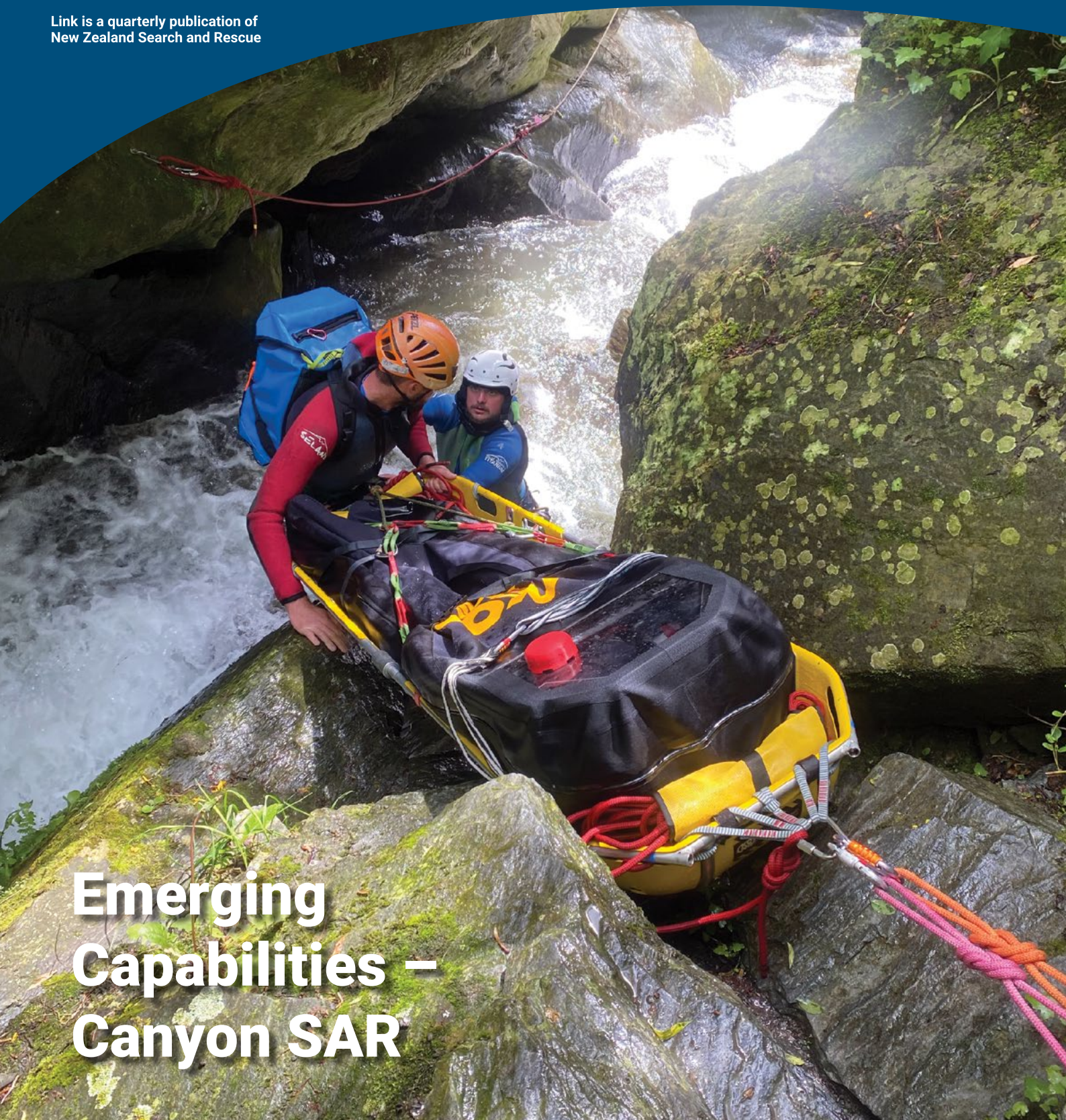




Connecting the search and rescue sector

Link is a quarterly publication of
New Zealand Search and Rescue



Emerging Capabilities – Canyon SAR

Inside:

Paying homage to teamwork at the
NZ Search and Rescue Awards
page 3

Climate change and SAR
page 8

10 questions with...
Jonathan Gillan
page 15

Contents

Issue 59 – June 2022

2021 NZ Search and Rescue Awards 3

Climate change and SAR 8

SAR Insights 10
Christmas Eve on the Whanganui bar

Emerging capabilities – Canyon SAR 12

Wāhine on water 14

10 questions with... 15
Jonathan Gillan

Duncan's Desk 16

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For feedback, contributions and subscription requests please contact info@nzsar.govt.nz

Websites

nzsar.govt.nz

Search and rescue sector resources and information, including a PDF of this newsletter

adventuresmart.nz

Safety information and tips for people planning outdoor activities

adventuresmart.nz/distress-beacons

Example of our latest SAR prevention work - promoting the carriage of beacons

beacons.org.nz

Information about 406 beacons, including where to purchase, rent and register a distress beacon

nzsar.govt.nz/nzs-sar-guidelines/nzs-sar-guidelines-overview

New Zealand's Search and Rescue Guidelines

tpp.ac.nz/study-options/search-and-rescue

SAR multi-agency training

landsar.org.nz

Land Search & Rescue

mountainsafety.org.nz

New Zealand Mountain Safety Council

coastguard.nz

Coastguard New Zealand

surflifesaving.org.nz

Surf Life Saving New Zealand

arec.nz

Amateur Radio Emergency Communications

maritimenz.govt.nz

Maritime New Zealand

watersafety.org.nz

Water Safety New Zealand

saferwalking.nz

Safer Walking NZ

Queen's Birthday Honours

Several SAR and frontline water safety people were recognised in this year's Queen's Birthday and Platinum Jubilee Honours. Congratulations and thank you for your service.

Henry van Tuel of Coastguard Hawke's Bay is now a member of the New Zealand Order of Merit for his service to Coastguard New Zealand at local, regional, and national levels.

Ian Carter (Hahei) and Karel Witten-Hannah (Karekare) have been awarded the Queen's Service Medal for their services to the community, including their local Surf Life Saving clubs. Michael Cole (Howick) was also awarded the Queen's Service Medal for his service to multiple organisations including Coastguard New Zealand and Coastguard Boating Education.

COVER IMAGE

Canyon Rescue Course – Wanaka, courtesy Shanan Fraser



2021 Search and Rescue Awards

Outstanding skill, quick thinking, and humble leadership recognised at the NZ Search and Rescue Awards.

“I know well the challenges you face on a daily basis: weather conditions, difficult terrain, the pressure to act fast, keep people safe and get a good outcome. I have enormous respect for those of you who face these dangers and stresses regularly and often at a moment’s notice.”

With these words, His Excellency Dr Richard Davies welcomed recipients and guests to this year’s NZ Search and Rescue Awards.

This year’s ceremony was held at Government House in Wellington and was also live streamed for the first time so friends and family of the recipients could watch from home.

As well as presenting two Gold Awards and eight Certificates of Achievement, His Excellency shared a few stories from his time working as a doctor in the remote Falkland Islands – including how he commandeered a kitchen door as a makeshift stretcher, before discovering it did not fit in the back of the Land Rover being used for emergency transport.

The Minister of Transport, the Hon Michael Wood, also attended and paid homage to the teamwork that underpins the work of the search and rescue sector.

“In search and rescue, no-one operates truly alone. Teamwork is an essential component of every search and rescue operation, from those selling sausages to raise money for the organisation, to those out in the field doing the searching, to those who run the debrief session and write up the incident report.”

Eighteen nominations were received for 2021, with two Gold Awards and eight Certificates of Achievement being awarded at this year’s ceremony.

Awards given in the Operations category recognise significant rescue operations that took place between 1 January and 31 December 2021. Awards given in the Support category recognise the contributions of individuals to search and rescue in New Zealand.

“The calibre of this year’s Award winners is very high,” says New Zealand Search and Rescue Secretariat Director Duncan Ferner.

“Some of these individuals have been involved in search and rescue for decades. Others have only been involved for a few years but have already had a tangible impact on the sector. Their skills, dedication and experience are typical of the search and rescue professionals that serve New Zealand.

“Every one of them has sacrificed time with their whānau, friends and communities to reunite families, and bring loved ones home.”

Congratulations to all our Award winners for 2021!

Nominations for the 2022 Awards are now open – forms and guidelines can be found on our website: nzsar.govt.nz/awards

TOP

Dr Richard Davies and the Hon Michael Wood with this year’s award recipients



Gold Award – Operational

West Coast Police SAR Squad
 Christchurch Police SAR Squad
 South Westland LandSAR
 Hokitika LandSAR
 Methven LandSAR
 Aoraki/Mount Cook Alpine Rescue Team
 The Helicopter Line – Mount Cook
 Precision Helicopters
 GCH Aviation Rescue Helicopter

For the rescue of a tramper near Mungo Pass on 23-27 February 2021.



On 23 February 2021, Police were informed that a tramper crossing the Main Divide had missed a planned pickup. The tramper was not carrying a personal locator beacon, but Police assessed that he was experienced, fit and well-prepared, so held off commencing a search.

On 26 February, a search of his planned route was conducted via helicopter. A full-scale multi-agency search began on 27 February, with two simultaneous operations carried out on either side of the Main Divide, on foot, via helicopter and 4WD vehicle.

The very steep terrain near Mungo Pass required specialist alpine capabilities. The Helicopter Line – Mount Cook and the Department

of Conservation's Aoraki/Mount Cook Alpine Rescue Team were deployed for this task.

With deteriorating weather and limited helicopter fuel remaining, the tramper was spotted and recovered to Unknown Hut using a long-line setup. The tramper was treated at the hut for significant injuries and hypothermia – the result of a 100-metre fall six days earlier.

The tramper is continuing to recover from his injuries.



Certificate of Achievement – Operational

Christchurch Alpine Cliff Rescue Team
 GCH Aviation Greymouth Rescue Helicopter
 Christchurch Police SAR Squad
 Rescue Coordination Centre New Zealand

For the rescue of two climbers from Kaimatau / Mount Rolleston on 22-23 October 2021.



Late on 22 October 2021, two exhausted climbers activated their personal locator beacon from near the summit.

The Rescue Coordination Centre New Zealand tasked the Greymouth Rescue Helicopter, but cloud cover meant they were unable to reach the climbers.

Early the next morning, the helicopter crew performed an extremely challenging 20-metre winch in terrible weather to deploy the Christchurch Alpine Cliff Rescue (ACR) Team to the nearby Crow Glacier.

In dangerous conditions, the ACR Team ascended the 2,275m summit, where they found the soaking wet and hypothermic climbers.

The ACR Team lowered the climbers to the glacier in a white-out, where a small break in the weather allowed the helicopter to extract them.

Karekare Surf Life Saving Club

For the rescue of an adult and two children from Karekare Beach on 21 November 2021.

An off-duty lifeguard spotted an adult and two children swimming near a notorious rip. The beach was not currently patrolled, but she realised the seriousness of the situation, called for backup and then entered the surf to assist.

After providing a rescue tube to the 16-year-old boy, she prioritised the adult, who was floating face down, until an inflatable rescue boat arrived.

On the beach, members of the Karekare Surf Life Saving Club coordinated the response: providing CPR to the adult swimmer, reassuring the public, establishing two helicopter landing zones and coordinating the additional responding agencies.



Senior Constable Mark Lendrum

For the rescue of four adults near Kaiaua on 6 February 2021.

Police received a call from the occupants of a sinking boat in the Firth of Thames. The Police Air Support Unit (Eagle) helicopter deployed, with Senior Constable Mark Lendrum as a crew member.

He spotted four people clinging to a seat cushion, then made a 'hover exit' into the water with all of Eagle's water-rescue devices. After fitting all the devices to the people, he realised more floatation was required, so he gave away his own crew floatation vest.

When the Auckland Rescue Helicopter Trust arrived and began winching people from the sea, Mark volunteered to remain in the water so the helicopter could depart for the hospital sooner. Mark was later retrieved by the Coastguard vessel *Lion Foundation Rescue*.



**Whangārei Police SAR Squad
Ruakākā Surf Life Saving Club
Northland LandSAR
Far North LandSAR**

**Whangārei Coastguard
Skywork Helicopters
Whangārei Fire Brigade**

For the rescue of a person from Mount Parihaka on 8–11 July 2021.

On 8 July 2021, Police were notified that a man with dementia had left his home in Whangārei and had not returned.

Weather conditions were poor, with widespread rain and cold temperatures. Over the next four days, more than 120 people searched for the missing man in urban, coastal and bush environments.

On 11 July, teams located the man in a steep creek bed, where he had sustained serious injuries from a fall. Sadly, shortly after being found, he died at the scene.

Through a coordinated effort, all involved contributed to the return of the man to his family.



Gold Award – Support



Alan Doy
Taranaki LandSAR

For his service and commitment to search and rescue and Taranaki LandSAR.

During more than 30 years' service to Taranaki LandSAR, Alan Doy has performed a range of operational and support duties to an exceptionally high level.

His first search was in 1989 and he quickly became a field team leader then eventually shifted to Incident Management Team roles.

With a near-photographic memory of the Taranaki backcountry, he was able to provide key local knowledge, enabling efficient resource deployment on operations.

His professional surveying skills in Geospatial Information Systems (GIS) facilitated the recording and presentation of complex data during searches and when developing readiness plans. His expertise is recognised widely; he has been invited on several occasions to provide GIS support and advice for other complicated operations throughout the North Island.

Alan has made a significant contribution to the governance of Taranaki LandSAR, with 17 years on the committee and four years as Chairperson. Alan is highly respected within the Taranaki SAR community, as a humble yet exceptionally valuable member of any operation, exercise, or training activity.



Certificate of Achievement – Support



Peter Kara
Coastguard New Zealand Tautiaki Moana Aotearoa

For his service and commitment to search and rescue and Coastguard Nelson.

Peter Kara joined Coastguard Nelson in 2006. He soon took on the role of President, leading with a style that prioritised the welfare of his volunteers and their families. Drawing on past leadership experience, he had a vision to grow the capabilities of the unit.

A major achievement was his contribution to the fundraising, building, and launching of *Hohapata – Sealord Rescue*. This state-of-the-art rescue vessel was the culmination of 14 years' fundraising and volunteer project work.

Peter is a humble and inspirational leader, who is highly regarded by his peers, the local community and iwi alike.



Richard Craig
Coastguard New Zealand Tautiaki Moana Aotearoa

For his service and commitment to search and rescue and Coastguard Kaikoura.

Over a Coastguard career of nearly 35 years, Richard has contributed to all aspects of operating a Coastguard unit including rescues, maintenance, training, fundraising, and governance.

He played an integral role in planning and fundraising for the purpose-built *Kaikoura Rescue*. Later, he was formally recognised whilst serving on that vessel, for a challenging rescue performed 30km from shore, in five-metre swells and 120 kilometre per hour winds.

He has served many years as unit President, as well as on the Coastguard Southern Region Board and the National board. Richard is a well-respected member of the team, and his dedication to his unit and the Coastguard mission is without peer.



Ray Harkness
Amateur Radio Emergency Communications

For his service and commitment to search and rescue and WanderSearch.

Ray Harkness has contributed more than 20 years' service to search and rescue, through his involvement with Amateur Radio Emergency Communications (AREC) and LandSAR.

He is a highly regarded expert, both in providing communications in challenging situations, but also providing advice to field teams regarding the terrain they are about to encounter on an operation.

His strategic vision to support the community led to him establishing the trust that funds the WanderSearch programme in the Wellington region. He continues to perform many crucial roles which enables the programme to succeed.

Ray is generous with his skills and experience and enjoys training and mentoring members new to LandSAR and AREC.



Phoebe Havill
Surf Life Saving New Zealand

For her service and commitment to Surf Life Saving New Zealand and the Wāhine on Water programme.

Phoebe Havill has been involved in surf lifesaving since she was 5 years old. In 2018, while attending a Surf Life Saving New Zealand leadership programme, Phoebe and her colleagues identified a key barrier to more females filling senior life guarding roles was the Inflatable Rescue Boat (IRB) qualification.

She led the creation of the Wāhine on Water programme, which provides female-only IRB training, direct mentoring and support to females in surf lifesaving. Phoebe has continued to champion the programme, which is highly successful across New Zealand, in growing and retaining the talents and contributions of the female volunteers.



Climate change and SAR

Glaciers are a key indicator of climate change effects, and nowhere else in New Zealand has more glaciers than the mountains surrounding Aoraki/Mount Cook.

We spoke to Department of Conservation staff to learn how these effects are changing the environment, their influence on visitor behavior and the impact on the planning and delivery of SAR services around our highest peaks.

Don Bogie is the Principal Advisor for Visitor Risk, and has seen huge changes over the course of his climbing and professional career. “When I first began climbing in the 1970s, there was no Tasman Lake and access across the glaciers was pretty straightforward.”

Increased average temperatures and reduced precipitation has led to glacial down-wasting and retreat. Without the ice to support the valley walls, they begin to sag; Murchison Hut has moved nine metres downhill over the last five years.

The rock on our high peaks is relatively loose, and partly relies on year-round ice (permafrost) to hold it together. Geologists believe that the increased frequency of rain events at higher altitudes is thawing the permafrost, contributing to the instability of the terrain.

More than 30 ‘slow creep’ landslides have been identified in the area and many have the potential to release catastrophically. In the last 10 years, there have been at least four major landslides in the Grand Plateau area. Last season, there was a 700,000 cubic metres event in the Hooker Glacier area.

Ascending a major alpine peak generally involves glacier travel. In the 1980s and 1990s, climbers would wait until after the heavy snowfalls of late winter and spring which filled in the crevasses. In December, the combination of good glacial access and settled weather signaled the start of the climbing season. The season would last until April, when the warmer temperatures finally exposed enough crevasses to cut off access.



But these days, the reduced bulk of the glaciers means more snow is needed to fill the crevasses, the traditional big dumps in spring have been less reliable and the summers are earlier, hotter and drier.

“The condition of the Linda Glacier route on Aoraki/Mount Cook is the reference for all snow and ice routes in the park,” says Jim Young. As leader of DOC’s Aoraki/Mount Cook Alpine Rescue Team, he has seen a significant shift of the season, even during his five-year tenure. “Nowadays, [climbing] the Linda begins in October and by early January it is cut off.”

Jim says visitors come much earlier in the season for better access conditions, and less harsh winters allow more frequent and bolder winter climbs. “The season [for high alpine activity] is now July to December,” he says. “We’re seeing a rapid rise in the popularity of ski touring, heli-skiing, ice climbing and winter alpine climbing.” However, the earlier season has more changeable weather and an unsettled snowpack, with avalanche hazards that are much more difficult to manage. “Last season we had 16 winter callouts, compared with two to four in preceding years.”

Climate change is also influencing tramping visitors. Ball Pass was a highly popular alpine tramping loop, and each season there would be five to 10 callouts. In the huge storm of March 2019, many gullies crossing the lateral moraines washed out, making them extremely dangerous to traverse. Since then, most parties make an out and back journey to Ball Pass from the east, resulting in significantly reduced callouts.

With the Ball Pass loop off the cards, in the last five years visitor attention has shifted dramatically to Sefton Bivouac. Its proximity to the village and its stunning location is drawing many under-experienced trampers, and the number of callouts is anecdotally noted to be increasing

So what does all this mean for the planning and delivery of search and rescue in the region?

A good example is helicopter human external cargo (HEC) long-line extraction. The team have perfected the technique which minimizes rescuer exposure to highly unstable slopes. This is because more back-country users are being caught out on walks and routes which were previously unaffected by glacial recession. Rather than un-attaching from the long-line for a full assessment and packaging, the rescuers are more commonly remaining attached to the long-line and performing a rapid assessment and recovery of the distressed person(s).

For the future, Jim and his team are discussing a proposal to slowly shift their annual rhythm of training and high-season staffing to better match the climate-induced change in visitor activity.



Elsewhere in our mountains, the impact of climate change is plainly visible. The March 2020 floods in Fiordland severely damaged tracks, destroyed Lake Howden Hut and re-routed the mouth of the Hollyford River by four kilometres. This resulted in a significant search and rescue operation, simultaneously rescuing multiple trampers who were at risk or stranded by landslides and flooded rivers.

Larger-scale search and rescue responses are becoming more common, and this has implications for capability planning within the sector. At DOC, they are working with NIWA and Geological and Nuclear Science (GNS) to model future climate effects to manage visitor risk.

Climate change is just one of the factors that the search and rescue sector must consider

and adapt to. Many others are discussed within the NZSAR Environmental Scan, which gathers information about events and trends across the natural and human environments, and considers their impacts on the search and rescue sector.

TOP LEFT
Preparing for Helicopter Human External Cargo longline
Courtesy Jim Young

LEFT
Tasman valley's highly unstable lateral moraine walls
Courtesy Don Bogie

RIGHT
Human External Cargo sling load
Courtesy Jim Young

The updated version of the NZSAR Environmental Scan will be published in June – this version will include new material about search and rescue in the Antarctic and the wider Pacific regions. Search “Environmental Scan” on nzsar.govt.nz



Christmas Eve on the Whanganui bar

About 5.30pm, on the 24th of December 2021, a member of the public called the Whanganui Coastguard to report they had lost sight of a lone kayak, shortly after it had crossed the river bar into rough seas. There was no other information provided, and it was unclear whether the kayaker was in trouble or not.

The lack of urgency from the caller meant that Coastguard's communications operator didn't contact Police immediately. Knowing that any possible response would involve operating in the surf zone, Coastguard began spreading the word with a call to James Newell of the Whanganui Surf Life Saving Club.

In hindsight, these were the initial errors in procedure that led to the operation beginning without formal command and control. Especially when the situation is time-critical, it is tempting to prioritise action, rather than taking a moment to ensure a response has formal coordination.

James called ahead then drove down to the club's base, about 800m north of the river's mouth, to assist with launching the first Inflatable Rescue Boat (IRB) to conduct a hasty search of the bar area.

Meanwhile, volunteers from Whanganui Coastguard were paged to prepare their rescue vessel. At this point, Coastguard contacted the on-duty SAR Police officer, Detective Simon Beswarick, just before 6pm.

Moments later, Simon received a call from Police comms about a missing dementia patient, so with two jobs on, he called for two more officers from the Police SAR Squad to meet at the station to coordinate their responses. Fortunately, the dementia patient was soon located so Simon could concentrate on one task.

"Coastguard had got their team activated and were ready to get on the water by the time I'd logged the job with Police comms," said Simon. "We all know and trust each other's skills and experience, so even though the procedure was a bit out of order, I knew they'd be ready once they got the go-ahead to continue with the operation."

With *Whanganui Coastguard Rescue* and an IRB in the water beginning to search, Simon drove out to the North Mole (river mouth breakwater) to interview the initial witness. "The informant thought he recognised the male kayaker," recalls Simon, so he sent officers around to the kayaker's house, to find no one home, and the sea kayak missing from its storage hooks.

"The informant noticed the male wearing a personal flotation device, in a proper sea kayak with a skirt, so he appeared well prepared despite the unfavourable sea conditions. Evidence began to suggest that there was indeed someone out there in very rough seas in serious need of assistance."

Garry Hawkins is the President of Whanganui Coastguard and was on their rescue vessel that day. "When we launched, it was still unclear if there was actually someone in trouble," Garry recalls. "Police soon informed us that we were probably searching for a well-equipped male kayaker. It was pretty rough out there, with strong westerly winds and a 2 to 2.5 metre swell running, so we knew it was going to be difficult to locate him."

The North Mole extends roughly 300 metres offshore and with the strong winds parallel to the coast that day, the experienced crew read the conditions and quickly devised a plan. Because of the expertise and local knowledge of the responders, Detective Beswarick was happy to let them develop and execute their plan as the on-scene coordinator.

It was clear to Garry, and Skipper Mike Carson, how to best search with the IRB. "We didn't need to talk much with the Surf Life Saving team," says Garry. "We each knew our own capabilities and skills, so we naturally established a coordinated search effort." With the IRB travelling along the surf side of the reference line and *Whanganui Coastguard Rescue* further out to sea, they proceeded as a pair on the search.

But knowing they were looking for a bobbing head in very rough sea, James was not confident of a successful outcome. "From an IRB, we can probably only effectively search a strip 50 metres either side in big surf," he says. "Even then, you've got to be just a little bit lucky to spot someone amongst the breakers."

On the Coastguard vessel, Garry was having similar thoughts. "We'd been going for roughly half an hour, and about 3 kilometres from the mouth we were thinking that he couldn't have floated this far." Like the IRB, the Coastguard's visual search range was limited in that sea state. "We had begun thinking about our next move and discussing with Police about helicopter support".

As the minutes dragged by, Detective Beswarick was also starting to think about re-grouping for a more extended operation with formal taskings.

By now, everyone felt the vessels had gone beyond the likely search area and hopes were fading for a quick rescue. But at 7pm Coastguard vessel crew member Jim Lees spotted the kayaker, three kilometres from the river mouth and one kilometre out to sea, and they hauled him aboard to safety. Maintaining mutual support with the IRB, the pair of vessels returned home.

During the debrief, all involved reflected on points where there was room for improvement, but the overwhelming theme of the story was the value of time spent building relationships and mutual trust across all the agencies and individuals involved in the operation.



INSIGHTS

OPERATIONAL DEBRIEFS

These provide a valuable opportunity to identify areas for improvement, or to reinforce positive practices. Debriefs support lessons management, leading to improved operational effectiveness, reduced operational risk and increased cost efficiency.

In this example, the key areas for improvement were ensuring that standard call out procedures are understood and followed by all the parties.

You can search for the "NZSAR Guideline for SAR Operational Debriefing" on our website: nzsar.govt.nz

OPERATIONAL CALL OUT PROCEDURES

As the agency responsible for any Category I SAR operation, Police have duties of care and legal responsibilities for the SAR resources and people under their control. Standard call out procedures reflect that, and is important they are followed, especially if things were to go wrong during an operation.

In the heat of the moment, it can be easy for people to act in direct response, rather than taking the important step of following correct procedure. Establishing the correct command and control structure is vital for the safety and effectiveness of an operation, but it is scalable for each job, and need not take excessive time in urgent or less complex situations.

BUILDING RESILIENCE TO ERRORS IN PROCESS

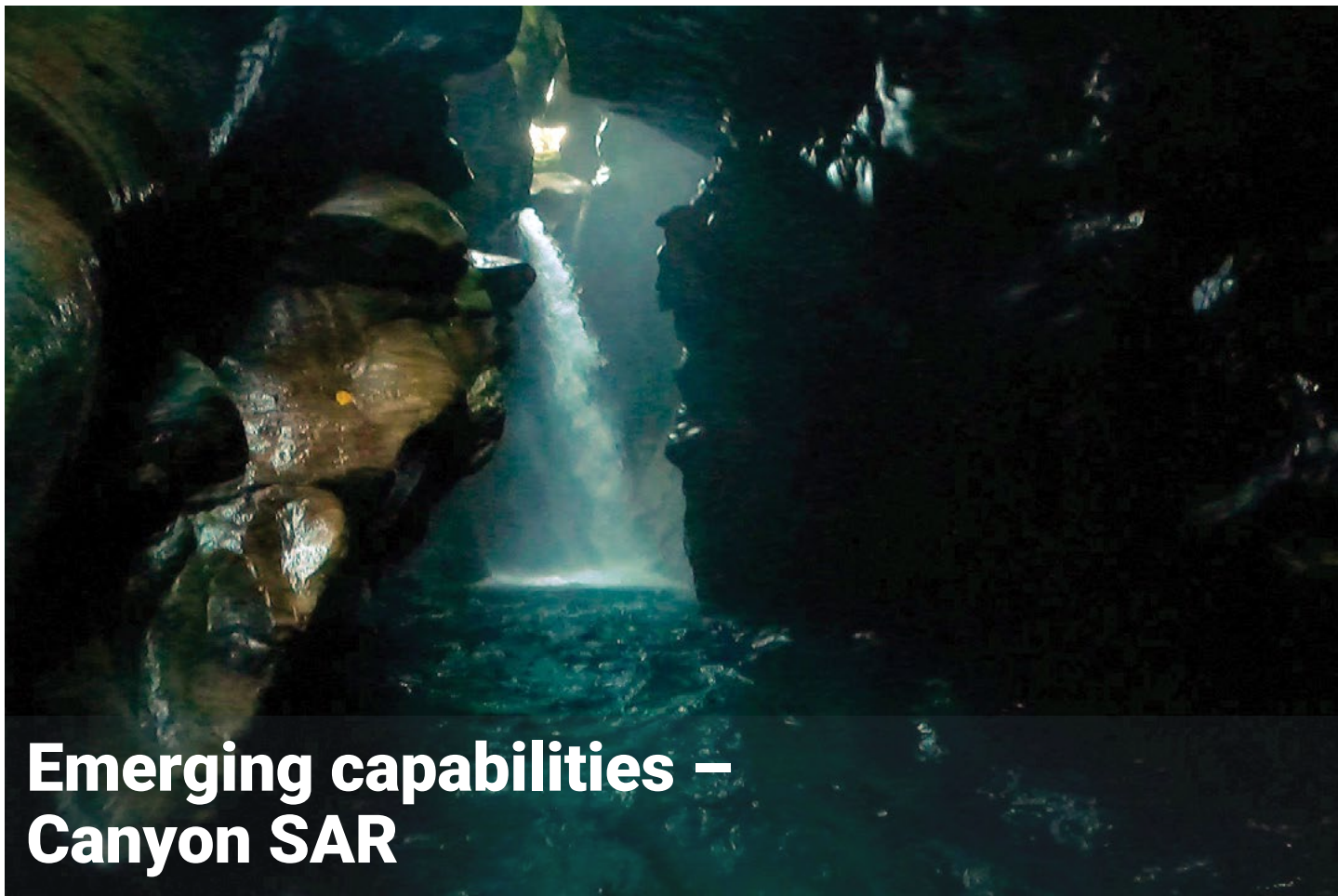
The fact that the informant called the Coastguard directly, and provided ambiguous information probably led to the initial error in procedure to not inform Police. Because of the training and relationships between those involved, the preparations of Surf Life Saving and Coastguard ran as everyone expected, and when Police were eventually informed, they could take on formal command and control without needing to change the actions of the volunteers.

TOP LEFT

Whanganui Coastguard Rescue vessel during the search for the missing kayaker
Courtesy Garry Hawkins

ABOVE

The mouth of the Whanganui River as seen from the air
Courtesy Melissa Churchouse, Horizons Regional Council



Emerging capabilities – Canyon SAR

The specialist skills and equipment of a Canyon SAR team can be invaluable whenever the search area includes waterways that are steep, gorged, or both.

Valleys tend to provide a natural corridor for trampers, which encourage a moving person towards their lowest point. There, a creek which initially offers the path of least resistance, can lead into a subtle trap. Even a minor gorge can act like nature's funnel; many ways in, but downstream is the only way out. And when the terrain is steep enough to produce waterfalls, downstream is no longer an option, and they're stuck.

Canyons are hazardous environments, with cold water, strong currents, rapids, slippery rocks and exposure to heights. Often, there is limited room to operate; the more enclosed canyons can be only a few metres wide with vertical walls 50 to 100 metres high. These are places where teams are committed until they reach the main valley floor, places where only canyoning techniques and equipment will allow progress, and extraction by helicopter or vertical ropes from above is next to impossible.

Canyon SAR fills a capability gap, allowing effective search and rescue operations through these hazardous waterway environments where other capabilities would be too slow or unable to operate.

With the launch of the first guidebook to Canyoning in New Zealand in 2015 and the kiwicanyons.org website, the sport exploded in popularity. At the 2019 LandSAR AGM, the NZ Canyoning Association became an associate member and Canyon SAR became a 'specialist discipline' allowing funding for courses. Today, Canyon SAR capability is shared between seven regions across the country.

Incident Management Teams can contact Canyon SAR teams via nzcanyoningassociation.org/rescue and the NZSAR resources database, nzsar-resources.org.nz. Teams can often provide advice

about the nature of the waterways in a search area, and whether Canyon SAR teams could add value to an operation.

Canyon SAR teams deploy wearing specialised wetsuits or drysuits, with harnesses and technical rope equipment. Depending on the situation, they will select rescue gear such as stretchers and patient management kits, and search gear such as snorkels, dive masks, avalanche probes and GoPro cameras on telescopic sticks. Some are helicopter-stop trained and all have the background and technical skill to quickly learn helicopter stop procedures prior to deployment.

Early Canyon SAR exercises trialled standard stretchers equipped with floats, but patients sank in turbulent pools and quickly became very cold. These trials made them look for a better solution, which was the KONG 911 Water Rescue Stretcher. There are currently four throughout the country, in Wanaka, Christchurch, Nelson and northern Waikato. Each is rated for vertical rescue, with an integrated person-sized dry-bag that allows it to float in aerated water when fully loaded, and keep a patient warm in a cold, wet environment. Teams are trained to move these stretchers through minor rapids, down and up canyon rock faces using dual 10mm rope systems. The stretcher even contains a snorkel and face shield, allowing the stretcher to be lowered right through a waterfall if necessary.

In a hasty search task, canyon teams are trained to look for clues where the missing person may have entered or left the waterway, or even track footprints on sandy bottom pools with a dive mask and snorkel. When conducting a deliberate clearance task, they are able to search turbulent pools, crevices and undercuts, using tools such as avalanche probes and Go-Pro's on long selfie sticks.



These techniques were successfully employed to find the remains of missing trampers in several recent searches; February 2020 in Pyke Creek, Haast Pass, and April 2022 in Giant Gate gorge, Milford Sound. In each search, the deceased person was hidden underwater, and only detected using those specific tools and techniques.

Like most SAR operations, it is the collaboration and coordination of all the individuals and organisations that contribute to the result. In Giant Gate gorge, after a huge effort by everyone involved in the search, the Police National Dive Squad was deployed to recover the deceased person. The walls of the canyon were over 100m high, and although the helicopter was just able to strop equipment to the site, the officers had to be provided canyoning equipment and guided by the canyon team from the start of the gorge to the site.

“It was a very difficult environment. The canyoning team from the Wanaka Swiftwater rescue team showed their value to get us efficiently and safely to where we needed to be. There was no other way that we could have gotten there,” says Senior Sergeant Bruce Adams, head of the Police National Dive Squad.

Accessing a canyon often involves travel through steep bush terrain, sometimes even needing abseils to reach the canyon floor. Canyon teams are at home in steep bush environments which border the waterways, and could be used to complement searches where it is too steep for bush teams to safely operate.

In an extended search, there are examples where canyon teams have found the missing person where other methods had not succeeded; such as in the March 2021 search for a woman in the alpine valleys of Arthur’s Pass and the March 2022 search for a male in the

coastal bush near Kaikoura. Although these examples ended in a recovery, Canyon SAR teams have been able to complement other SAR assets in the initial stages of an operation, finding missing people and stabilising or transporting them through a harsh environment so they can be extracted.

Although the capability is still developing, there is a growing history of useful contributions to SAR operations, which will certainly increase as the local relationships mature and more of the sector understand what Canyon SAR can offer.

TOP LEFT

Deep in Giant Gate Gorge, courtesy Roy Bailey, Wanaka Swiftwater Team

TOP RIGHT

Canyon Rescue Course – Wanaka, courtesy Shanan Fraser

RIGHT

KONG 911 Canyon Rescue Stretcher in action
Courtesy NZ Canyoning Association

nzsar-resources.org.nz

The NZSAR Resources Database helps Incident Management Teams across New Zealand find the right SAR resources for whatever job needs doing. To gain access, contact rccnz@maritimenz.govt.nz

And for training, search “NZ SAR Resource Database” on the NZSAR website: nzsar.govt.nz



Wāhine on water

Increasing gender representation in Surf Life Saving

During the “BP Leaders for life” program, Phoebe Havill and several of her course-mates came up with a project to address gender diversity in Surf Life Saving.

Although the overall gender split is nearly 50/50, it was noticeable to the group that fewer females held more senior roles. They identified the Inflatable Rescue Boat (IRB) qualification as the place to begin the cultural changes needed to improve female representation at senior levels.

IRB's form the backbone of the Surf Life Saving capability in New Zealand. Among many prerequisites, to become a Patrol Captain (team leader) or Council funded (paid) lifeguard, you need to progress through the training pathway and gain the IRB Crewmans Module then IRB drivers qualification.

“An IRB is a heavy, fast piece of machinery that requires a bit of strength to operate,” says Phoebe. “So there can sometimes be an unconscious bias when opportunities come to train up junior lifeguards: females can be often overlooked because of perceptions of lesser strength.”

“We took the idea of gender diversity out to the membership, and did a survey to check if we were on the right track,” says Phoebe. “A strong theme was that the lack of female role models put off a lot of women from striving for senior positions.” Another was a culture of training one set of methods for everyone. “There are plenty of tricks to operate an IRB which rely more on technique and less on pure strength, we just needed to change the culture so it was normal to also teach those methods.”

With support of the club and Surf Life Saving New Zealand staff, the first Wāhine on Water day was run in April 2019. The events cater for the whole spectrum of IRB experience, splitting into groups tailored for beginners through to those about to sit their crewman or driver qualifications.

Because of the uneven gender representation, initial courses did have male instructors, but as more graduates come through, there are more and more women acting as course mentors and course instructors on the program.

Phoebe observes that males tend to be more confident, putting themselves forward for opportunities, whereas females tend to hold back a little allowing the boys to step in. “The key to supporting women in training is that in a female only environment, the girls have to step up,” and the results are speaking for themselves.

There have been 19 events since then, with around 700 women attending, and they are a permanent fixture on each region's training calendar. A Wāhine on Water Facebook group shares female training opportunities, stories about role models and developing lifeguards each 'Wāhine Wednesday' and celebrates the success of women as a whole in the organisation.

“Surf Life Saving NZ has been super supportive in getting these successes and messages out to the wider organisation,” says Phoebe, “and it is really contributing to cultural change.”

In the end, Phoebe's own words sum it up best:

“Our females have so much to offer, and are so passionate about Surf Life Saving, that it's been wonderful to see the momentum to enable and support them build across our organisation.

“I don't see why the same can't happen in all of the organisations across the SAR sector.”

“Building an inclusive culture from the bottom up and good opportunities for women to develop in the organisation is vital to its long term health; both in retention of skilled volunteers and the diversity of thinking and skill sets which females bring.”

TOP LEFT & RIGHT
Wahine on water
Courtesy Phoebe Havill

10 questions with ...

Jonathan Gillan

Jonathan is no stranger to the mountains, having enjoyed a broad professional career as a mountain guide, avalanche forecaster and professional SAR team member in New Zealand and Australia.

You're one of the two New Zealand representatives to the international knowledge base for Best Practice in Mountain Safety (MountainSafety.info) How did your career lead you to that role?

I began my professional journey with the Ski Patrol course at Tai Poutini Polytech and ended up doing 15 seasons of patrolling. At the same time, I was working through the International Federation of Mountain Guides Associations (IFMGA) pathway to become a professional guide. That career progressed to specialise in the avalanche industry, as a forecaster, educator and training assessor. I spent some time with DOC's Aoraki/Mount Cook Alpine Rescue Team (AMCART), so I had a good breadth of experience across the sector which I could draw on for the role. Pete Zimmer from LandSAR is my co-representative from New Zealand.

What professional SAR work did you do in Australia?

I worked at Cobham Aviation Services as a dropmaster on their Challenger 604 SAR aircraft. Working on behalf of the Australian Maritime Safety Agency (AMSA), missions stretched from deploying rafts on long range off-shore rescues to searches deep in the desert interior. My interest was really in the task leadership aspect. I was promoted to the position of Aircraft Mission Coordinator, leading a crew who used advanced radar, direction finding equipment and visual anomaly detection software to achieve our mission.

What other profession would you have loved to have a go at?

I'd have loved to have been a pilot, it's something I have always seriously considered and it's been difficult to leave this ambition in the background.

What brought you back to Aotearoa?

After two years on the Challenger, I got an invitation to join AMCART. It was an opportunity I couldn't refuse, so the family and I moved to Mount Cook Village.

What are your roles within the SAR sector these days?

For family reasons, I've moved on to Queenstown, but I remain involved in ongoing training delivery for AMCART, and for the volunteers at Wakatipu LandSAR.

Alongside other experts, we have recently updated the New Zealand Avalanche SAR Readiness guidelines. The document provides a framework for organisations and operators to fulfil their requirements when creating avalanche response plans.

What are the main changes to the avalanche readiness guideline since the last version in 2014?

It has been updated to reflect the evolving nature of decision-making tools and algorithms available for use in avalanche rescue. Also, incorporating a modernised approach to all aspects of communications, and the challenges this presents in an avalanche response.



What technological changes have occurred in the field of avalanche rescue?

Electronic technology has advanced rapidly in two main areas: communications and rescue devices. Digital avalanche beacons overtook analog devices, but recently, transceiver design has come full circle. Now we are seeing more dual analogue/digital devices with advanced software that enhances the advantages and reduces the disadvantages of either technology.

New Zealand is starting to deploy specialised helicopter mounted avalanche transceivers, with in-cockpit display and vastly superior sensitivity. We have two HAS457 devices, on helicopters based in Wanaka and Mount Cook.

Have the techniques changed along with the technological advances?

Absolutely. These new tools and capabilities improve how we integrate a larger avalanche response, leading to higher search efficiency.

How is New Zealand keeping up with international developments?

Pete Zimmer and I have been working with our collaborators at MountainSafety.info to ensure we help shape the techniques with Kiwi experience, but also to bring home the best learning from overseas.

As an avalanche professional, can you tell us about your most memorable avalanche response?

Like any memorable job, the conditions were horrendous; 100 km/h winds, with lots of new snow and very high avalanche risk. The Rescue Coordination Centre informed AMCART of a distress beacon activation in the Gamack Range, and we deployed immediately, expecting an avalanche burial. The wind was so bad we couldn't land near the site, so we had to deploy from below on skis. We found the skier then had to drag him, complete with broken femur, through the blizzard to a nearby hut. We were fully expecting to stay the night, but fortunately the Squirrel helicopter was able to crawl up the valley and extract the injured skier.

Search "Avalanche Readiness" on nzsar.govt.nz for the latest guidelines.



Duncan's desk

Kia ora koutou

Last month we celebrated the recipients of our 2021 NZ Search and Rescue Awards (see pages 3-7). It's always a great experience seeing SAR people receive national-level recognition for their efforts, whether for operations or for behind-the-scenes work. For the first time we live-streamed the event and hundreds of people from across New Zealand and overseas tuned in to see their friends and family be recognised.

While COVID-19 has certainly been prevalent through our communities over the last few months, it has been remarkable that we have been able to deliver SAR services throughout NZ and our SAR region without any meaningful interruption. I've also been impressed by how many training courses and other SAR events have gone ahead (with appropriate precautions) once restrictions started easing.

In recent months we've invested in Surf Life Saving NZ's annual SAR Summit and LandSAR's North and South Island group representative meetings. By all accounts these were well organised events delivering good, collaborative outcomes. NZ Police also ran their annual National SAR Training at Dip Flat in Marlborough, resulting in more fully trained members on district SAR squads around the country.

We held a Rauora III Nationally Significant SAR exercise for Tasman District Police in Nelson. Local SAR agencies came together to plan how they might respond to a nationally significant SAR operation on their doorstep. While such operations are rare, the consequences are high and require intense and sustained efforts to save lives. We put attendees through their paces with scenarios covering alpine, cave, harbour and glacier environments and some good lessons were learnt.

June 19-25 is Te Wiki Tūao ā-Motu National Volunteer Week, facilitated by Volunteering New Zealand. The good folks at Volunteering

NZ are no stranger to the SAR sector, having produced a key piece of work for us back in 2019 which rightly challenged us to support our volunteers better. Over 90 percent of our SAR sector are volunteers – one of the highest rates of volunteer SAR participation in the world. Balancing volunteer SAR involvement with day jobs, raising kids, supporting family and general 'life admin' is no easy task. Thank you for your ongoing contribution to search and rescue – it is amazing.

In recent months we've met with each of the Government-funded SAR agencies to discuss our Joint Service Level Agreements. It's apparent that COVID-19 has impacted on project delivery, but overall the SAR sector appears to be progressing well and is showing the benefits of the Government's increased investment into the sector.

Lastly, this month the NZSAR Council bids farewell to its Chair, Peter Mersi. Peter has chaired the Council with great skill over the last six years in his role as Chief Executive Te Manatū Waka Ministry of Transport. I know Peter has greatly enjoyed this part of his varied role. His constructive leadership over many years will, I am sure, leave a lasting positive impression on all parts of our sector. We thank Peter for his support of the sector and wish him well in his new role as Commissioner of Inland Revenue.

Stay safe,
Duncan Ferner
NZSAR Secretariat Director

National SAR Training at Dip Flat, Marlborough.
Courtesy Matt Wheble



Rapu Whakarauora Aotearoa