Link
• december 2008
Connecting the Search and Rescue Sector

news

SWITCH TO 406 DISTRESS BEACONS www.beacons.org.nz

Mythbusters: exposing myths about distress beacons

New Zealand Search and Rescue has concerns about some myths surrounding 121.5MHz, 243MHz and 406MHz distress beacons (EPIRB's, PLB's & ELT's). To ensure the public is given the correct information, NZSAR is asking the SAR sector to help discredit the myths and to actively promote the switch to 406MHz beacons.

NZSAR Secretariat Manager, Duncan Ferner, released the following myths and truths so the public get clear and consistent messages about distress beacons.

- ***MYTH***
- 121.5MHz and 243MHz Distress Beacons will be monitored after 1 February 2009.

- ***TRUTH***
- On 1 February 2009 the satellite system monitoring 121.5MHz and 243MHz distress beacons will be turned off worldwide. This means RCCNZ will not receive an alert and they will not be given an approximate location if this type of beacon is triggered.
- Aircraft will continue to monitor 121.5MHz BUT being heard is dependent on an aircraft flying nearby the beacon and no location will be given. From a SAR point of view this is next to useless because even if the alarm was raised by an aircraft the potential search area may be enormous.

- ***MYTH***
- The 406MHz distress beacons will not work on the West Coast of the South Island.

- ***TRUTH***
- Beacons must have line-of-sight contact with satellites to communicate. Deep narrow gorges and large overhangs can affect beacon communications with the geostationary satellites BUT the low orbit satellites will be able to pick up the 406MHz signal – it just might take a little longer to raise an alert.

- ***MYTH***
- The 406MHz distress beacons are not monitored until February 2009.

- ***TRUTH***
- 406MHz beacons have been monitored for many years.

- ***Messages for the SAR Sector to convey***
- **Replace 121.5/243MHz distress beacons with 406MHz beacons before 1 February 2009.**
- **It is vital that 406MHz beacons are registered with RCCNZ.**
- **406MHz beacons with inbuilt GPS are strongly recommended.**
- **In the marine environment EPIRB's are better. Many PLB's do not float.**
- **121.5/243MHz beacons need to be disabled by physically disconnecting the batteries.**
- **They then need to be disposed of responsibly.**
- **Do not purchase a 406MHz beacon from overseas – they will not have the correct New Zealand identification code.**
- **406MHz beacons can be used worldwide but they must be registered here in New Zealand to get a positive response to any activation.**
- **For more information, including places to purchase or hire, check the beacons website: www.beacons.org.nz**

It is also important to convey the difference between a 406MHz distress beacon and other satellite tracking products now available. People should make themselves aware of the capabilities of any device they purchase, ensuring it does the job they expect.

Changing Places

Martin Matthews is the new Chair of the NZSAR Council. He became Chief Executive for the Ministry of Transport in September. He brings extensive experience in government, public policy and monitoring and working with Crown entities, after spending the past ten years as Chief Executive at the Ministry for Culture and Heritage.

Martin successfully managed sensitive issues and high profile initiatives during his time at the Ministry for Culture and Heritage,

continued on the following page

news continued

continued from the previous page

and was responsible for overseeing the funding and accountability for 18 Crown entities, Crown companies and Non Governmental Organisations. He was also responsible for leading a series of nationally significant initiatives, including the Tomb of the Unknown Warrior, the New Zealand Memorial in London, the development of Te Ara (the online encyclopedia of New Zealand) and the transition to digital free-to-air broadcasting.

Martin has a Bachelor of Arts (Honours) in Economics and is a Chartered Accountant. He is very much looking forward to becoming involved in New Zealand's Search and Rescue Sector.

Carl van der Meulen has joined the NZSAR Secretariat as a Senior Advisor. Carl joins the Secretariat from the Department of Internal Affairs, where he worked as a Funding Advisor for the Lottery Grants Board.

Previously Carl has served in the RNZAF as an Avionics Technician, completed studies at the University of Canterbury (where he became an avid CRUSADERS fan), moved back to Wellington (where he became an avid PHOENIX fan) and started a career in Public Service. Carl's main interest outside of work is football, and he is the specialist goalkeeping coach at Island Bay United Football Club.

LandSAR New Zealand has a new Chief Executive. **Hadyn Smith** took up his new role last month, having previously held the CEO position at Manawatu Rugby. He has also been CEO of Softball New Zealand and is a former police officer.

LandSAR is in a building phase as it develops from a network of regional groups to a national organisation. Haydn's role will involve working closely with LandSAR volunteers, police and other interested parties to ensure this transition runs smoothly.

Geoff Logan is leaving his position as Police National SAR Coordinator, having been promoted to another role. Geoff will still have a link with SAR through Police Liaison duties to the RCCNZ and involvement in the National Disaster Victim Identification team.

Geoff would like to thank all those who he's worked with whilst he's been in SAR, "as I know our combined efforts have made a difference to all the people we have assisted. I am also confident that the structures we have put in place and the relationships we continue to build and improve will ensure that we can provide the best possible SAR response in the NZ Search and Rescue Region."

The Police are hopeful the process for finding Geoff's replacement will be completed by the new year.

New Technology

Technological advances continue to improve outdoor safety and SAR outcomes – from increasingly accurate satellite reporting systems to instantly heated food!

- ***Safety at Sea***

In an effort to cut the numbers of fishing fatalities in Britain, the Royal National Lifeboat Institution(RNLI) has launched a safety product designed to help keep fishermen safer at sea by alerting the emergency services more quickly and accurately than is normally possible. Called MOB (Man Over Board) Guardian, it automatically transmits hourly updates of a vessel's position, course and speed, via satellite. The vessel is confidentially monitored by the RNLI's operations centre and if a report is missed, SAR agencies are alerted immediately. MOB Guardian is intended for smaller fishing vessels crewed by one to four fishermen.

MOB Guardian also features a unique personal safety device that is worn by fishermen while at work. It can be placed in a pocket or hung around the neck. The RNLI report that a number of fishermen's lives have already been saved around the United Kingdom due to MOB Guardian.

- ***Direction Finding***

Improvements continue to be made in the field of direction finding. Advanced 4-band direction finders have come onto the market which can be used for ships and airborne rescue missions as well as for voice communication and navigation. There is also a trend towards 406MHz direction finders. These take advantage of the increased power output of 406MHz distress beacons and are able to provide a reliable bearing from a greater range than those which rely solely on the on 121.5 MHz frequency. The more sophisticated of these 406MHz direction finders can also interpret the beacons signal to decipher its unique hexadecimal code and, if provided, the beacon's GPS location.

- ***Thermal Imagery***

Thermal imagery is becoming more and more sophisticated. Whether the victim is a lost child or a disoriented elderly adult, a thermal imager can now detect a human at 300 metres or more. Conventional night vision equipment requires light or special illuminators whereas thermal imagery can overcome low-light situations and environmental conditions, such as fog or smoke, using the person's body heat.

A thermal imager can also help locate boaties and swimmers in distress, even in moderate fog. It will not see through water, however, so it can't identify things that are completely submerged.

- ***Instantly Heated Food***

A new product on the market uses technology conceived for NASA astronauts to heat ready-made meals in minutes. A crystallisation process means you can put meals ranging from chilli through to scrambled eggs and desserts into a specially designed oven bag, add two ounces of water (which starts the necessary reaction) and your meal will be piping hot in 10-15 minutes! These ready-to-eat meals have a shelf life of up to five years.

SAR in action

Avalanche Man

An approaching avalanche can sound like a jet engine or a roaring river. As its crest drops to the bottom, like a wave on a beach, it accelerates towards you while pushing winds of up to 350 km/hr. And, according to Steve Schreiber, when you hear it your thoughts will be about one thing only: surviving. Steve is the Senior Programme Manager of Avalanche, Alpine and Snowsports at the NZ Mountain Safety Council and he knows avalanches well – especially the one he survived only a few years ago. "When I got hurt my thought process about search and rescue changed because it became personal," says Steve. "That was the moment I decided to take a step back from working on mountains to use my knowledge and skills to help train and assist others in mountain safety."

Steve started skiing as a boy in the Colorado mountains, eventually joining the local ski patrol. He qualified as a paramedic, which helped to hone the skills he has since used in Mountain SAR (search and rescue), and eventually relocated to Methven, on the Canterbury plains. During his career he has been involved in dozens of SAR operations. Steve says there is no typical SAR incident. "The systems behind each one are typical, but the circumstances are always different. SAR is a desperate act and people need help quickly because the avalanche survival rate is good for the first few minutes, but it quickly drops to around 30% after 30 minutes, and only 3% after 90 minutes. The best rescue scenario is one where a party can help themselves, but if they can't, it becomes the statutory responsibility of the Police to help them. The nature of the SAR operation is established by the skill sets required, and the Police will tap into whatever resources they need including people such as ski patrollers, mountain and heli-ski guides, local rescue teams including dogs and their handlers and SAR volunteers, and available gear."

Although avalanches are commonly associated with snow and the winter months they do actually happen all year round. So far this year there have been 30 – 40 mountain SAR incidents involving 50 –100 people, although it's hard to accurately know the exact

number due to a lack of resources supporting research and a lack of willingness from those caught out to share the details.

"Avalanche rescues generally involve people who just wanted to go out and have some fun but things didn't work out. In New Zealand there is a culture of risk taking; bungee jumping, extreme skiing, etc, and young men and women are going to take risks. The people who get in trouble are generally young males, often climbers and extreme skiers, who go outside the boundaries to the back country to recreate. They think they are invincible so they don't necessarily plan ahead or think about potential problems they may encounter – or the potential risks that someone may need to take to rescue them", says Steve.

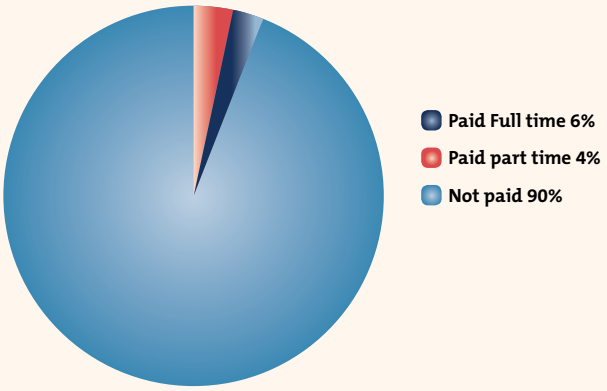
Volunteers, with the right skills for Mountain SAR, are highly valued. Ideally, anyone interested in assisting with an avalanche SAR operation should be comfortable in a mountain setting, have basic search and mountain safety skills, be willing to maintain their skills through practice, able to be emotionally detached and remain level headed, and have a 'never stop learning' attitude. There are transceiver training kits available at most ski areas so that people can practice on their own and when it suits, and courses available to improve mountain SAR skills include the Professional Avalanche Training Programme, which is administered by the NZ Mountain Safety Council and run in conjunction with a number of providers across the country.

Steve says, "once you are in the door we emphasise the courses that are available and we start the process of helping people willing to pursue the learning needed to be managers, team leaders, or searchers, etc. We want people to be actively involved in learning and we have developed a world class opportunity so they can maintain their skills because when you are in the thick of a SAR operation it is about 'just doing it'. Rehearsal and incident preparation is a big part of learning and training for any SAR operation – you maintain your skills through practice and that gives the rescuer a real chance at saving a life."

Link

stats attack

Trained NZSAR People



A total of 11,082 SAR trained people are directly involved in the NZSAR sector with a further 1,510 working in support of them. 90% of the sector are non paid volunteer professionals. The chart above illustrates the dimensions of the sector. Previous studies have identified that New Zealand has one of the highest rates of volunteer involvement in SAR in the world.

calendar

- **The Marine Search Controllers & Managers and Managing Land Search Operations courses held concurrently for both weeks: 9 & 16 February 2009.**
- **The National Air Observers course: 2&3 May 2009. All are held at New Zealand Police College. (Dates for additional Air Observers courses and On Scene Coordinators courses are yet to be determined).**
- **NZSAR Consultative Committee: Thursday 19 February.**
- **NZSAR Council meeting: Wednesday 4th March.**
- **Closing date for applications to the Lottery Outdoor Safety Committee: 24 April 2009.**
- **International Maritime Bravery Award nominations for the March to February year close: April 2009.**

useful website links

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

www.beacons.org.nz – 406 beacon information & online registration

www.caa.govt.nz – Civil Aviation Authority

www.landsar.org.nz – LandSAR New Zealand

www.mountainsafety.org.nz – Mountain Safety Council

www.aia.org.nz – Aviation Industry Association

www.cdgo.govt.nz – Lottery & COGS information & grant applications

from Duncan's desk

While it has been a challenging year for the New Zealand Search and Rescue sector, I am hopeful that the very real progress we have made at the strategic level has become apparent to the people within the sector. The interim two year SAR funding provided in this year's budget has allowed a number of long planned initiatives to get started, such as the SAR sector training review. It is great to see the progress reports from Ted Preston, who is conducting the review for us. I am particularly grateful to those of you who willingly gave your time, your thoughts and your consideration to Ted. I am sure that this review will provide us with a great platform to make some positive decisions around SAR training.

The 2008 NZSAR stocktake is complete. It contains some noteworthy numbers. For example, of the over 11,000 of you who are trained for SAR operations, 90% are non paid professional volunteers. We cannot underestimate this remarkably high rate of voluntarism and how heavily reliant the general public is on such commitment and generosity. It also underscores the importance of ensuring that we continue to provide the necessary support and recognition you deserve for the work you do in saving lives.

Carl has also done some great work analysing the collated statistics of all the search and rescue work done throughout the New Zealand search and rescue region in the past year. These show that the number of land and marine SAR incidents is variable. There is, however, a concerning trend upwards in the number of aviation related SAR incidents, with an 18% increase over the last 4 years.

These facts and figures may seem far removed from the day-to-day conduct of SAR operations in and around New Zealand, but they play a significant role in the decisions that are made about things such as where to allocate money and what type of preventative programmes to run.

These statistics are the end point of the post SAR operation debrief and report form that should be completed following every SAR incident. So, if you have the job of completing these forms, please take the time to complete them as well as you can. I can assure you that they are read and they are all useful.

I wish you all a great summer season and hope that the annual upswing in the number of SAR incidents is not too great.

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

NZSAR