



# Connecting the Search and Rescue Sector

## MEOSAR satellite receiving station coming

Maritime New Zealand and the Australian Maritime Safety Authority have joined forces to provide a major boost to search and rescue (SAR) in the region.

The two organisations have contracted McMurdo Group's Techno-Sciences Inc. to build two new satellite receiving stations, one near Taupo and the other in Western Australia, along with a new mission control centre in Canberra, to pick up signals from medium-Earth orbit search and rescue (MEOSAR) satellites. This behind-the-scenes change is necessary because without a receiving station, New Zealand would effectively lose its ability to respond to distress beacons when the LEOSAR satellites are phased out.

MEOSAR satellites (orbiting at around 20,000km above the Earth) are replacing the current low-Earth orbit (LEOSAR) satellites (orbiting between 800-1,000km), which are being phased out over the next four years.

Existing 406MHz distress beacons, of which there are over 48,000 registered in New Zealand, will not be affected by the change.

Six satellite dishes will be built mid-way between Taupo and Rotorua, with construction scheduled to be completed by the end of 2015. The receiving station is expected to be commissioned towards the end of 2016 and operational by 2017.

The New Zealand contract is made up of \$7.2m for construction of the receiving station and \$5.5m in operating costs over the next 11 years.

There are currently 16 MEOSAR satellites orbiting Earth, compared to five LEOSAR satellites, meaning beacon signals will be received more quickly and beacon locations will be identified with greater accuracy. This will further improve over the next five years as the number of MEOSAR satellites is expected to increase to more than 50, ensuring several satellites will be in view at all times from anywhere

**McMURDO**

**How will MEOSAR revolutionize the SAR world ?**

Global Satellite coverage will take 5 minutes with MEOSAR, compared to 45 minutes with the current COSPAS-SARSAT System.

45'

**COSPAS Sarsat AS OF TODAY**

5'

**COSPAS Sarsat NEW GEN WITH MEOSAR Starting end of 2014 / early 2015**

on Earth. Beacon signals will pass through the MEOSAR satellites to the two ground stations where they will then be processed through the Canberra mission control centre and relayed to the Rescue Coordination Centre New Zealand (RCCNZ), triggering SAR operations. ●

More information about this project can be found at: [www.mcmurdogroup.com/wp-content/uploads/2014/09McMurdoGroupChosenForANZMEOSAR-02Sep2014-FINAL.pdf](http://www.mcmurdogroup.com/wp-content/uploads/2014/09McMurdoGroupChosenForANZMEOSAR-02Sep2014-FINAL.pdf)



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## ◉ SAR IN ACTION

# Dedicated and active people collaborating – a winning combination



CNI Alliance members attend a SAREX

**Bringing together LandSAR groups in an informal alliance is reaping rewards in the central and lower North Island. The groups remain independent entities, but twice a year they get together with neighbouring groups for a midweek evening network meeting.**

LandSAR NZ's Group Support Officer Peter Zimmer explains the alliance initiative has evolved to alleviate some issues, particularly in the smaller groups. "Most had difficulties getting sufficient numbers to hold formal training; there were not enough members to run longer operations by themselves. We also wanted to break down barriers and increase cooperation and collaboration between neighbours. In talking with the groups we saw an alliance as a win-win situation, in which smaller, less busy groups had the chance to stay active and be involved."

Senior Constable Barry Shepherd, Taupo's Police SAR Coordinator helped set up the Central North Island (CNI) Alliance, which is made up of six groups: Taupo, Turangi, Ruapehu (Taumaranui and Ohakune), Taihape, Wanganui and RARO (Ruapehu Alpine Rescue Organisation). He believes pulling these small groups of dedicated SAR people together works well. "Give me a dozen active, engaged, highly skilled and trained people. When it comes to getting the job done they are very effective."

LandSAR volunteers are also firmly in favour. Wanganui LandSAR chairperson Stewart Crawford says they don't have a big membership and they don't get many call-outs. "This year Wanganui has seen an increase in urban-based SAROPs, and because we spent most of our time training rather than at operations, we were struggling to get bums on seats – it was harder to attract volunteers. Becoming part of the CNI Alliance has stemmed that downward spiral."

*"We cover a significant chunk of New Zealand's adventure playground – so we heavily rely on this high calibre of volunteers."*

The Wanganui group has about 20 members on the books, of which 12 to 15 are active. Before the CNI Alliance was formed events like courses were often cancelled. Stewart now invites other CNI Alliance groups along, "and we attend their training. It means not only are we upskilling, but we are also becoming more familiar with the people and the various terrain in the area; terrain we may find ourselves searching in. Because we have trained alongside them we are a logical next resource to bring in." Wanganui has now been involved in searches in the Tongariro National Park, around Mount Ruapehu and the Kaimanawa and Ruahine ranges.

Further south is the Tararua Alliance. The Wellington, Wairarapa, Tararua (based in Dannevirke), Horowhenua and Palmerston North groups formed an alliance for much the same reasons as their central North Island counterparts, says Police SAR Coordinator Sergeant Bill Nicholson. "Searching always crosses boundaries, so it is vital you know the people you are working with. You can't underestimate the value of networking opportunities, and this is what the Alliance does – it brings key personnel together to share their ideas and knowledge. There is no doubt that an operation flows much better when key personnel know each other."

Bill says the Tararua Alliance means they can confidently think ahead and will call in neighbouring groups earlier in an operation. He cites a recent case where the Wellington Police SAR Coordinator needed more searchers urgently. "A woman suffering dementia had gone missing. Our Horowhenua group was tasked and mobilised itself quickly. They found her in a swamp, and probably saved her life."

Peter says it was a deliberate move by the groups to keep the alliances informal. "An operational network support forum is the best way to describe our meetings. We catch up, talk about what is going on in their area training-wise and discuss and share lessons learnt from SAROPs or training. I come along to support our groups, collate notes, and update them on initiatives – and other goings-on – at the mother ship (LandSAR NZ). It's about supporting our members to be informed, active and engaged SAR people."

As Barry points out, "We cover a significant chunk of New Zealand's adventure playground – so we heavily rely on this high calibre of volunteers." ●



## When the plan comes together ...

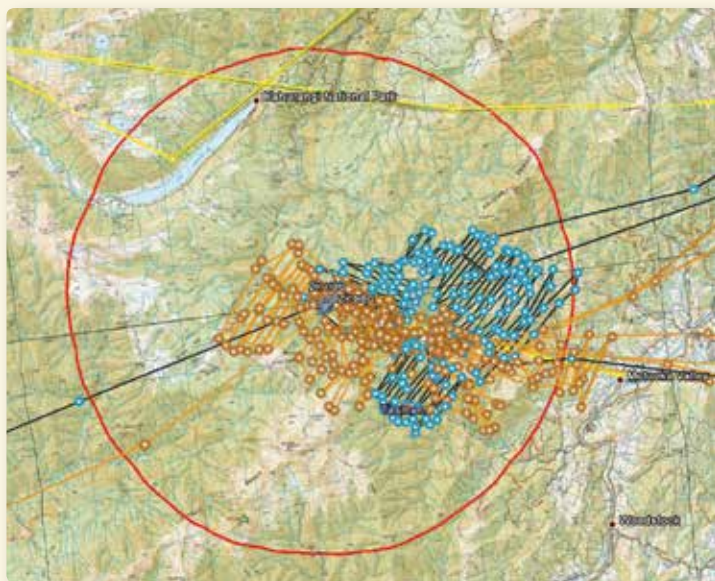
Finding a piece of paper amongst foliage in a 270 sq km search area – the vital clue to locating the missing Robinson R44 ZK-HBQ – has to be the ultimate reward for an air observer who has spent hours staring out the side of a helicopter in very rough conditions.

Notwithstanding the tragic circumstances in which the pilot, Damian Webster, lost his life, the significance of the paper find is just one of the many aspects that led to the successful search outcome.

From the moment he got the call Keith Allen, a Senior Search and Rescue Officer at the Rescue Coordination Centre (RCC), knew the search for a helicopter missing between Karamea and Nelson was going to be a long haul, and robust planning would be critical. He spent the first night plotting twelve smaller search areas inside the full search area. But it could have been much worse, even though there was no ELT (Emergency Locator Transmitter) signal, the chances of finding Damian were greatly enhanced because the aircraft had a tracking device.

“Damian had TracPlus set on a three minute cycle, a helicopter can still travel quite a distance in three minutes, so we were having to search a 9.25 km radius from his last known position: in dense, rugged, bush deep in the Kahurangi National Park – and in bad weather.”

Keith explains that technology, training and communication were key elements of the search. “Technology now enables us to download GPS data in real time, allowing us to determine exactly where a helicopter has searched and, consequently, specific sections that have been missed. Re-searching areas in different light conditions also makes a difference, as do improvements to the portability of radios and transmitters, meaning land crews can easily carry them. Plus, as everyone is tuned into the same VHF channel, they each gain an excellent understanding of the dynamic status of the search and how what is being said relates to their role.”



Satellite tracking of area covered by SAR helicopters



The first clue – flight log paper spotted in the tree canopy by one of the air observers on board a SAR helicopter

*“Being in contact with ground crews meant they could more easily investigate the ‘different thing’ we had seen.”*

Keith adds the air observers training courses proved their value. Close to 20 observers were tasked over the four day search, almost all of which were trained on the NZSAR/RCC Air Observers Course – the most trained observers RCC has ever tasked. Nelson LandSAR President Dean Hunt did five trips of up to two hours as an air observer over the period of the search. He says the course gave him a better understanding of the terminology being used, while the mental skills he learned helped considerably as the concentration required in the bad conditions was immense. Dean agrees communication between those on the ground and those in the air was also key factor. “Being in contact with ground crews meant they could more easily investigate the ‘different thing’ we had seen. From the air it can be difficult to establish if the broken branches are from windfall or something else, so the helicopter crew radioed the ground crew and asked them to take a closer look. The helicopters literally hovered while the observers directed them to the exact spot we wanted checked out.”

Richard Walker was one of the crew on the ground: “This kind of communication certainly helped us find Damian, as did the relationships and understanding of the various roles and the personalities built over the time spent training and searching together.” Richard was amongst the team tasked with searching the area where the piece of paper had been found. “Land teams were tasked to follow any clues to find the debris trail. This meant searching behind, up and down in what was very rugged terrain. As we got close to where the paper was found, I saw toilet paper up in the trees and then, in a linear direction, our team of three found some curved Perspex and other debris.” The wreckage of the Robinson R44 ZK-HBQ was located by a helicopter a short time later.

## Obsolete beacon sparks wasteful search

A four-hour search for an obsolete distress beacon transmitting in error has prompted the Rescue Coordination Centre New Zealand (RCCNZ) to remind beacon users to dispose of old beacons properly.

The old 121.5MHz beacon was finally located floating in a puddle of water below deck on a dilapidated yacht in Waikawa Bay near Picton. This was after both a helicopter and a person on the ground with direction-finding equipment were called in, taking four hours to trace the signal to the 12m yacht.

RCCNZ recently publicised this case to highlight the waste of resources and money required to search for old beacons, urging the public to dispose of their obsolete beacons appropriately.

It is a timely reminder for the SAR sector to also remind people to dispose of old or obsolete beacons carefully, to ensure they are not set off by accident. The battery needs to be disconnected and the beacon disposed of according to local regulations, as many beacons contain hazardous materials. People can contact a local beacon retailer, or Police station, to arrange appropriate disposal. ●

## Mort retires

Senior Sergeant Bruce Johnston (a.k.a 'Mort') has retired as the National Co-ordinator: Training and Development DVI/SAR last month after 27 years with the Police, the last 5 in this role.

Mort became involved in SAR operations while based in Kapiti, using his extensive tramping experience and officially joining the Wellington SAR squad in 2000. One of the jobs he remembers fondly was as incident controller in the search for diver Rob Hewitt who was found after spending 75 hours at sea.

Mort leaves the Police with no regrets but believes SAR volunteers deserve better support and recognition. "I have nothing but admiration for the effort and passion they display in doing what's best for those in need." Mort has taken up a role as Kapiti District Council's Transport Safety Coordinator. ●

*"We asked a lot of our air observers and in the future we will pay more attention to the mental fatigue, which varies of course with weather conditions."*

Everyone agrees that like any operation there are aspects that could be improved.

Keith says RCC is looking at how it will better manage air observer fatigue. "We asked a lot of our air observers and in the future we will pay more attention to the mental fatigue, which varies of course with weather conditions."

Land-based Operation's Incident Controller, Senior Constable Dave Cogger says fatigue levels are also be dependent on the helicopter stability. "Observers are operating from a very unstable work platform, so the more stable that platform is, the easier it is to concentrate." Dave also says putting more effort into finding suitable landing and refuelling stations, so various helicopter companies can land, refuel, and take-off with fresh crew, would be worthwhile. Taking into consideration issues such as recent 1080 drops before sending in dogs to search is another area of improvement.

First, though, on Dean's list is making sure he has dressed up for the open door helicopter. "The conditions were such I wore six layers of clothing on top, two pairs of trousers on bottom, as well as gloves and hats – I was wondering if I could get any more on."

Recognising success is also a key element. In this operation RCC, Police and LandSAR worked very well together, complementing

each other in what was a very difficult task – resulting in finding the needle in the haystack. ●

### Insights

- **Maximise technology – radio portability and GPS functionality are just some of the tools that improve communication and planning, and maximise the chances of a good outcome.**
- **Communicate effectively – poor communication means an operation will be more challenging. Use specialist skills and equipment.**
- **Manage the teams – anticipate issues, such as fatigue and location of landing, and plan accordingly.**
- **Think environmental factors – consider agencies and organisations that may have relevant information, in particular work that may have taken place in the search area, such as 1080 drops.**
- **Do the training – it not only enhances skills, it also builds key relationships. Training pays off.**

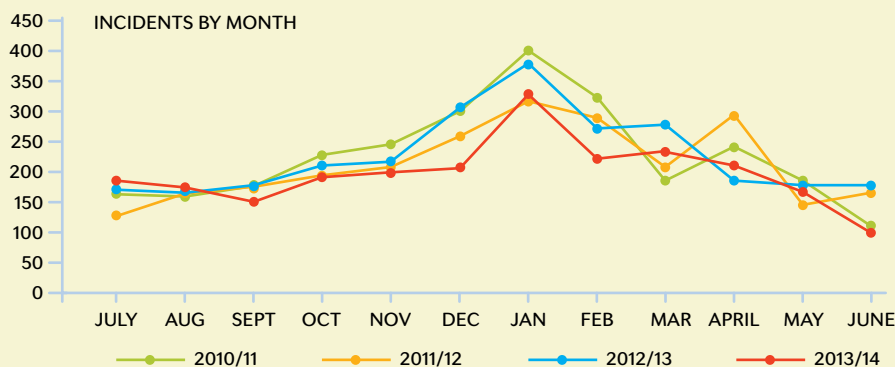
## STATS ATTACK

There has been an annual pattern to SAR activity in New Zealand over the last four years, as the graph below shows.

Unsurprisingly, the sector is at its busiest over the summer months. Activity starts to build up from October (Labour weekend), peaks in January, and winds down to

March/April. The variation over these two months is caused by the shifting dates for Easter, and it can also be affected by autumn weather.

Historically the busiest day for SAR incidents was Saturday 7 April 2012 (Easter weekend) with 32 incidents recorded!



## SAR (ACE) TRAINING

Training requested by the SAR sector, for the SAR sector, is proving successful according to the most recent analysis of the 2014 SAR (ACE) training programme.

The analysis indicates a thriving interest in training – based on SAR need as determined by SAR agencies (which dictates the course type and frequency) – with course attendance hitting 133 EFTs (equivalent full-time students) in November.

The analysis covered the period from 1 November 2013 – 1 November 2014. Here’s some highlights:

- **69 courses conducted, compared to 43 in 2013 – a rise of over 50%**
- **32 courses cancelled, as opposed to 40 in 2013 – a drop of eight courses**
- **15.01 students, on average, attending courses for 2014, against 11.44 for 2013**
- **1043 participants attending courses, compared to 492 last year.**

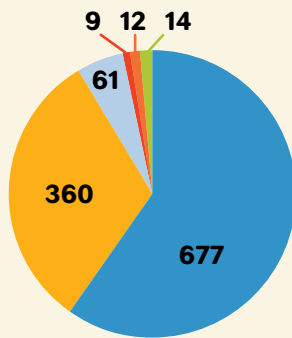
NZSAR is encouraged by this comparison as it illustrates the model is tracking well: SAR people are receiving high quality SAR training; the training is fees-free for the individual; the SAR sector gets to control both the training that is conducted and the decision around who needs to attend it, and; the goal of individuals attaining a ‘qualification’ has been removed from the mix.

Tai Poutini Polytechnic has been the only SAR (ACE) funded training provider for the last two years. It carried out course and tutor satisfaction surveys to ensure it is delivering what is required. These surveys demonstrate it has raised the training bar in partnership with the sector.

### Course Satisfaction

- 92% of all students are satisfied or very satisfied with the courses.

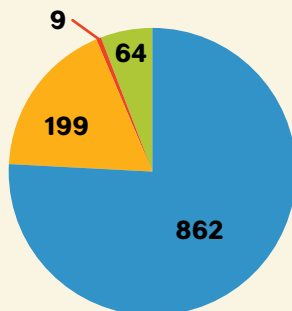
- very satisfied
- satisfied
- neutral
- dissatisfied
- very dissatisfied
- no response



### Tutor Satisfaction

- 93% of all students are satisfied or very satisfied with the course tutors.

- very satisfied
- satisfied
- no response
- dissatisfied



Overall, a resounding vote of confidence from the sector for the direction of SAR (ACE) training, with some outstanding progress made. SAR (ACE) training is new to the sector, and while it is taking time to sort out the new way of doing things, every measure indicates that we are getting better all the time as we strive for excellence. ●

## SAR TRAINING



### Exercise RAUORA (Southern 2014)

Exercise RAUORA (Southern 2014) was held in Dunedin in October. Thirty-six people, from 13 organisations, took part in the successful inaugural desktop exercise. Others will now roll out around the country to validate the mass rescue plans that each Police District and the Rescue Coordination Centre have prepared.

Exercise facilitator Dave Greenberg says a number of factors contributed to this exercise’s success. “The main one being the participant’s active engagement across the Southern Police District. It was helpful in identifying some areas for improvement for future RAUORA exercises as well.”

Using the exercise templates prepared by the inter-agency National Exercise Programme cluster ensured a robust planning structure for the exercise, while also contributing to its success, believes NZSAR Secretariat Senior Advisor Carl van der Meulen. “It was important that we used these templates as they give the agencies a consistent foundation, which is particularly important when they are involved in multi-agency exercises across a range of scenarios.”

Inspector Mike Cook says that the exercise provided a valuable learning opportunity for Police and that they are applying what they learned to their plans and standard operating procedures. “Exercises like this also reinforce the relationships between agencies, which is always a vital component when an event or emergency comes around.” ●

### Get your NZSAR award nomination in now!

Do you know an organisation, a group, or an individual who you think should be acknowledged for their contribution to search and rescue?

There are now two categories – Operational activity and Support activity. All the details about the NZSAR Awards and information about these two categories, plus the simple nomination process, can be found on our website: [www.nzsar.org.nz/awards](http://www.nzsar.org.nz/awards).

The 2014 NZSAR award nominations close 31 January 2015.



## Duncan's desk



The summer is upon us – and with it will come the normal rise in SAR operations that occur around the country. We all know this is always the case, but it has been hard to definitively show 'by how much' – and the year on year variances – until now. This issue's Stats Attack on page 4 shows what a significant and consistent cycle it actually is for our sector.

After a long (long) project to integrate SAR data from both Police and the Rescue Coordination Centre NZ (RCCNZ), Carl is finally able to examine the figures and turn them into useful information. We can now support leaders and decision-makers to make better decisions through an enhanced understanding of the work we do, the places we do it and the resources required. This data store and information tool project has also uncovered a number of deficiencies (and excesses) with the data we currently collect. The next phase will see us working with the sector to simplify and redefine the data we gather to make sure it is meeting our information needs, and that everything we ask you to record has a defined purpose.

The first Mass Rescue Exercise RAUORA (Southern 2014) has been held (see page 5). On behalf of NZSAR I would like to thank Superintendent Andrew Coster, the Southern Police District Commander, for his active leadership and the participation of his wider leadership team. While I was unable to attend in person, everything I have heard indicates that it was very successful and that we have found a good model to base future RAUORA exercises upon. We will step up the frequency of these exercises in 2015, with the intent of completing them in all Police Districts by June 2016.

Our fees-free SAR Adult & Community Education (ACE) training arrangements are nearly two years old and, from our point of view, they have been successful in meeting the objectives set out by the Tertiary

Education Commission (TEC) in late 2012 (see page 5). I believe that it's also a vote of confidence in us that the Emergency Management Sector is getting its own EM ACE arrangements from January 2015.

Phil has been working with the sector to predict our training requirements for 2015. This is quite a challenge as our collective training 'needs', as assessed by SAR organisations, exceed our training capacity (as expressed by TEC in EFTs) by a significant amount. Therefore, it's important that there is a bit of give and take so that rational and prioritised decisions, based on good information, can be made for the benefit of the whole sector.

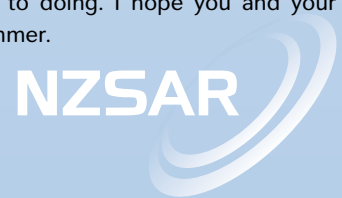
It was great to see the wider boating community run a very successful Safer Boating Week in October. We're convinced that collaborative efforts such as this are the best way forward to educate the wider public, promote a more safety conscious culture, and drive down the number of avoidable SAR incidents.

Some of you may have experienced difficulties with the NZSAR website in the past few months. I apologise for that. It was the result of a rather nasty attack on the website, which required a lot of work to fix. I believe it's all sorted now, but please let us know if you experience further problems.

Senior Sergeant Bruce Johnston (Mort) left the NZ Police last month after a long career, most recently at Police National Headquarters looking after SAR and DVI. We have greatly enjoyed working with Mort over the past five years and I can attest to the very positive influence he has had over the whole sector.

Next year we'll be kicking off a broad review of SAR governance arrangements, taking an in-depth look at SAR sector funding, developing more material for START and following up on a number of existing projects (such as Wander) to make sure we deliver on those things we have already committed to doing. I hope you and your families and friends have a great summer.

Duncan Ferner  
 NZSAR Secretariat Manager  
 d.ferner@transport.govt.nz



## CALENDAR

- SAREXs and SAR training – see:  
<http://searchandrescuecouncil.org.nz/nzsar-calendar>
- Nominations for NZSAR Awards close, 31 January 2015
- NZSAR Council Meeting, 5 March 2015, Wellington
- NZSAR Consultative Committee Meeting 21 April 2015, Wellington
- NZSAR Awards, 21 April 2015, Wellington

## WEBSITES

- [www.nzsar.org.nz](http://www.nzsar.org.nz) – New Zealand Search and Rescue Council  
 This newsletter is available as a PDF on this website and check out our new video showcasing SAR people in action
- [www.adventuresmart.org.nz](http://www.adventuresmart.org.nz) – Safety information and tips for the public planning outdoor activities
- [www.beacons.org.nz](http://www.beacons.org.nz) – Information about 406 Beacons, including where to purchase, rent and register a distress beacon
- [www.metservice.com](http://www.metservice.com) – Comprehensive weather reports
- [www.tpp.ac.nz/sarcalendar](http://www.tpp.ac.nz/sarcalendar) – SAR (ACE) training dates 2015

