete the task which was fair as there was a delay in the start as some teams were not able to supply an Assessor.

The competition started with one team member making a dash for a bag with a radio, map, and instructions, then locating their patient from those instructions,

navigating to the patient and when found giving the appropriate treatment. (All the patients were suffering the same injuries.) After the patient had been treated a stretcher was used to evacuate the patient to the base. Once at base the contents of three packs was checked to see if all the right gear was being carried for 24 hours in the field. There was an assessor with each team and a first aid assessor with the patient. Our team's first aid assessor was a St John officer who had a real call out just after completing our assessment.

Points were given for Radio Procedures, First Aid, SAR Methods and Equipment.

I think everybody enjoyed themselves and learned from the experience. Next year the competition should be a lot stronger now that everyone knows what the event is all about.

The results were, in decreasing point order: Hamilton SAR Group, Tauranga Water Rats, Auckland Police, Hamilton Police, Auckland First Ladies, Waitomo SAR, Auckland Red Devils.

Next year's competition will be on **Saturday 27th October** and entries are welcome from all SAR organisations.

Ralph Goudswaard and Barry Were
Hamilton Land SAR Organisation

A Search in Southland.

From time to time we hear of searches where those missing do not wish to be found. Such an occasion happened in Invercargill in 1956. Three inmates from the local Youth Institution ran away from work on the prison farm, broke into a nearby house, stole rifles and a car, and went to ground in the Oreti Beach sandhills.

During the initial chase a Police car was disabled by a bullet through the radiator. Of course, the District Commander took a very dim view of this so extra Police were called in from other towns, Prison Officers came from Christchurch, there was full mobilisation of search parties, and the Invercargill AREC was called in to provide communications. After five days the missing trio were found

hiding in a railway wagon at the Bluff railway yards, they were under the impression that they could be taken all the way back to the North Island. In the intervening period were some tense moments and a few laughs.

On the second day, it became apparent that the escapers had avoided the searchers and headed south to Bluff. They had found a dinghy, rowed down the Oreti River - under the road blocks on the bridges - and crossed the estuary to the Green Hills area at the top end of Bluff Harbour. So, on a wet and windy night we headed down the Invercargill to Bluff highway and set up a ZC1 base radio station in the long grass beside the road.

The mast sections were assembled, whip aerial plugged in the top and "up she goes". Radio contact was made with Invercargill and all appeared to be going well until, in the dim light of dawn, we saw that the top of our whip was about 2 feet below a 3 thousand volt power line!

That day we moved the base to Bluff. A few of the team remained by the beach near Green Hills where there had been a reported sighting of unidentified persons - perhaps out on a small island in the harbour. At low tide a search party set out to have a look - by car! I have memories of a radio operator (Bert Fox ZL4IG I think) sitting on the beach and regularly reporting the water levels as the rising tide submerged both the Inspector's pride and joy, a gleaming black Humber Super-Snipe, and the near new tractor that had been borrowed to try and extract the car from the harbour mud.

By the fourth day we were well ensconced in the Bluff Courthouse. This search was unique in that it involved New Zealand's first regular police dog, Myska, who with her handler Sergeant. Frank Riley had come from the United Kingdom to establish a dog training section in Wellington. Frank and his German Shepherd had been up all night, so after lunch he announced that he would

attempt to catch up on sleep. Myska was brought to the small room where we had our base radio and told to lie down. All went well for about an hour. Then the dog started to get grumpy. She growled whenever we moved and gradually became so aggressive that we were chased out into the passageway. I could just operate the ZC1 at the limit of the microphone cable but any thoughts of tuning the receiver were at the risk of a set of teeth marks.

Eventually we had to wake Frank from his well earned rest. He was full of apologies, "Sorry chaps, dog's got a full bladder, Myska needs a brief walk." Sure enough, a quick trip outside to the waste ground and we had a much happier dog. Radio communication was resumed.

Other memories include large meals of mutton stew brewed at the prison. The stew was excellent for the first day or so but after that I think they were chasing the sheep into the kitchen and dumping them straight into the pot. Tasty but nearly cold after the 20 mile journey to Bluff, and the meat tough as old boots. The slabs of fresh bread were good though. I spent a day parked half way up Bluff Hill in my old 1935 Riley with two ZC1s on the back seat, running a relay for the search teams and talking with the Grumman Widgeon amphibian aircraft which was checking the southern shores. A major problem was that of keeping batteries charged.

Finally, a grand celebration debrief in the Police Station, ample liquid refreshments then bagpipes, jigs and reels into the early morning hours. Two members of the then Transport Department arrived in full uniform, observed the activity, disappeared and came back very soon in mufti.

Gordon Cooper
Tauranga AREC.

NZTopo and SAR

Land Information NZ (LINZ) is a Government agency charged (amongst other things) with the provision of a national geospatial service. The task of greatest significance to SAR is the provision of a fully digital national topographic

database, called NZTopo. The best known output of this database are the paper maps referred to as the 260 topographical mapping series.

A fully digital database offers significant advantages to modern cartography. In particular, it allows the timely updating and revision of maps and the dissemination of this information without the costly and time-consuming methods of manual drafting. However, it appears to many users that the advantages of a digital database have not been fully realised, due probably to several factors, but predominantly to the inadequacies of the topographical detail. No database is any better than the base input, and a study of NZTopo reveals many deficiencies from the point of view of the user.

Late in October a meeting was held in Rotorua between LINZ representatives and interested parties from the Bay of Plenty. Present were people from SAR, District and Regional Councils, the forestry sector, DoC, map retailers, hunting and tramping clubs. The main topic of discussion was the performance of NZTopo, with particular reference to the following:

- **Reliability.**

A good deal of criticism was leveled at LINZ with regard to the accuracy and integrity of current map detail and the effectiveness of field checking and updating. Omissions, deliberate and otherwise, and the partisan editing of detail were also discussed. It appeared that systems designed to provide accurate and thorough updating were not as effective as they should be. This is of critical importance to recreational and emergency users.

- **Reliability information.**

This information (date of photography and coverage, and field checking) has not been shown on topo maps for many years - not since the break-up of the old Lands and Survey Dept. The argument against showing this sort of information is that it is now irrelevant as updating is a continuous process. However, a careful study of recent maps suggests that this information is indeed relevant, and it appears that LINZ may revisit the decision to omit this reliability data.

- **Boundaries.**

No legal boundaries are shown on modern maps, although they have appeared from time to time in the past. The argument against depicting them is that they are not topographic in nature, and that much land

including DoC estate is held or managed in a variety of tenures which would be confusing to depict. The meeting felt that the boundaries of certain lands of significant size and tenure, eg National and Forest Parks, should be shown.

- **Private roads.**

This topic occupied some time, as it is of particular importance in the Bay of Plenty where very large plantation forests exist. NZTopo shows only those roads named in the Authoritative Place and Street Names database. This database appears to be maintained for electoral and similar administrative purposes and does not include the thousands of kilometres of named roads maintained by various forestry companies, for example. This was thought to be a serious deficiency for the map user. A similar situation exists where place names that have been in common local use for years are not shown if they are not sanctioned by the Geographic Board.

Another LINZ programme which was demonstrated and which may be relevant to SAR was the provision of NZTopo on the Internet. The ability to freely download and use a seamless topographical map is attractive from the users point of view, the more so as it is available as several layers, each representing a topographical theme. Thus, one can chose to have roads, or contours, or streams, etc (or even land boundaries.) Having experimented with the pilot site I feel that it has a long way to go. It is slow, the interface is not particularly user-friendly, the files are very large and print downloads are in PostScript form which many printers cannot use. Also, the main problem of computer graphics in the home or office environment remains; the resolution is poor and not remotely comparable with paper maps at a practical scale for most uses.

Other aspects of NZTopo and the paper maps were discussed. However, from the point of view of SAR, the points above were the most relevant. My opinion, which was also supported at the meeting, was that NZTopo currently does not meet the requirements of either SAR or our clients- most often the recreational user- very well.

I personally feel that NZTopo is more than a purely topographical database; it is a general-

purpose utility and a vital tool for emergency management as well as for a very wide range of other users. Indeed, it is for this reason that it is provided as a core government service. It would seem that LINZ may not have a good understanding of user requirements, despite the existence of a committee appointed specifically to advise them, and which includes representatives from the Defence Forces, DoC, MfE, Emergency Management, MAF, Police, Fire and Ambulance Services, and others. Non-governmental and recreational organisations are conspicuously absent though. If the Rotorua meeting served no other purpose it helped to put a better user perspective to the LINZ representatives.

What is the way forward? One point that I hope was made strongly was that attention will have to be given to a more effective protocol to provide feedback from users, government departments such as DoC, territorial public bodies and private sector agencies to NZTopo. Users have for years been urged to provide detail corrections to the mapping agency, but we were told that few do this, let alone take the time to discuss their problems. There are obvious difficulties, especially with verification, but these could be

solved. A topographic map must depict what is on the ground as far as possible, and in my mind there are no 'ifs or buts' about that.

I would be interested to hear comments on the performance of the topographical mapping programme in SAR and similar work.

Ultimately, improvements to NZTopo to align it better to SAR - if considered necessary - will need a political approach. LINZ is a Government department and NZTopo a publicly funded initiative, and policy influencing the implementation of NZTopo will follow funding directives from Government. Voices which will be heard in Wellington include organisations such as NZLSAR and the Police, Federated Mountain Clubs, Deerstalkers Association, and so on. LINZ have a good web site which is well worth exploring. There are copies of policy documents and standards which provide good background as to how NZTopo is being provided and why certain things happen. Are LINZ meeting their performance criteria for NZTopo?

Peter Dare
SAR, Rotorua

COSPAS - SARSAT System Status

The following is part of a paper that was presented to the Search and Rescue Operations Committee (SAROC) meeting that was held recently. Chaired by the Manager of the National Rescue Coordination Centre (NRCC), the SAROC has a membership, which includes representatives of those organisations that routinely have personnel rostered for duty in the NRCC. These are normally the Civil Aviation Authority of NZ (CAA), the Maritime Safety Authority of NZ (MSA), New Zealand Land SAR Inc (NZLSAR), The Royal New Zealand Navy (RNZN), the Royal New Zealand Air Force (RNZAF) and the NZ Police (but may include wider representation if required for the subject under consideration). The paper referred to a recent COSPAS-SARSAT conference at which it was decided to phase-out the satellite alerting capability for the 121.5/243.0 MHz distress frequency signals by 1 February 2009.

Background. The COSPAS-SARSAT satellite system for search and rescue provides distress alerts and location information to SAR Services worldwide. Since the launch of their first polar-orbiting satellite in June 1982, COSPAS-SARSAT has provided assistance in rescuing 11,227 persons in 3,361 SAR operations worldwide. COSPAS-SARSAT assisted in the rescue of 1,227 persons in 1999 in 34 separate SAR incidents. Of this total number of SAR events in 1999, 216 were maritime incidents, of which 64% involved the use of 406 MHz distress beacons and 36% involved the use of 121.5MHz distress beacons.

Present Status. During 2000, the COSPAS-SARSAT System continued to expand with the launch of one new polar-orbiting satellite (COSPAS C9 – 28 June) in Low Earth Orbit (LEO) and one additional Geostationary Earth Orbit (GEO) satellite (GOES-11 on 3 May) which is being maintained as a spare. In addition two Mission Control Centres (MCCs), two ground receiving stations in the LEOSAR system (LEOLUTs), and two ground receiving stations in the GEOSAR system (GEOLUTs) were commissioned into the system.

As at August 2000, the COSPAS-SARSAT System was composed of eight satellites in polar orbit, three geostationary satellites, 37 LEOLUTs, seven GEOLUTs and 22 MCCs. Over 220,000 distress beacons operating at 406MHz and about 600,000 of the older generation 121.5MHz distress beacons were in service.

Nine models of distress beacons with the capability to accept position data from internal or external navigation devices, especially GPS receivers, have received a COSPAS - SARSAT type-approval certificate. Since the GEOSAR system cannot use the Doppler processing technique that is used by the LEOSAR system

to calculate the location of beacon alerts, these "location protocol beacons" will enhance the location information provided with the GEOSAR distress alerts.

Phase-Out of 121.5 MHz Satellite Alerting Service. 121.5MHz distress beacons are available at a very low cost, but this out-dated technology, which cannot be improved easily, is the source of a very large number of false alerts (over 98% of all 121.5MHz COSPAS-SARSAT distress alerts). Although these devices are installed on board a large number of aircraft and are used at sea onboard small craft and fishing vessels, the absence of an automatic capability for identifying 121.5MHz alerts is a serious limitation of the 121.5MHz system, which, in turn, significantly increases the workload of the RCC. This situation has impacted upon the efficiency of SAR operations and has led to a request for a termination of the COSPAS-SARSAT processing of 121.5MHz signals.

In 1999, the International Civil Aviation Organisation (ICAO) issued a requirement that all new aircraft from 2002, and all aircraft from 2005 must carry an ELT operating on 406MHz, and 121.5MHz for homing purposes. ICAO also agreed that COSPAS-SARSAT processing of 121.5MHz ELT's could be terminated from 2008. In response to a request by the International Maritime Organisation (IMO), and following the agreement of ICAO, the COSPAS-SARSAT Council decided in October 1999 that future satellites with launches scheduled for post-2006 would not carry the 121.5MHz SAR repeater instrumentation.

The COSPAS - SARSAT Council has approved a comprehensive Phase-Out Plan for 121.5/243.0 MHz satellite alerting services. About 6,000 distress beacons operating on 121.5 MHz will have to be replaced either by

406 MHz equipment or other means of alerting prior to the planned 121.5 MHz cut-off date. Therefore, a major aspect of the phase-out preparation is to ensure the availability of 406 MHz ELT's/EPIRBs for use as replacement beacons, and the management of the 406MHz beacon population growth during this period.

NZ System Status and Operations. The NZ Low Earth Orbit Local User Terminal (LEOLUT) is co-located with the NRCC in Lower Hutt and is connected to the COSPAS-SARSAT Mission Control Centre in Canberra. Last year the New Zealand LEOLUT software was upgraded to meet the latest COSPAS - SARSAT specifications and enhanced to include a Geostationary Earth Orbit Local User Terminal (GEOLUT) capability. The NZ GEOLUT

detected and issued its first operational 406MHz Alert message on 24 May 2000.

Definitions

COSPAS-SARSAT – Kosmicheskaya Sistyema Poiska Avariynych Sudor (Russia) and Search and Rescue Satellite Aided Tracking (USA).

MSA - Maritime Safety Authority.

ICAO – International Civil Aviation Organisation.

LUT – Local User Terminal.

IMO – International Maritime Organisation.

ELT – Emergency Locator Transmitter. **EPIRB** – Emergency Position Indicating Radio Beacon.

John P Tristram

National Field Officer

NZLSAR Meeting Calendar 2001

At the November 2000 meeting the timetable for meetings of NZLSAR was conformed. The meeting dates and some of the business is as follows

16/17 March. Starting on Friday evening the Committee will meet at the Police College Porirua. On Saturday they will move to the Kilbirnie Police Station conference room and continue working. A major feature of the March meeting is finalising the work to be done in the next financial year. This needs to be costed and is presented in the form of a small booklet as the NZLSAR business case for the 2001/2002 financial year to the Manger Operations Support by early April.

18 August. The exact format has not been decided yet but this meeting will include the NZLSAR Annual General Meeting.

10/11 November. This weekend is to include firstly a combined meeting of the Committee and the Regional Chairmen and Secretaries. These have been held every second year and are an excellent forum for discussing local and other problems. Sunday will be given over to a Committee meeting where decisions can be made on any suggestions from the previous day.

John P Tristram

National Field officer

Editors Comments A big thank you to **Graham, Markus, Ralph, Barry, Gordon and Peter** for your articles. To those who proof read and check the spelling and grammar, thank you also. Copy for the **April News** is most welcome and the close-off date is **Friday 23 March**. 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