

In Edition #19

- Dunedin Tracking Competition 2013
- LandSAR Refresher Training
- NZQA EER Report

"Highly respected land search and rescue stakeholders... recognise SARINZ is a quality search and rescue [training] provider that understands and responds to the interests of its sector and communities"

- EER Outcomes Explained
- SARINZ AOTL Course Reference Gets An Update

- POD - Fact or Fiction?
Our thoughts might just surprise you....

- Snapshots From The Year
Including glimpses from our international training from a busy year abroad.

- Core Principles of SARINZ
- Contact Details

Dunedin Tracking Competition 2013

Early September saw tracking enthusiasts converge on Dunedin for the second running of the Dunedin Tracking Competition.

The weather forecast of snow and heavy rain forced a number of late withdrawals, but the competition still had seven teams across all three sections - at least ensuring every team would secure a podium place.

The 2013 event was a huge planning and logistical exercise and was once again well organised and conducted, with the weather

conditions testing tracking teams, equipment and track layers. A pleasing note was the huge improvements across all sections of the competition, with all sections scoring very close and the Novice teams completing 3 times the distance of last years teams. Special mention must be made of the Catlins team, whilst competing switched from training mode to an operational deployment to retrieve two "lost" track-layers suffering from mild hypothermia - a record that will never likely be beaten as the fastest find in the advanced section. The Catlins team also take the prize for "best campsite locality", "best equipped campsite" and "team we would most like to operate with". Photos and full results appear on page 2.



Catlins advanced team members pay their respects to the team leader.

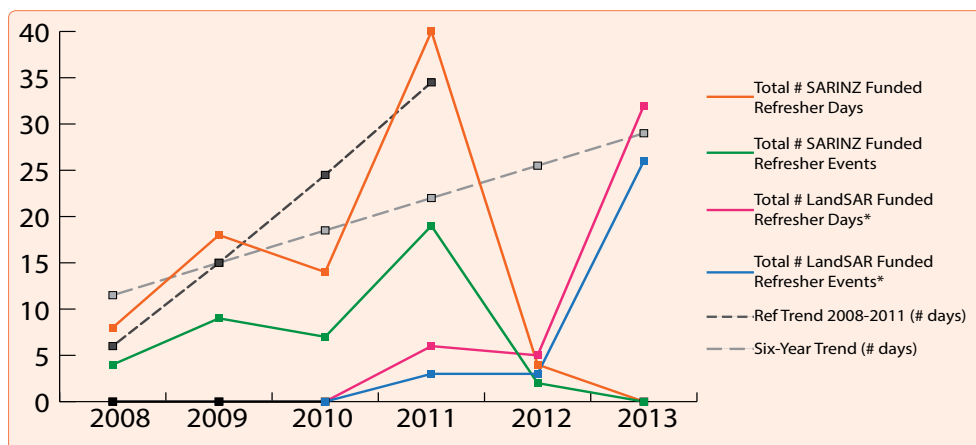
LandSAR Refresher Training 2013

2013 saw the first year of a three year arrangement for SARINZ to provide refresher training to LandSAR groups throughout the country. LandSAR would determine the need, sort the schedule and promote the events and SARINZ would provide tutors and content.

By the years end we will have delivered 21 Field and 6 IMT LandSAR funded refreshers plus a handful of locally funded refreshers. Whilst the IMT Refreshers are a LandSAR approved 'stock' package, the exciting part for the SARINZ team was that every one of the 21 Field Refresher were different - all customised to best fit the local group need.

On a pleasing note is the continued upward trend of refresher training. This had been well forecasted from the beginning as likely to occur, and as the clear majority of 2013 refreshers were delivered within 3 LandSAR regions there is plenty of scope and capacity to deliver a greater number of refresher training events in 2014 and beyond.

LandSAR groups seeking refresher training should discuss this with their LandSAR GSO in the first instance to ensure it is included in the training calendar. Once this is done we can discuss the topics to best meet your needs and requirements.



Six-Year Refresher Training Trend - note all totals exclude First Aid refresher/revalidation training.

**SARINZ/Ross Gordon Cup
Advanced Section Winners**



1st: Hamilton-Tauranga LandSAR
2nd: Dunedin LandSAR
3rd: Catlins LandSAR

**Nick Coyne Trophy
Operational Section Winners**



1st: Dunedin LandSAR
2nd: Dunedin Police

**Lodge St Patrick Cup
Novice Section Winners**



1st: Dunedin LandSAR
2nd: Oamaru LandSAR

**Central Radio Service (CRS)
Tracking Team Leader Cup**



Paul Haddon - Dunedin Advanced Team
(at left in cap with the team at the conclusion of their 3-day track)

NZQA EER - What is it?

“NZQA is responsible for ensuring that tertiary education organisations continue to comply with the statutory policies and criteria after initial course approval and accreditation and/or registration is granted. Engagement in periodic external evaluation and review is one of those policies.” Source: <http://www.nzqa.govt.nz/>

In plain English, this means that NZQA engage in a discussion or interview process with the training organisation, its current and former learners and the organisations that the learners come from (stakeholders). The discussions are confidential between the individuals and the NZQA evaluators and the collective information is used to form an opinion on the training organisation (see following page for details).

The outcome of the evaluation determines many things such as priority handling, preferential treatment and the reoccurrence of the EER process for that organisation.

What did the NZQA EER Report have to say about SARINZ? *Well, quite a lot of really good stuff...*

“The effectiveness of SARINZ training is considerable and based on its knowledge, experience and research.”

Overall the report was very positive about SARINZ training and the outcomes to learners. The information that the NZQA evaluators use to make the judgement statements are collected from various sources with all comments triangulated for accuracy.

This means that whatever SARINZ reports is checked against information gained from interviews with former students and with stakeholders to form a balanced report. We wish to publicly acknowledge all those that opted to take part and discuss their views with the NZQA evaluators.

“Highly respected land search and rescue stakeholders... recognise SARINZ is a quality search and rescue provider that understands and responds to the interests of its sector and communities and is well connected locally, nationally and internationally.”

For SARINZ, the outcome was mostly as predicted, which at the very least means we understand our business and the needs of our stakeholders and clients.

A real positive to come out of the independent report is the reinforcement that the delivery of SARINZ training (tutors, materials and processes) are up with the very best training providers in New Zealand.

“SARINZ has endorsed a process whereby... only subject matter experts with the learners’ best interests in mind and using approved and well-practised teaching methodologies are put in front of participants.”

The feedback from learners has been very positive with regard to how well training is run, how well tutors relate to the learners, and the passion, knowledge, experience and skills that tutors have and share.”

For SARINZ, the value that we collectively place on ensuring that everyone who attends our training is provided with the most up-to-date ‘best-practice’ materials we can access continues to be an asset. For SARINZ this continues to mean partnering with credible international peers and organisations to share knowledge and research in the best interests of all.

“The integration of current and new research-based knowledge and practical skills is highly appreciated. SARINZ learners gain essential, relevant and up-to-date knowledge and skills that enable them to contribute positively to their local, regional, national and even international communities.”

“Learning environments are carefully and meticulously planned for the benefit and needs of learners... learners apply and practise their knowledge and skills in a variety of relevant and genuine contexts.”

...continued on page 3

NZQA EER - outcomes explained

All non-university tertiary education providers are placed into one of four Provider Categories on the basis of their EER results.

SARINZ was evaluated as:

- **Highly Confident in Educational Performance**
- **Confident in Self Assessment Capability**

The Provider Categories are as follows (colour coded against the table below).

- **Category 1:** providers with two Highly Confident judgments from EER, or Highly Confident in educational performance and Confident in capability in self-assessment.
- **Category 2:** providers with two Confident judgements, or Highly Confident in self-assessment, and Confident in educational performance.
- **Category 3:** providers with Not Yet Confident judgements.
- **Category 4:** providers with Not Confident judgements.

		Educational Performance			
		Highly Confident	Confident	Not Yet Confident	Not Confident
Self Assessment Capability	Highly Confident				
	Confident	SARINZ			
	Not Yet Confident				
	Not Confident				

NZQA is responsible for ensuring that tertiary education organisations continue to comply with the statutory policies and criteria after initial course approval and accreditation and/or registration is granted. Engagement in periodic external evaluation and review is one of those policies. Each external evaluation and review provides an independent judgement of the educational performance and capability in self-assessment of all non-university tertiary education organisations (TEOs).

External evaluation and review is a systematic process of enquiry designed to provide independent judgements about an organisation's performance and capability in delivering high quality education. These judgements are expressed as statements of confidence where:

Educational performance is the extent to which the educational outcomes achieved by a tertiary education organisation represent quality and value for learners and the wider community (employers, regions, local or national interests).

An evaluation of educational performance involves answering questions focused primarily on the quality of learning and teaching, and the achievements of learners.

Capability in self-assessment is the extent to which an organisation uses self-assessment information to understand performance and bring about improvement. That is how effectively an organisation manages its accountability and improvement responsibilities. Source: <http://www.nzqa.govt.nz/>

Completed EER reports for all registered training providers in New Zealand are available to the public on the NZQA website. Go to www.nzqa.govt.nz and type **EER REPORTS** into the search function and it should be the first link listed. You can also view all Polytechnic reports by typing in **ITP EER REPORTS** and once again it should be the first link listed.

NZQA EER - What is it?

...continued from page 2

The changes in the SAR sector, whilst having had a detrimental effect on SARINZ income and the ability for many to access high quality, well resourced current training has allowed SARINZ to provide more customisation to better meet frontline needs. This in turn has led to new and redeveloped processes and materials, raising the delivery bar to a new level.

“Customising whole programmes for particular organisations contributes to their effectiveness and towards matching the needs of the wider sector. The flexible tailoring to the needs of different individuals and groups, whether whitewater kayaking or bush tracking or vehicle processing, supported by appropriate equipment and resources, is highly respected.”

“Training and living in the outdoors gives access to a variety of terrain features, which helps make the training authentic, as do group and teamwork approaches to learning, and practising various processes and learning how to better integrate several techniques, as happens in real search and rescue operations.”

Whilst the amount of NZQA or tertiary assessment work that SARINZ undertakes has decreased in recent years, that which we do perform is highly effective and appropriate. What this means is that SARINZ is assessing using approved materials, at the level required for the unit standards.

“SARINZ assessment is valid, sufficient, fair and consistent.”

Many students may not be aware that training organisations are assessed on student completion rates - that is the percentage of persons passing a course. The greater the completion rate the better the organisation is seen to be doing. This means that some within the training industry “pass” everyone that turns up in order to make their achievement rates look good. If you turn up to a SARINZ training course which incorporates NZQA unit standard assessment **you will be assessed according to the unit standard requirements at the level required by the standard**. This may mean you may not pass on your first attempt - but we will work with you to achieve competence. For example if you get to the end of a ropes course and cannot tie the range of knots required by the standard, you will **not** be awarded the unit standard(s), but we will provide additional resources and the opportunity to be reassessed in the future once you have the skills and/or knowledge.

“While learners are motivated to succeed, not all do so at the first attempt, or subsequently.”

The important aspect for SARINZ is that the report did identify several areas for improvement - all around self-assessment capability and practise. Mostly for SARINZ this has to do with more “real-time” analysis of feedback and information as well as improved data collection on ethnicity and gender of those attending SARINZ training. Most of the recommended changes have already been made in terms of data collection and the updating of processes is underway. One downside to improving our EER results is that future course attendees can expect to be asked to provide this data when attending or registering.

Note: All text in blue are direct quotes from the NZQA report.

AOTL Course Reference gets an update

The SARINZ researched, developed and delivered Action Orientated Team Leaders (AOTL) course reference has had a makeover - well actually two makeovers this year.

At the beginning of the year the reference was updated into the A5 full-colour format like many of the other SARINZ course references. Since then, due to further client requests it has had two additional chapters added - Task Management and Volunteer Management. There has also been standardisation and update of images, graphs and pictures throughout the reference.

Feedback on the new and improved reference and material has been overwhelmingly positive. For those undertaking AOTL training this is the "take-home" material for future reference. It has proved so popular that one organisation came back and requested to licence the material as their own in-house leadership reference - we were more than happy to support them with this.

The SARINZ AOTL course continues to be very popular with a wide range of delivery options incorporating assessment of various NZQA unit standards and/or organisational competencies.

So far in 2013 we have delivered the AOTL course in one, two, three and six day formats to meet various client outcomes. SARINZ have partnered with two other NZQA Cat 1 providers to co-deliver AOTL training in the corporate and CDEM markets. Talk to us to see how we can help you. The following are some snapshots from the updated AOTL course reference.

From the section 'Leadership Qualities'

At its core, leadership requires both character and competence. The character of the individual best defines the action orientated leader. It creates the foundation for the development of a level of trust between the leader and members. Leaders must set high ethical standards in personal behaviour.

From the section 'Factors that influence decision making'

Perception is a crucial element in the decision-making process as behaviour is based on the perception of reality and affects the way in which an individual makes a decision.

From the section on 'Management of Volunteers'

Management of volunteers is all about relationship management. Make sure you work hard to keep the relationship in order. Damage or harm the relationship, you will lose your ability to manage volunteers, or you may lose them from your organisation entirely.

Volunteers have a world of options - they do not have to belong to your organisation. Volunteers have the option to 'walk away' at any time. Your organisation often needs their assistance more than they need your organisation - so act like it!

If you are to be a leader of volunteers, you need to cohabit with the interests of each member of the team. As a leader, you are competing for their time. Time is an incredibly valuable commodity. There are other groups, causes and ways in which the volunteer can spend their time. If you are going to get volunteers to willingly do what you need them to, you will have to put reasons, respect and options together to coax them.



The five deadly sins of managing volunteers

1. To waste a volunteer's time – ever.
2. To restrict a volunteer's effectiveness by not providing adequate training or tools.
3. To be so concerned about you, that you do not stand up and fight for the needs & rights of the volunteers you represent.
4. To offer volunteers certain opportunities and working conditions, and then not deliver, especially if paid staff conditions are met!
5. To be so worried about the numbers of volunteers you might need that you assign a person to a job not appropriate for the task being asked of them.

Adapted and modified from the original Energize mini-poster entitled "The Seven Deadly Sins of Directing Volunteers"

POD - Fact or Fiction?

SARINZ received many email's and phone calls regarding the decision by the Police to disregard Probability of Detection (and thus POS) in land search planning. We considered our options carefully, and determined that it was best to wait until the emotional response had ended. The email sent by Inspector Green did not come as a surprise, at least to anyone who really understands POD and the research papers which the website author has used as the key references and thus have ultimately influenced Inspector Green's decision.

Based on the evidence from which the decision was made, Inspector Green has reached the only logical conclusion.

Many of the points made in Inspector Green's email are the EXACT same points that SARINZ has been making for several years. We have been lobbying for change in the reporting of POD and have undertaken research to develop scientific based alternatives. Tasman Search and Rescue and the Tasman Police, in particular Sherp Tucker and Inspector Hugh Flower have been instrumental in driving an improved POD reporting process.

There is ZERO correlation between how well a search resource "believes" it has searched an area and its actual performance.

This comment was originally made at the 2004 (Hopuhopu) and the 2006 (Dunedin) LandSAR Conference by Robert Koester when presenting on POD developments in the USA - and referencing the same papers upon which Inspector Green's decision has been made. This position was again reiterated by SARINZ at the 2010 LandSAR Conference in Hokitika when presenting the sound and light detection index (POD) findings. A selection of the PowerPoint slides used in the 2010 presentation appear at right.

All of the research based evidence from 2001 to the present day tells us that we should not be asking search resources to report search effectiveness as a POD %.

SARINZ had the privilege whilst being in the US earlier this year to read and review a number of research papers concerning detection and the changes occurring in POD around the world. Whilst these papers are yet to become public, some of these changes have already been incorporated into our training materials and have already been taught in NZ. Appropriately knowledgeable instructors can teach field personnel to establish a research based POD for visual search.

Establishing a scientific POD for visual search is an incredibly simple process, requiring minimal computation and a simple graph, but in NZ, POD has been made out to be some complicated advanced mathematical process by so called "experts" that simply should have known better.

The reporting of POD in NZ is very misunderstood. Whilst the function of detection is a field search task, **POD (%) is a search planning calculation**. Field teams should not be expected to report their POD as a percentage. As taught in the SARINZ Search Methods course, being asked to report the number of objects you would likely have found converted to a percentage is a fundamentally flawed question. The question in its basic sense is asking a resource to analyse what it did NOT find - thus the balance is the chance that they would have detected the subject/object had it been in the area. How can any resource be expected to report what it did NOT find?

This argument is the basis of Inspector Green's decision to disregard the use of POD. And he is 100% correct IF this process is used.

Search theory is completely dependent upon an accurate assessment of how well a search area was covered. Fortunately extensive operations research has determined the factors needed to determine a meaningful probability of detection. Key to the formula for an objective probability of detection is the effective sweep width or detection index. The detection

Slide 2

Why bother?

- Good question!
- Traditional SAR theory $POA \times POD = POS$
- POD has only ever been a "best guess"
- How can we improve formal search planning with only having half of the information?
- Lead to better understanding of how to allocate resources in future SAR operations
- Other options for POD trials being considered appeared ad-hoc and lacked scientific validity

Slide 3

Current international thinking on POD

"A searcher is a reliable source of information on the search environment... and his/her physical condition, training, experience...[etc] However **the only direct detection information the searcher can reliably report is what objects they detected... and where and when they were detected...**

Searchers should... **report only what they can observe**; search planners should estimate POD values based on those observations and **the results of detection experiments"**

Slide 4

Current international thinking on POD

Koopman (1980) described three basic pitfalls to avoid when studying an operation with a view toward improving it.

1. **Focusing primarily on basic sensing capabilities without sufficient emphasis on how to use or deploy the available sensors to maximum effect in a search.**
2. **Trying to provide practical search planning guidance without first obtaining the scientific background necessary to provide sound guidance.**
3. **Inappropriate handling of the mathematics** by either trying to eliminate it altogether, thus eliminating much of the reasoning essential to providing practical advice, or by going to the other extreme and elaborating it to a degree of generality not required by either the theory or the practice of searching.

Slide 38

Key Findings

- It is possible to obtain a detection index for sound (whistles)
- First reported detection index for light
- Experiments conducted for relatively low cost
- Correction factors need to be established
 - Wind, Hearing, Background sound

Slide 44

So where are we heading...

- A search team only having to report the tangible factors of:
 - What technique they used
 - What the vegetation conditions are
 - Background noise level
 - Wind conditions
 - Weather conditions etc etc
- A scientifically field tested POD can then be established for that task

index takes into account the nature of the sensor (hearing and seeing ability of the searcher), the environmental conditions, and the search object. The only direct information the searcher can reliably report is: what search technique they used, the environmental conditions (weather, background noise, vegetation etc.) as well as what objects they actually detected and where and when they were detected. This is 2010 knowledge.

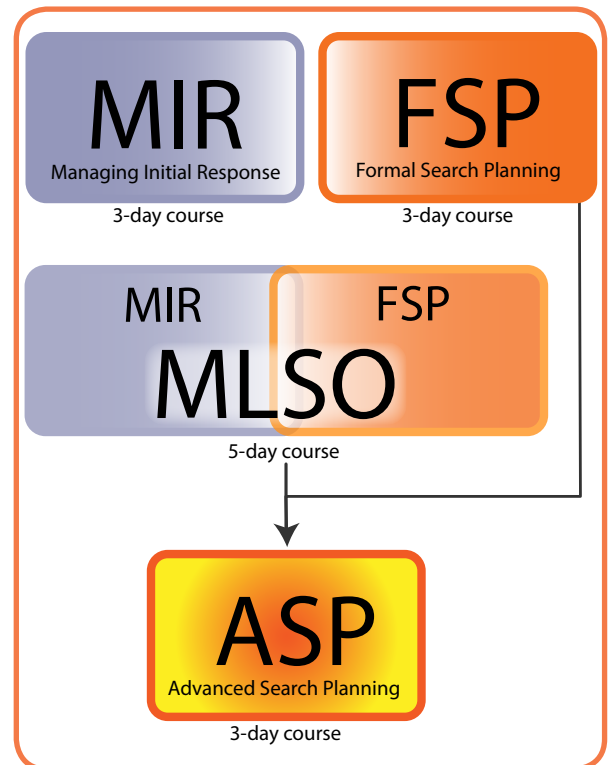
Search planners should establish POD values based on those observations and the results of detection experiments to establish a detection index.

This process is the world standard, and has been for a number of years. Modern search practice gives consistent and scientifically valid POD values from which POS values can also be established.

It is ultimately envisaged a comprehensive set of tables would be developed so that the planning team could establish a POD. Whilst there will always be a small amount of variability, this POD will be much more accurate than current "best guess" methods.

Several things need to happen in the short term to bring our knowledge on par with current international best practice.

1. Those responsible for overseeing training and policy decisions need to realise that they are being short-changed by their so-called "experts". Due to decisions to remove licenced material and promote internal development, land search planning is stuck circa 2007 at best.
2. Search management is NOT search planning. Search management, including the SARINZ Managing Land Search Operations (MLSO) course provides an overview of the search management processes for all members of an IMT. In the last 5 years, and the last two years in particular, there have been numerous developments in search planning and POD. Search planning is a specialist task and needs to be treated as such through educating and developing specialist search planners.
3. The urgent inclusion of *current* international field search practices into core field searcher training to provide them with the skills and knowledge to establish their own detection index. This will be needed until such time as the research and POD tables are complete.
4. Selected implementation of the visual detection experiments in NZ conditions to confirm the applicability of the data tables.
5. Investment in research to complete the sound and light detection index trials and establish the correction factors.



It is a pity that there appears to be a lack of technical expertise by those that are tasked with providing assistance or guidance to senior policy decision makers. It is a greater pity that the current political climate imposes on Police and SAR volunteers training that does not reflect current international best practice and thus they are required to often make decisions based on outdated information. This is compounded by the self-appointed "search experts" that are influencing these types of decisions.

Had Inspector Green received better technical advice his decision would likely have been different.

The advocacy of formal search planning without the inclusion of formal search theory is farcical. The only rationale for this is an attempt to justify why best practice formal search planning has not been available to the land SAR sector for nearly five years. NZ accepts that search theory works in the marine environment where search theory is applied appropriately. Search theory is proven to work in the land SAR environment when it is applied APPROPRIATELY.

To not use POD due to inappropriate use is justifiable, but the stronger outcome would be to ensure the inclusion of POD with the *appropriate* application.

When applied appropriately POD is both factual and meaningful.

Until such time as the experiments are complete, there are still plenty of international best practices which can be used to determine more valid POD than the antiquated "best-guess" method. Given the amount of research data available, improvements in search processes and the research underway, it is impossible to determine any valid reasons why POD should not be included in the formal search planning guidelines.

Interested in learning more? Email info@sarinz.com and we can email you some of the publicly available research papers or arrange a demonstration of the appropriate application of POD.

Snapshots from the year...

For SARINZ it has been an incredibly busy year. Unfortunately this was mostly to the rest of the worlds benefit, with the political situation in NZ meaning the restriction on the delivery of current best practice remains the status quo for most.

We began the year earlier than usual with several courses kicking off in January meaning a shorter than normal Xmas holiday period for staff and contractors.

February saw four of the new LandSAR funded Field and IMT refreshers occurring, with many groups taking up the option to extend the LandSAR day by directly funding a second day to meet a broader range of needs and to include topics outside of the approved LandSAR scope.

March and April were quieter than average with many new training processes falling into place and changes within the operational organisations creating uncertainty.

In May, SARINZ was in Cashmere, Washington to participate in the review of several research papers and discuss the implications this new research would have on training and practices moving forward. This was also a chance for many of the worlds leading SAR trainers to get together and discuss updates and share improvements in materials and teaching methodologies. There are plenty of new initiatives and improvements on the way - some of which have already been incorporated into the various SARINZ training packages.

The middle part of the year returned to some normalcy in terms of the number of training events, even if it was for an expanded client base with a slightly different focus.

In September, SARINZ were once again supporting the Dunedin Tracking Competition. We are pleased to once again be associated with such a well organised and run event. We had thought last year was close - but 2013 proved even closer, with some categories actually requiring a recount to be sure. Overall the standard of all teams had improved dramatically which shows the value of the competition and having a goal to train for. Well done to all those participating and a special thanks to the organising committee and those involved in the running of the event - a huge task for what is one of the largest logistical training events on the SAR calendar.

September also saw SARINZ back in the United Kingdom to further the work began in 2012. With the establishment of Search and Rescue Institute United Kingdom (SARIUK) and with several "trainee trackers" undertaking a great number of training hours since we were last there, we were pleased to see the growth in the core group that will become tracking trainers. We signed four of last years group off as Track and Clue Awareness (TCA) tutors and assisted them in the delivery of a TCA course, Sign Cutting course and delivered a customised Clue Site Processing and Operational Tracking courses. With another bunch of fine folk undertaking the tracking pathway we look forward to seeing their growth and signing them off as tutors next year.

To round off an incredibly busy September, SARINZ was also back in Australia delivering a TCA and Search Methods Refresher. This was a great day out for those that could make it and meant we could provide the updates since we were last there. The day received plenty of great feedback and learning for all.

October had SARINZ back with the Australian Antarctica Division sharing the updates and improvements in Rope Rescue practices and providing support for the updated operational guides co-developed by SARINZ last Dec/Jan.

All-in-all not a bad year with SARINZ having stepped up its materials and delivery to a new level, incorporation of new practices into our courses, a pleasing EER result and the opportunity to be working with, and alongside, some of the best in the business from around the world.



Whilst delivering GPS training for the Golden Bay LandSAR group recently they demonstrated the use of a GBSAR profile for their suite of Garmin 62s GPS units.

Whilst we recognise getting nationwide buy-in to any standardised profile might be difficult, it did make us think that if LandSAR groups were to at least adopt a nationwide training profile it would make the preparation and delivery of GPS training much easier.

A consistent problem in the delivery of GPS training is that GPS units within groups are often not standardised, let alone between different groups, which can be very time consuming in the delivery of training.

Anyone with questions, offers of support or advice should contact the Golden Bay LandSAR group directly.

Core Principles of SARINZ

SARINZ have a number of core principles which guide our decision making and day-to-day operations.

These are:

- To provide high quality, nationally consistent, internationally bench marked training to the Emergency Services Sector (especially LandSAR volunteers).
- To ensure that wherever possible volunteers do not have to pay to receive quality training. We fundamentally believe that volunteers give enough of their time, without having to incur additional costs. Volunteer time needs a precious commodity and needs to be treated as such.
- To work in a cooperative way with all clients to ensure personnel are suitably trained in accordance with operational needs.
- To ensure that where SARINZ IP is utilised by other agencies and in external publications, it is appropriately recognised and referenced. This does not necessarily imply that there will be a charge.
- To maintain SARINZ as a nonprofit organisation that uses any surpluses to fund R&D for the benefit of the SAR sector.
- To encourage all SARINZ management to be members of a volunteer emergency service so that all strategic decisions reflect the needs of frontline personnel.
- To maintain a requirement that SARINZ tutors maintain operational credibility appropriate to the fields in which they tutor.



SARINZ

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