Link
• march 2012
Connecting the Search and Rescue Sector

news

Visualising Our Statistics

Over the last few years the SAR sector has put a lot of effort into improving the collection and analysis of statistical information. While much of this has been driven by the Secretariat, it has definitely been a collective approach. The improvements in the quantity and quality of our statistics have helped us paint a better picture of what our sector achieves each year. For example, over the last two years we have been able to report – with a level of confidence – on the number of lives saved (552), people rescued (1,501), and people assisted (2,993), by the New Zealand SAR sector. This has been valuable for educating people and organisations outside the sector.

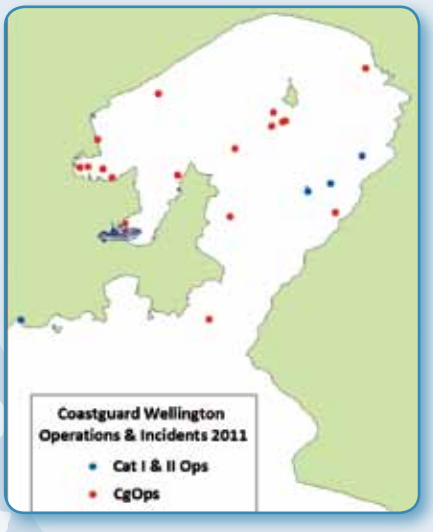
A result of improved data is that there is now an opportunity for the sector to use GIS (Geographic Information System) tools for visual analysis. Phil Pollero, Regional Manager for Coastguard's Central Region explains its value well: "As Frederick R. Barnard said back in 1921, 'A picture paints a thousand words'; the same applies here. There are many ways to produce this information, but it is very easy to understand in this format."

Many organisations in the sector are looking to use GIS in some form: particularly to help them understand what has been and is happening (operational level); and/or to plan for the future (strategic level).

The Secretariat's focus is on the strategic use of GIS, to help provide a 'big picture' view of what is happening across New Zealand. This could be by showing density of SAR activity compared to population centres (as the map of the Tararua Range shows), or to identify emerging trends, such as increased incidences of dementia-related SAR (as the map of Rotorua shows).

Coastguard is using GIS software to plot search and rescue operations and incidents and to provide a very visual overview of what their volunteers are responding to, and where. Phil Pollero is completing a Massey University paper and working with GIS software to produce maps showing various data collected by Coastguard. He says there are so many different ways to interpret data using GIS software:

"The visual impact that GIS provides means the data we can produce helps us enormously with our planning and decision making."



One example is this early experimental map Phil produced showing Coastguard Wellington incidents and operations over a 12 month period. "While it is a very basic map, it illustrates just how data can be produced to provide a very visual outcome."

continued on following page

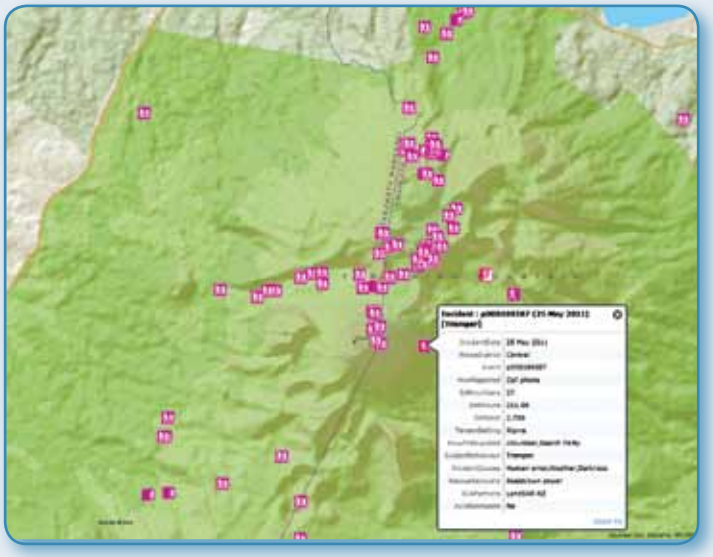
news continued

continued from previous page

Ross Browne, LandSAR's National Training Coordinator, says that they use GIS on two levels.

"During incidents, incident management teams use GIS tools to bring together planning information such as: lost person behaviour data, data obtained from local authorities or DOC, and searching data, such as downloaded GPS tracks, to help plan the operation."

The map of SAR incidents along the Tongariro Crossing is an example of how GIS information can be used this way.



The other use for GIS, says Ross is at a group (unit) level. "Some groups are using information on incident occurrence locations to identify areas where training may need to occur for familiarisation purposes."

The Secretariat intends to work with all the organisations that are using GIS to help reduce unnecessary duplication and to maximise the benefits of GIS analysis across the whole sector.

SAR training

Raising the Bar for Incident Management

It has long been recognised that a key component for effective search and rescue is a highly trained Incident Management Team. Team members should be skilled SAR managers, with robust processes and systems, who are all trained to a common standard.

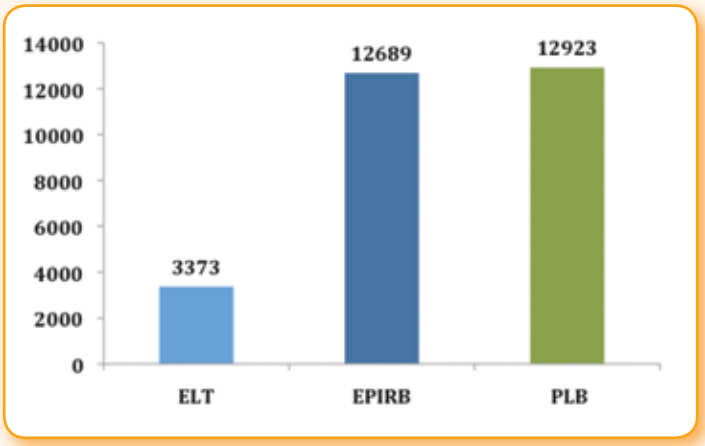
Until now we have had a patchwork of courses of varying utility to prepare people for these important positions. The 2009 NZSAR Core Curriculum identified the need for a unified SAR managers' course – from the sector for the sector. As a result, the NZSAR Secretariat, in collaboration with Police, RCCNZ, LandSAR NZ, Coastguard NZ and many other SAR organisations, have been working on dedicated NZ-based training to prepare our SAR managers for their difficult task.

Much of the material for this training already exists. The project team is bringing together all the existing material as well as previous training models. We are also identifying the common land and marine management elements and emphasising the New Zealand environmental conditions. This will result, we hope, in SAR management training suitable for New Zealand conditions and for all SAR managers, regardless of the type of incident.

Our plan is that this training will be based upon local and international knowledge and experience. The material and exercises will be packed into two five day modules. The first module will focus on managing the initial response and combining the relevant land and marine SAR management skills. The second module will build on the first and focus on formal search planning. The overall emphasis will be on the application of SAR management skills in the New Zealand environment. There will also be a number of practical exercises using realistic scenarios.

This training is still in the developmental stage. When complete we anticipate that this project will serve to raise the bar for incident management teams throughout the country.

stats attack



Registered Beacons

There are almost 30,000 beacons registered in New Zealand. Over the last few years there has been an increase in personal beacons, which are mainly used in the land environment (PLBs). For the first time, there are now more of these beacons registered than those designed for the marine environment (EPIRBs). The remainder are the beacons that are used on aircraft (ELTs).

SAR in action

Coordinating an International Rescue in Antarctica

When the Russian fishing vessel Sparta was holed and taking on water off Antarctica in December, its distress alert sparked an unusual series of actions which required skilled coordination and cooperation made possible through solid national and international relationships.

"It was unusual in that it was an Antarctic operation combined with an air drop operation," says Flight Lieutenant Karl Buckrell, who coordinated the air drops from HQ Joint Forces New Zealand (HQ JFNZ).

With icy waters pouring into its hull, and heavy ice preventing other vessels from reaching it, the Sparta's situation was dire. Given the distance separating Sparta from assistance, the fishing vessel itself provided the best means of survival for its crew and their subsequent rescue; assuming repairs could be made. The nearest ice breaker was eight days away and the only option the crew had was to get out of life rafts and back onto the stricken ship. Cargo was moved around to raise the hole above the water line, but they needed to pump water and make repairs.

"We were mindful that the situation could rapidly deteriorate," says John Seward, Operations Manager of the Rescue Coordination Centre New Zealand (RCCNZ).

John says the US Antarctic Programme was approached first, and an Antarctic based Hercules aircraft conducted a fly-over, providing RCCNZ with the first on-scene appraisal of the situation. However, the Programme's Christchurch based aircraft wasn't available to conduct an air drop.

"They would do their upmost to help if it was absolutely essential, but in this case everybody looked to our NZ Defence Force to help, and they did so."

Karl says when the call came in from the RCCNZ the immediate requirement was sourcing what was needed: a salvage pump from the Navy, the 5 Movements Company from Army and a Hercules C-130 from the Air Force.

"While we were waiting for Command approval to use the aircraft, we got everything, and everyone, together: the pump was driven from Devonport to Whenuapai and flown to Ohakea, where we picked up the 5 Movements Company, (army specialists providing skills and expertise for distributing personnel and freight), and then flew down to Christchurch, where the crew planned for the next day. We also liaised with Scott Base, which arranged with the National Science Foundation to secure the landing, refuelling, ground handling and crew accommodation in Antarctica.

"The RCCNZ gave us all the details they had about the state of the vessel and passed on updates as they came in. The captain initially requested that we drop the pump in the water next to the ship, but we talked to the 5 Movements Company and they didn't have the necessary equipment to allow it to float. So we had to make sure the captain knew we were going to drop it on the ice. Fortunately, two of our crew members spoke fluent Russian and were able to explain things clearly to the Sparta crew. Our team did a really good job – they were very accurate air drops, we couldn't have asked for much more."

Four days after a second air drop, the Korean ice-class research vessel RV Araon reached the Sparta and the vessel was able to make its way to Nelson for permanent repairs.

John says in practice there is no difference between a national and an international SAROP, although the Antarctic can add some extra complications.

"We follow well proven international processes, which come from under the overall mantle of the United Nations in the form of the International Aviation and Maritime SAR Manual. We also have an Antarctic SAR plan, which provides contact details for all the relevant organisations that we might need to tap into, such as the US National Science Foundation, Antarctica New Zealand, McMurdo base and the NZ fishing fleet that operates in the area. It also provides us with flowcharts to guide us through typical situations."

The issues that arise in an international SAROP are typically lack of resources and language difficulties, although English is the common language for both SAR and air traffic control.

"If we need to, we will obtain the services of interpreters and put them in our operations room so they are in direct contact with a ship's crew," says John. "Often ships will have English speaking people on board, but sometimes the initial language barrier delays getting somebody we can communicate with."

The cooperation between countries is usually excellent, thanks to SAR agreements with neighbouring nations.

"You have to know what resources each bordering nation has, what their capabilities are, how to contact them and how they can contact you," John says. "If we can communicate by phone, fax or email we can work together."

SAR insight

Learning From What We Do Saves Lives

By Senior Sergeant Bruce Johnston
National SAR Coordinator, New Zealand Police

There are a number of approaches we can take to learn from what we do just as there are all manner of resources and statistics to help us continually improve our practice. There is no doubt that the SAR sector has made a lot of progress in developing a culture of continuous improvement.

We have the opportunity to learn from every incident. The 'hot debrief', which happens immediately after the search and rescue operation (SAROP) has finished, is a crucial step. The hot debrief may also be followed up with a more formal debrief, ideally run by an independent person who was not involved in the initial SAROP. Unfortunately, on too many occasions, lessons are identified but they are only discussed in the locality they occurred in.

Sarex hot debrief -Santoft Forest

Implementing small but effective practices, such as those suggested below, goes a long way to ensuring that continuous improvement is always sought for the benefit of those who require our search and rescue services. In a nutshell: it helps us to save lives.

- Issues that need to be improved on, or those that have worked really well, should be highlighted and disseminated to the wider SAR sector so everyone can benefit from what is learnt. This section in Link is an excellent place to inform our SAR colleagues.
- Where 'lessons identified' are highlighted, essential SAR-related documents such as 'SAR Pre Plans' and the SAR chapter of the Police Manual of Best Practice are updated.
- Informing the National SAR Coordinator at Police National Headquarters as well as other SAR partners of potential barriers, issues and successes is vital to developing more effective SAR procedures.
- The lessons identified can also include feedback from next-of-kin, the Coronial hearing into a death and the Coroner's subsequent recommendations.

Effective training within each SAR partner agency and working and training together on a regular basis ensures all parties involved are known to each other prior to the real event. This is not limited to more formal SAREXs only, but regular district training and SAR courses, including refresher training. Police SAR squads are required to have twelve training days per year; 60% of those must be multi-agency events.

Having good quality statistics is proving to be an important aspect of continuous learning as they can show trends, identify strengths and highlight areas of potential weakness.

For example, they can indicate a trend in SAROPs in a particular area, which may mean work needs to be done to up-skill local SAR staff and volunteers so they are able to better respond to the emerging trend.

I believe the sector has matured enough now to understand that the most significant benefit of sharing the good, the bad and the ugly with colleagues, and with peers outside their area, helps others save lives.

Post SAROP debrief – a lesson identified

A person with (as yet to be formally diagnosed) dementia went missing.

The vitally important information that the person was totally deaf in one ear was not initially discovered despite interviews with relevant people being carried out at length by trained SAR staff from Police and a SAR partner agency. Nor was the information volunteered by the family.

SAR searchers spent the night carrying out sound and light attraction with no success. The missing person awoke the next morning and was discovered walking out of the bush as the new search teams were deploying. Due to the dementia factor, and despite best efforts, it was impossible to ascertain where in fact the missing person had been!

The post SAROP debrief identified that the missing medical information impacted greatly on the ability to find the missing person. The lesson learned was to conduct the next-of-kin interview using the missing person's Police form and to methodically check off the questions one by one ensuring nothing was left unasked.

news continued

Why? Where? What? Gathering the Evidence

Surf Life Saving New Zealand (SLSNZ) has undertaken a comprehensive assessment of New Zealand's coastal environment in an effort to increase public safety on and around beaches.

The Coastal Public Safety Assessment (CPSA) includes an in-depth analysis of the coastal environment and the interaction of people within this environment. It also identifies and analyses numerous contributory factors, including:

- Hazards (i.e. shifting sandbars, deep holes, rip currents, etc.)
- Beach structures, facilities or existing infrastructure
- Tourist attractions
- Site usage trends
- Demographic profiles
- Existing rescue/incident profile (to identify trouble spots)
- Existing emergency response to the site.

Nick Mulcahy is SLSNZ's Coastal Public Safety Officer. He says this evidence-based approach will ensure that the factors contributing to incidents at particular sites are fully understood.

"We are finding out why, where and what happens at over 100 of our most troublesome coastal sites. The information we're gathering is robust which means we can tailor plans and risk mitigation confidently, to enhance public safety."

SLSNZ is developing ten year implementation plans for each site outlining initiatives ranging from installing safety signs to training local campsite owners to use basic rescue equipment when lifeguards are unavailable. This information will all be held on a newly developed website **www.codeblue.org.nz**.

"We've also developed a public savvy website that combines safety information with the joys of the being at the beach."

Featuring beaches of greatest concern, **www.findabeach.co.nz** also points out local hazards and encourages the public to follow basic safety rules alongside information on great surf and swimming spots, enabling people to enjoy themselves safely.

In what is very much a collaborative approach, SLSNZ is now working with Coastguard New Zealand using the CPSA as a template for the marine environment.

Coastguard New Zealand Central Region's Operation Manger Rebecca Karl says that 30 bar crossing sites around the country have been identified.

"We're beginning the physical assessments very soon using a Coastguard volunteer from each of our Regions. It's an exciting opportunity to be involved in a project of this sort, tailored to the marine environment, and we're looking forward to seeing some evidence-based reports from these assessments."

Nick believes the key to the success of this programme lies in collaborating with agencies and communities that have a stake in preventing incidents, in particular drowning.

"Having Coastguard use the assessment model increases the collective evidence-based knowledge of this country's hazards."

ACC have also provided considerable support from the outset as they see real value in evidence-based drowning prevention initiatives. Their Public Injury Insurance Manager, Sacha O'Dea says SLSNZ is taking a smart approach to the problem.

"We'll be interested to see how it can apply to other high risk environments like rivers. It is great to see the sector working together not only to find ways to prevent drownings but also in sharing the knowledge gained as a result of this assessment."

Nick points to the iconic Hot Water Beach (pictured) to illustrate CPSA's value and the buy-in from the locals.

"Hot Water Beach locals can barely watch the sea some days as visitors continually aim for the calm spot between the waves to cool off in after a soak in the hot pools; this calm spot is always one of three notorious rips running along the beach."

Hot Water Beach (HWB) Chairman and Head Lifeguard Gary Hinds says they are appreciative of the awareness the CPSA has raised and the resources that are starting to be put in place.

"Already this season there has been one drowning and two near misses. The latest victim was saved by a series of incredibly lucky circumstances. A surfer spotted him and dragged him out and a holidaying paramedic was on the beach and performed CPR immediately until lifeguards (who were called out by locals) took over with our medical equipment. He was subsequently stabilised and airlifted to hospital where he made a full recovery. "

Local surfers are now volunteering their time to be trained in after-hours water emergency response alongside 10 local guards. Gary adds that giving safety briefings to the Kiwi Experience tour buses that come to the beach daily is also a great preventative measure.

"This was highlighted one day recently when a briefing didn't take place and two English tourists had to be rescued from a rip!"

Duncan's desk

As the supposed summer of 2011/12 fades fast into memory, it is great to see that the search and rescue sector as a whole is in good heart and making real progress in a number of areas important to our future. The work we have been doing with a range of partner organisations on AdventureSmart, the three Safety Codes and the Outdoors Intentions Process have all come together well. Early indications are that these consistent and accessible messages are being well received by the public, which is positive as the aim is that over time they will help drive down the demand for SAR operations that are due to people's inadequate preparation.

The Tertiary Education Commission review into search and rescue training continues and the outcome of this review has the potential to change a number of existing training habits and relationships. I see this review as a great opportunity for us to better align our training with our actual needs that are based upon operational requirements. I anticipate this will be decided by Government before the next issue of Link and I will ensure that information is shared when it becomes available.

The New Zealand Search and Rescue (NZSAR) Council met recently and approved a strategy to enhance the SAR sector's cooperation with the Civil Defence and Emergency Management sector. Recent disasters, such as the Christchurch earthquakes, have starkly illustrated the need for the two sectors to become better aligned and more familiar with each other's capabilities, limitations, processes, etc. This is very much a bottom up, whole of sector strategy where the real effect is achieved by the local SAR unit/group being in close contact with the local CDEM group. The national strategy can be found on our website (www.nzsar.org.nz) if you would like to know more.

We have also been working collaboratively to develop policy for Mass Rescue Operations (MRO). With a number of operational plans already in place this will be an important piece of work, as it does not need much imagination to envisage a Costa Concordia type incident or some other form of mass rescue occurring somewhere within New Zealand's area of responsibility.

It has also been interesting to see that the overall numbers of SAR incidents for the last half of 2011 was about 17% lower than for the same time in 2010. It's hard to attribute this to any particular cause: it could be due to us being glued to the TV as the All Blacks won the World Cup (very happy about that); the generally poor weather some of us have had to endure; people taking the safety messages on board and taking more care to prepare for their activity; high fuel prices; the financial crisis; or perhaps a combination of some or all of these effects. If anyone can pinpoint the reason – it would be great to hear from you.

There's been a few changing faces since our last Link. I'd like to welcome three new chief Executives – Harry Maher will head LandSAR, Patrick Holmes is in charge at Coastguard New Zealand and Paul Dalton is taking over the CE role at Surf Life Saving New Zealand. Congratulations to you all, I look forward to us all working together on behalf of the SAR sector.

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

NZSAR

useful website links

www.nzsar.org.nz – New Zealand Search and Rescue Council. This newsletter is available as a PDF on this website.

www.adventuresmart.org.nz – Safety information and tips for the public planning outdoor activities as well as links to organisations with specific safety information about their chosen pursuit.

www.beacons.org.nz – Information about 406 Beacons, including where to purchase, rent and register a distress beacon.

www.metservice.com – Comprehensive weather reports.

www.codeblue.org.nz – a web-based information management system, which stores all the data and recommendations from aquatic risk assessments

www.findabeach.co.nz – beach safety information

calendar

SAREXs and SAR training – see http://searchandrescuecouncil.org.nz/nzsar-calendar

- **16 – 18 April 12 – On Scene Co-ordinators course, Police College**
- **5 – 6 May 12 – Air Observers initial two day course, Police College**
- **21 – 23 May 12 – On Scene Co-ordinators course, Christchurch**
- **26 – 27 May 12 – Air Observers Helicopter refresher course, Dunedin**
- **26 – 27 May 12 – Back Country Technical Rescue Workshop**
- **7 – 18 May 12 – Police National SAR Course, Dip Flat**
- **9 May 12 – Combined NZSAR Council and Consultative Committee Meeting**
- **9 May 12 – NZSAR Awards Ceremony**