

NEW ZEALAND SEARCH AND RESCUE

Rapu Whakarauroa Aotearoa

New Zealand Search and Rescue Council

annual report 2020-2021



2020-2021 SAR Snapshot

What we achieve

See page 5

134



Lives saved

595



People rescued

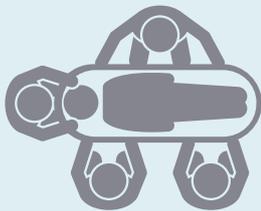
792



People assisted

What we do

See page 6



2,966

SAR incidents

59,060 Operational people hours

2,450 Operational asset hours

What it costs

See page 11

\$533m

in social costs was averted by saving 134 lives

\$44.018m

Government investment in SAR

benefit to cost ratio 12:1

Who we are

See page 10

11,561

People involved



6,781
Water



3,892
Land



537
Air



351
Coordination
and support

6% paid

• 3% part paid

• 91% unpaid volunteers



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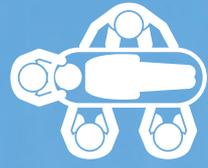
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Chair's report



Peter Mersi
Chair, New Zealand Search and
Rescue Council

“They were unprepared for the steep terrain and challenging conditions and were suffering from mild hypothermia. They definitely made the right call to activate their distress beacon when they did.”

This scenario is not uncommon in the New Zealand mountains: night falling, temperatures dropping, and the growing realisation that help is needed.

As two climbers stranded near Copland Pass found, what might start out as an exciting trip above the snow-line can quickly turn into a stressful and life-threatening situation. But when that happens, New Zealand's search and rescue sector springs into action.

Over the last 12 months, the passion and dedication of those involved in search and rescue saw 134 lives saved, 595 people rescued and 792 people assisted.

There are 11,561 people involved in search and rescue in New Zealand. Some have specialist skills such as skippering a boat, flying a helicopter or manipulating a delicate radio antenna. Others shoulder packs or put on lifejackets and head out in all sorts of weather conditions. Then there are those who take minutes, run training sessions and connect with volunteers. No-one's efforts go unnoticed.

The value we place on our people has been the cornerstone of the increased Government investment that began this year, and you'll see the impact of that funding unfold over the pages of this report. I'm excited to see how new initiatives, new roles and new equipment shape the sector over the next couple of years.

COVID-19 continues to impact each one of us, and the search and rescue sector is not immune to the challenges it continues to present. Regional changes in alert levels have forced the sector to pivot quickly and draw upon the lessons learnt in the first half of 2020. In the eyes of the public, however, the response has been seamless. The same logical processes and plans that are executed during a search and rescue operation have held the sector in good stead during what has been a turbulent year.

I encourage you to take a moment to reflect on the commitment of our search and rescue people as you read this report. We are a nation with a proud history of adventure and exploration – but at times, when we have ventured a little too far, we can all take comfort from knowing that skilled, dedicated and passionate people won't hesitate to drop everything and come find us.

What we achieve

The search and rescue sector's work is measured in the most important currencies: lives saved, injuries prevented, and families reunited.



Lives saved: Where, if SAR agencies had not intervened, life would definitely have been lost.

People rescued: Where SAR agencies locate and rescue people at risk, and return them to a safe location.

People assisted: Where SAR agencies aid people at low risk, but who, if left, would be at risk.



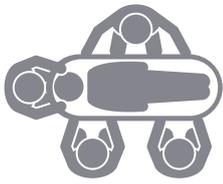
“The worry of knowing the beacon had been activated was really stressful, but we got regular updates from you. Knowing that you absolute heroes and legends were there to help cannot be underestimated.”
– Partner of person rescued

“Thanks so much to all of the team that got me out of the bush the other weekend after a panic attack. Seeing the lights in the darkness - metaphorical and physical darkness - was such a relief and your dogs were very cute!” – Rescued by LandSAR

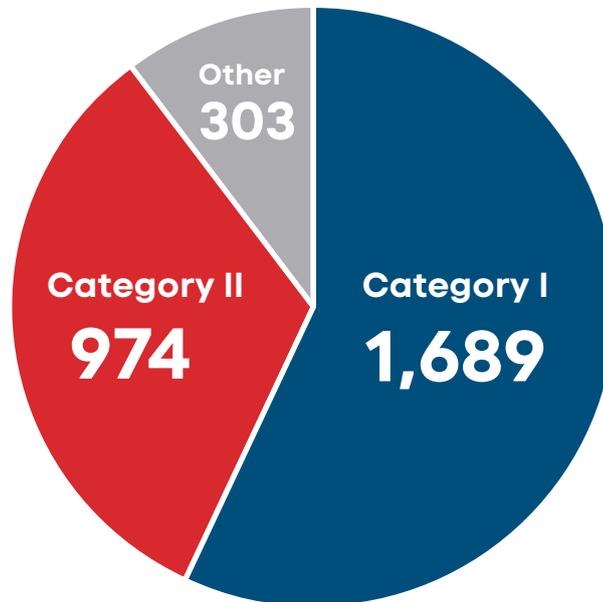
LEFT
The West Coast ROA Mining Rescue Helicopter during a rescue.
Image courtesy Ian Selwood, Greymouth LandSAR

What we do

This year, New Zealand's search and rescue sector was involved in nearly 3,000 incidents.



2,966 =
Total incidents



Category II incidents are coordinated by the Rescue Coordination Centre New Zealand, based in Avalon, Lower Hutt. Of the 974 Category II incidents:

556 did not progress past communications or initial investigations

42 were an unresolved alert with no SAR action required

362 resulted in a search and rescue operation being undertaken

14 resulted in New Zealand supplying support and resources to other SAR regions

Category I incidents are coordinated by Police throughout New Zealand. Of the 1,689 Category I incidents:

715 did not progress past communications or initial investigations

3 were an unresolved alert with no SAR action required

971 resulted in a search and rescue operation being undertaken

**Other
303**

The remaining 303 incidents were body recoveries, ambulance-managed incidents, SAR training exercises, medical evacuations, and Maritime Assistance Services within the New Zealand search and rescue region.

Where we do it

The geographic distribution of incidents throughout New Zealand correlates towards areas of high population density.

Location of SAR incidents 2020-2021



1,044

incidents were in the water environment



1,339

incidents were in the land environment



183

incidents were in the air environment

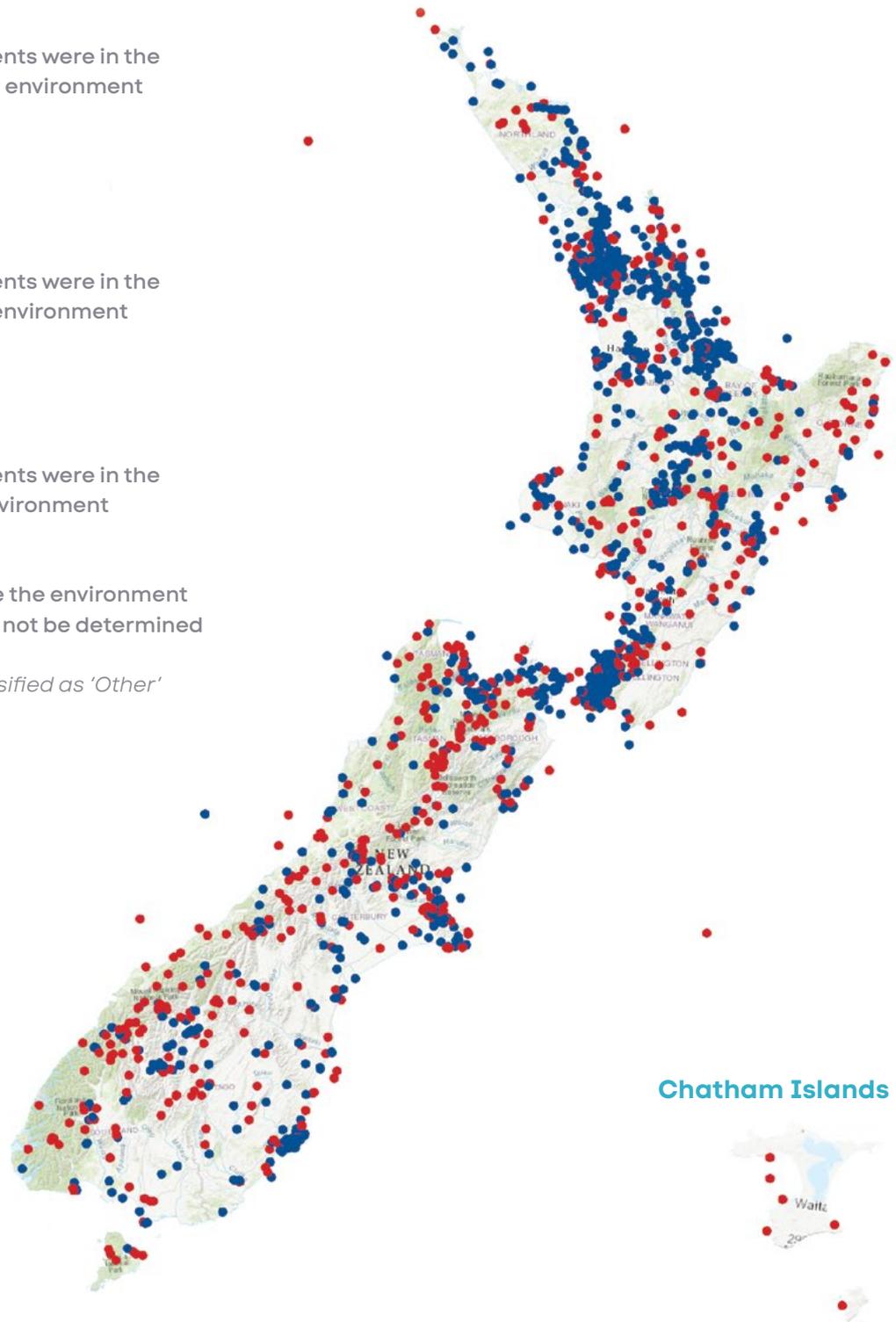
97

where the environment could not be determined

The 303 incidents classified as 'Other' are not depicted here

Incidents

- Category I
- Category II

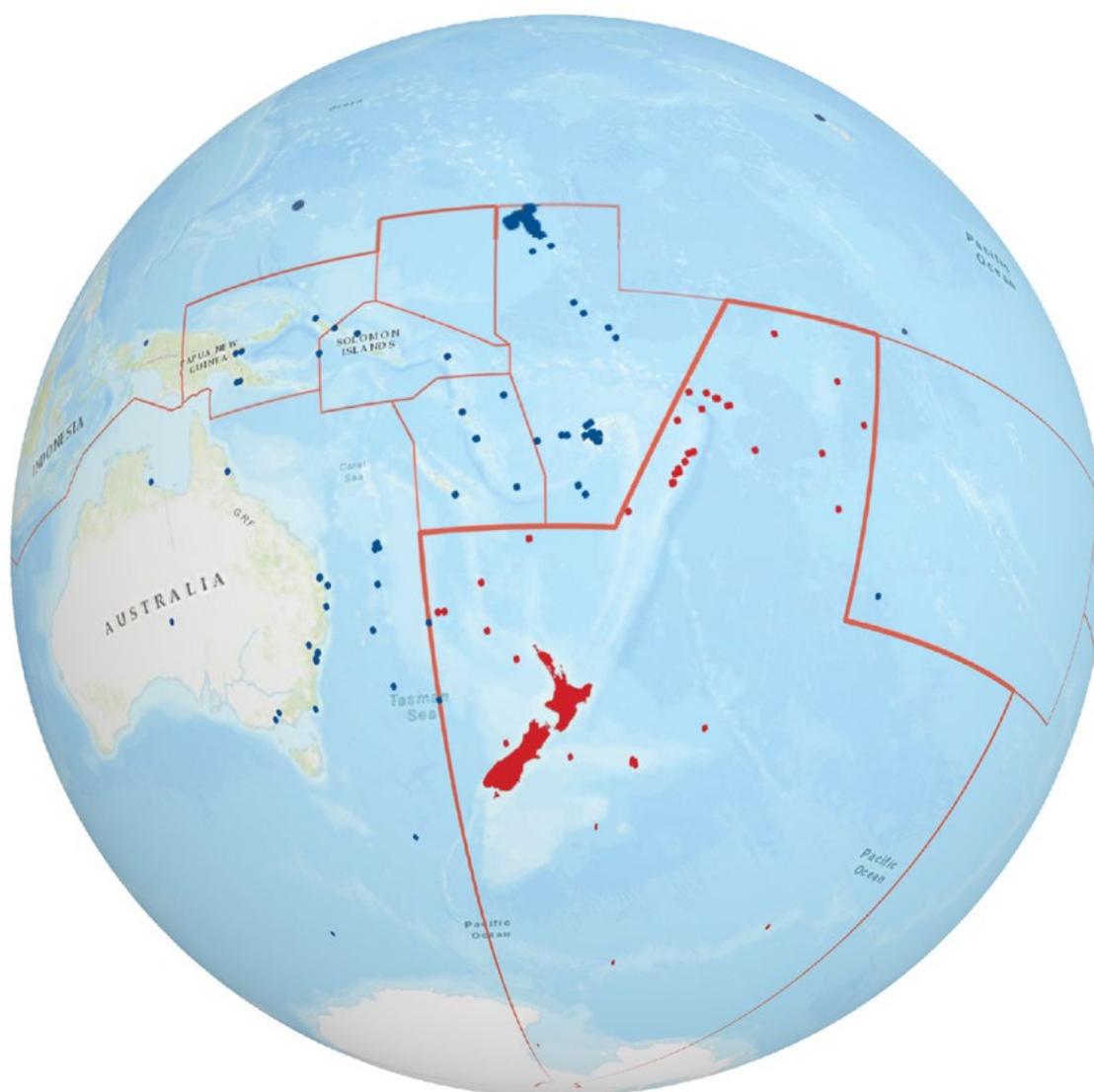


Chatham Islands

Our search and rescue region

The New Zealand search and rescue region is one of the largest in the world, covering over 30 million square kilometres.

The Rescue Coordination Centre New Zealand was notified of 140 SAR incidents in neighbouring search and rescue regions. Support and resources were supplied for 14 of those incidents.



- SAR incidents within New Zealand's SAR region
- SAR incidents in other regions where New Zealand was notified

What we use

Amateur Radio Emergency Communications



Antarctica Scott Base



Auckland & Wellington International Airports



Cape Egmont Sea Rescue Trust



Coastguard Units



LandSAR Groups



New Zealand Defence Force



Milford Emergency Response Team



Police



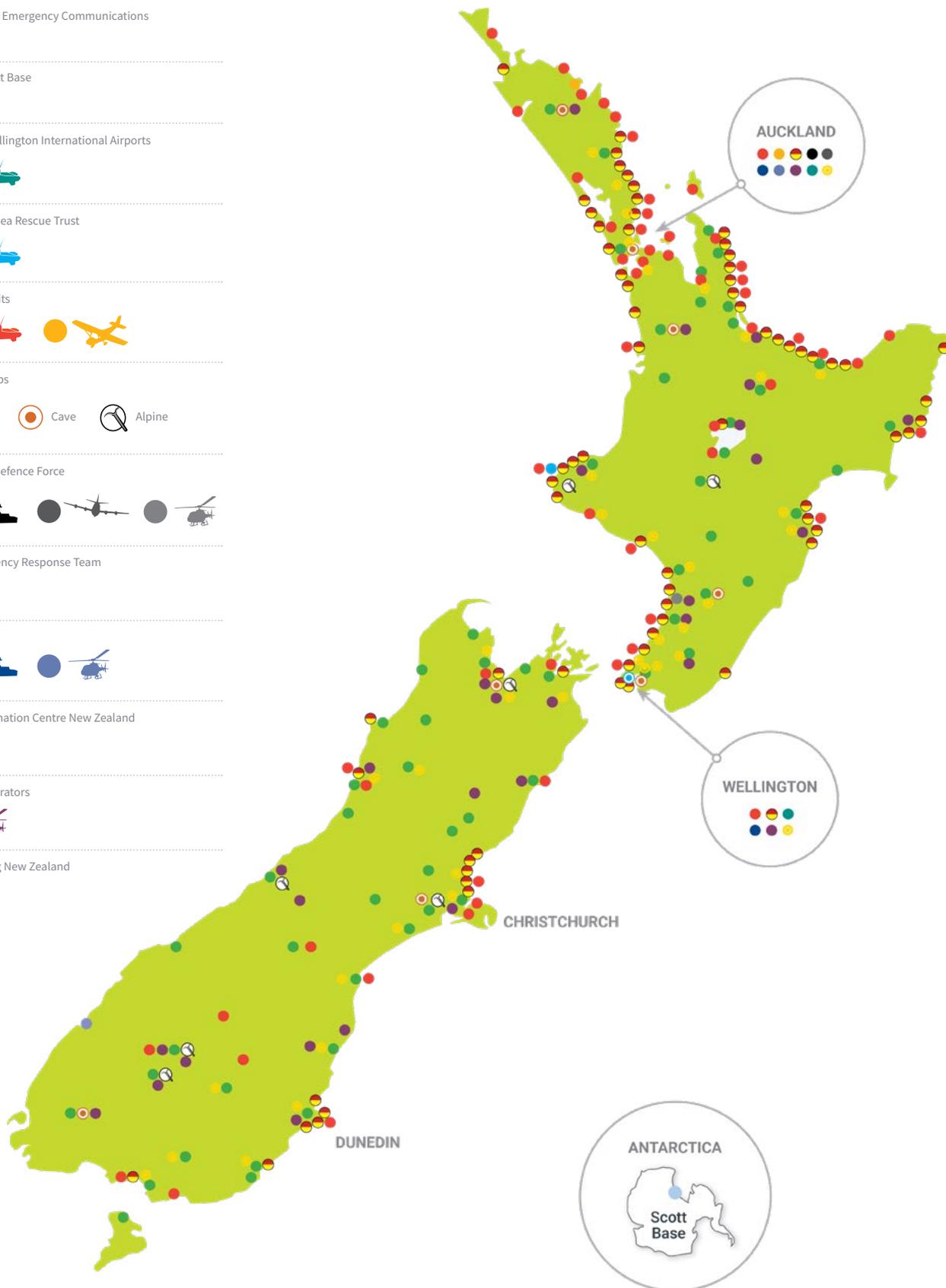
Rescue Coordination Centre New Zealand



Helicopter Operators



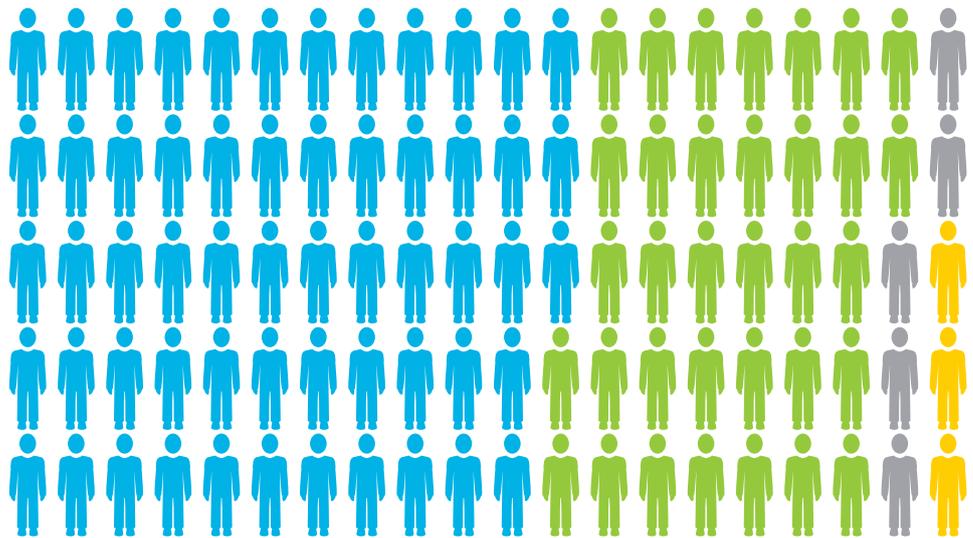
Surf Life Saving New Zealand



Who we are

11,561 people are involved in the NZ search and rescue sector.

-  Water = 6,781
-  Land = 3,892
-  Air = 537
-  Coordination and support = 351



6% paid

3% part paid

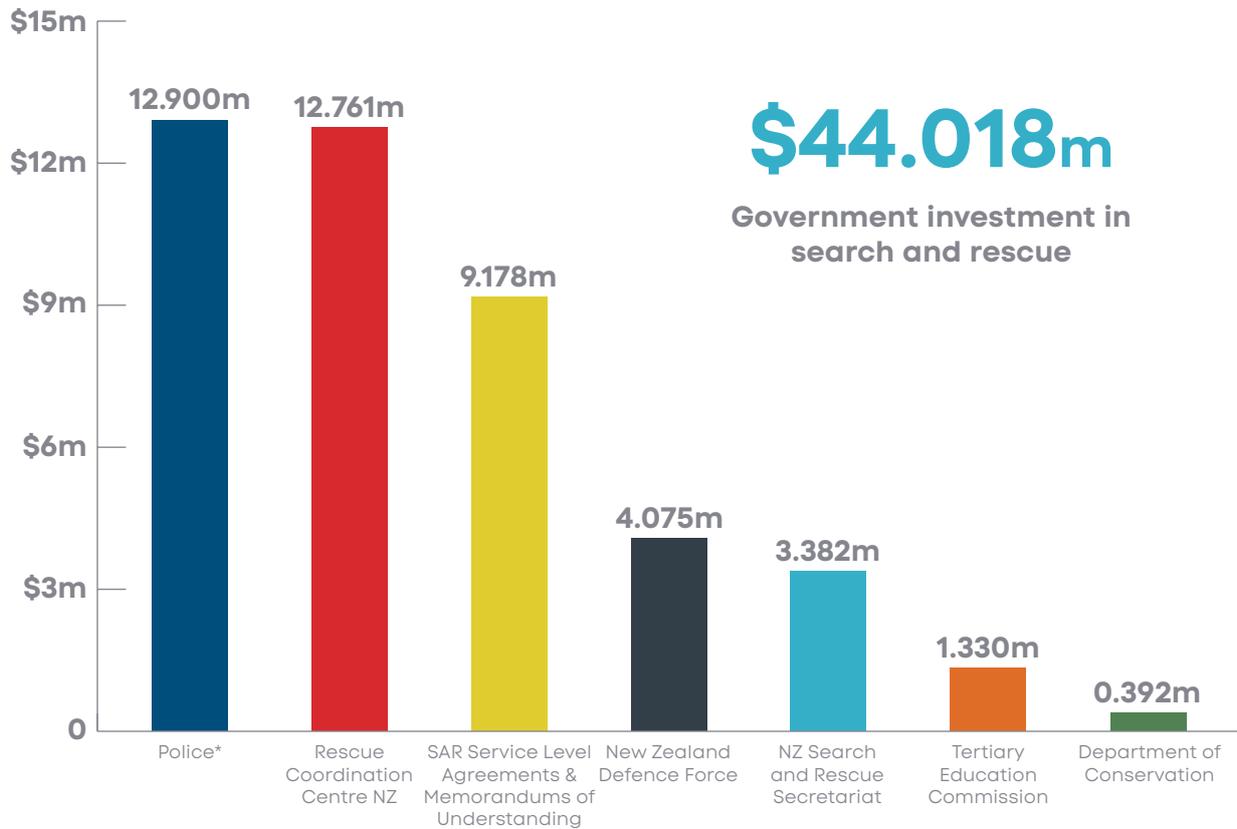
91% unpaid volunteers

Operational people hours committed to search and rescue by agency	
Police	27,830
LandSAR	16,920
Rescue Coordination Centre NZ	5,700
Coastguard	2,280
Spontaneous volunteers	1,120
Fire and Emergency NZ	1,080
Surf Life Saving NZ	910
Specialist land teams	830
Amateur Radio Emergency Communications	800
Other resources	390
NZ Response Teams	340
Department of Conservation	290
NZ Defence Force	240
Other land rescue groups	230
Other marine rescue groups	80
Civil Defence	10
Total	59,050

Total hours committed to search and rescue by additional assets	
Police	1,100
Emergency Medical Services (EMS) helicopters	600
Maritime rescue	310
NZ Defence Force	220
Non-EMS aviation	150
Maritime non-rescue	70
Total	2,450

Number of hours have been rounded to the nearest 10

What it costs



* Note: The costings provided are known costs of SAR to Police. It is not a financial report and does not reflect total spend of Police on SAR related matters. The cost is an estimate only.

The social cost

The social cost of a premature fatality is measured using the Ministry of Transport’s Value of Statistical Life formula. It includes intangible costs such as emotional costs to family and friends. We estimate the intangible benefit to cost ratio to be approximately 12:1, which can in part be attributed to the financial efficiency and operational effectiveness of the SAR sector.

The total cost of search and rescue to the Government varies year on year, as operational costs change according to the number, length and type of SAR operations. Significant overhead and capital costs are not fully represented, as it is difficult for some organisations to capture this information.

Fuel Excise Duties paid by recreational boat users funded the NZSAR Secretariat, the five Service Level Agreements, two Memorandums of Understanding, and approximately half of the Rescue Coordination Centre New Zealand’s costs.

Regrettably a number of people perish before SAR services are notified or despite our best efforts. A total of 94 fatalities were recorded during the year.

Frontline water safety services

The NZSAR Council manages and monitors the Government’s investment in frontline water safety services. \$15.078 million was invested in Coastguard and Surf Life Saving NZ to cover operating costs (see page 17).





Affirming our strategic direction

The NZSAR Council has released its strategic plan for 2021-2024. This follows on from, and replaces, the 2017-2020 strategic plan.

The new plan reflects the NZSAR Council's strong expectations for increased collaboration between the agencies involved in search and rescue. This is in response to the responsibilities that come with the Government's investment, and the reality that we are all here for the same reason: to find and rescue people in distress in order to save lives.



ABOVE
Rescue Coordination Centre New Zealand

TOP RIGHT
A Coastguard training exercise



Outcome

NZSAR will ensure New Zealand provides effective search and rescue services for people in distress throughout New Zealand's search and rescue region in order to save lives.

NZSAR Council goals



A robust and integrated SAR system. We seek a collective, cross-sector culture of being 'one SAR body' within an integrated SAR system. Our policies, processes, procedures and documentation will be coherent, aligned and support effective, efficient and safe SAR practice. We will undertake SAR activity cooperatively and learn from our experiences within a just culture. We will continue to improve our understanding of the SAR sector, our performance, our people, our operations and external influences so that we can improve our services, strengthen our resilience and mitigate our risks. We will also promote and support SAR innovations and showcase good practice.



Efficient and sustainable SAR organisations. We seek high-performing, efficient and sustainable SAR organisations with adequate, secure funding. We will sustain an inclusive and collaborative environment that enables volunteerism. Our capabilities will be fit-for-purpose, appropriately located and adequate to address known SAR needs. We will make affordable, evidence-based investment decisions supported by good quality information. We will adapt our organisations and arrangements in response to changes in our operating environment and ensure we continue to deliver effective SAR services throughout the New Zealand search and rescue region.

Vision

A cohesive community of capable people in sustainable organisations, finding and rescuing people in distress, operating collaboratively within a robust search and rescue system.



Capable SAR people. We seek to maximise the potential of our SAR people. We will work to ensure our people have access to appropriate training and ensure we conduct SAR activities competently and safely. We will collectively coordinate our standards, training, exercises and documentation. Knowledge will be shared without restriction and we will learn from each other and our experiences. We will also recognise and celebrate the dedication, courage and commitment of our people.



SAR Prevention. We seek an informed, responsible, adequately equipped and appropriately skilled public who are able to either avoid distress situations or survive them should they occur. Many organisations have a role to play with SAR prevention. Collectively, we will enhance personal responsibility through information, education, regulation, investigation and enforcement. We will collaborate with, inform, and contribute to partner organisations. When required we will enable, coordinate or lead public-focused SAR preventative strategies and actions in order to reduce the number and/or the severity of SAR incidents within the New Zealand search and rescue region.



Investing in search and rescue

Year one of a \$48 million three-year government investment in the search and rescue sector provided some certainty to agencies in a tumultuous time, allowing the focus to be on operational readiness and effectiveness.

In July, government support of the SAR sector was boosted to \$47.988 million over three years.

Agency	Government investment for year ending 30 June 2021
Amateur Radio Emergency Communications	\$0.654m
Coastguard	\$4.367m
LandSAR	\$3.051m
Mountain Safety Council	\$0.295m
Surf Life Saving NZ	\$0.811m
Department of Conservation	\$0.465m
NZSAR Secretariat	\$3.382m
Total	\$13.025m

This year, \$13.025 million has been invested in a wide range of initiatives including new staff, volunteer support and training, innovation and technology improvements, an avalanche advisory service and a new cross-sector land safety forum.

ABOVE
AREC volunteers now have branded personal protective equipment



The step change in SAR training and readiness, offered through this funding, is gaining momentum. Although projects are still ramping up, agencies are already seeing benefits that would not have been possible without the additional Government investment. Some of the initiatives covered by the increased investment include:

Amateur Radio Emergency Communications (AREC) – employment of paid staff for the first time

AREC has moved from a totally volunteer-run organisation to one with a small paid staff. The investment is making a significant difference to AREC’s capability by enabling enhanced volunteer management, improving training programmes, and supporting the implementation of background IT systems. Coupled with a focus on health, safety, and wellbeing, the result is comprehensive support for their volunteers delivering SAR services.

Coastguard – implementing a new training framework

Coastguard has begun a substantial project to review and overhaul their training frameworks and qualifications. Feedback from volunteers leaving the organisation had indicated that the training programme was a significant source of frustration. The implementation of streamlined, competency-based training that is easily accessible, can be self-managed and better recognises existing skills and qualifications of volunteers will ensure Coastguard can attract and retain more volunteers and continue responding to SAR callouts.

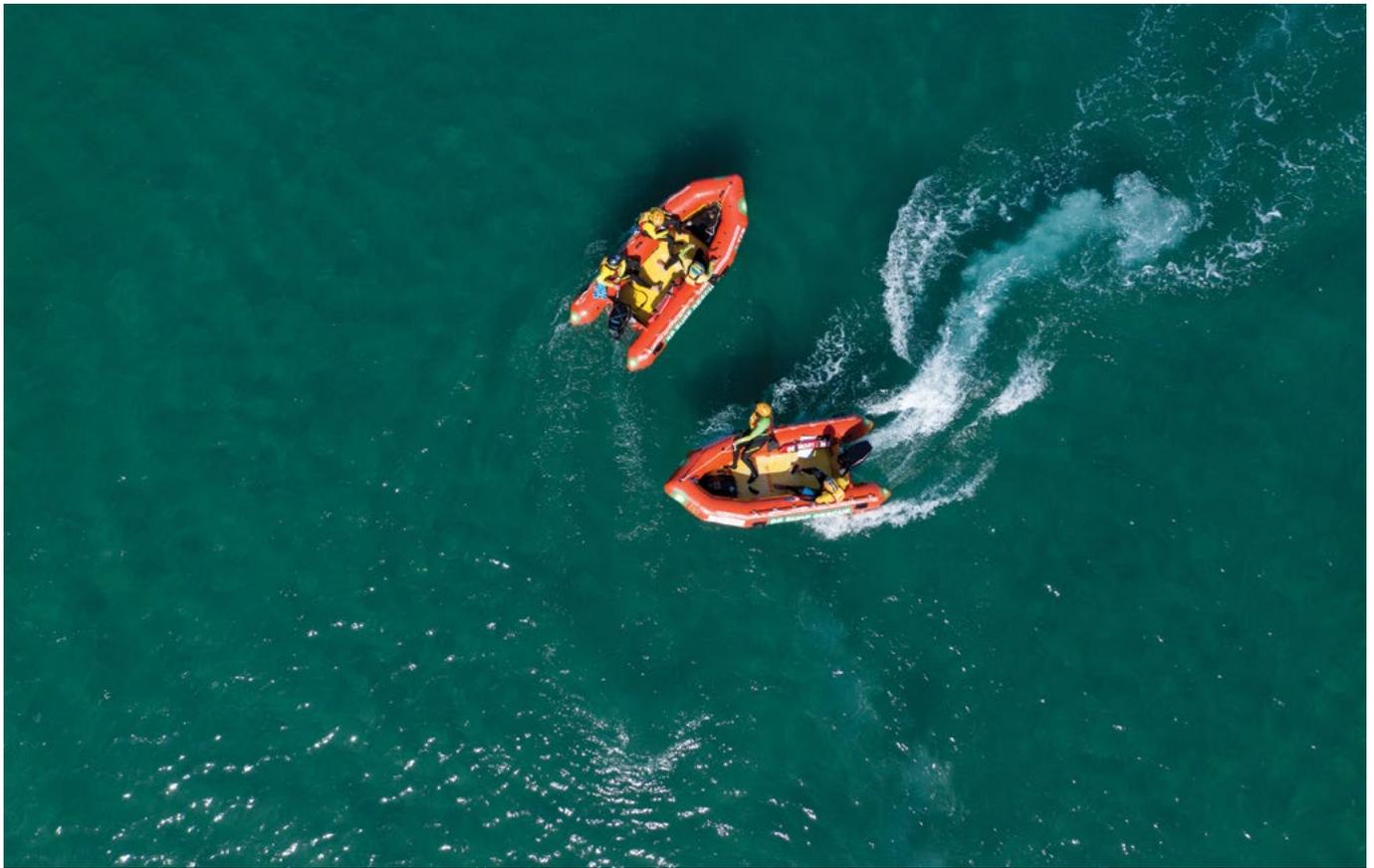
LandSAR – employment of additional Group Support Officers

LandSAR’s existing network of Group Support Officers has been expanded, and there now 10, plus a team leader, across New Zealand. Group Support Officers take some of the administrative burden from LandSAR group committee members, enabling local groups to focus on training and upskilling. Investment has also made possible the upskilling of volunteers assisting with SAR operations.

Mountain Safety Council – provision of an avalanche hazard advisory service and public avalanche information services

Additional investment in the Mountain Safety Council has resulted in significant development of the New Zealand Avalanche Advisory website, with a particular focus on functionality that allows the public to submit their observations of snow conditions. An option to extend the forecasting season was also available, however unusually warm temperatures coupled with little snowfall meant this wasn’t required. Public engagement with the service has increased, which leads to people being better prepared when they venture into the backcountry.

ABOVE
Coastguard vessel North Shore Rescue



Surf Life Saving NZ – appointment of a National SAR Manager

A dedicated National SAR Manager has been appointed, reflecting Surf Life Saving NZ's increasing participation in SAR operations nationwide. This role is focused on providing better support to existing volunteers, recruiting new volunteers, and ensuring training is relevant to the individuals. The National SAR Manager is also responsible for increasing the resilience and capability of Surf Life Saving NZ's 45 Emergency Call Out Squads. This will lead to higher retention of SAR volunteers and a consistent, sustainable SAR service on New Zealand's beaches.

Department of Conservation – supporting the establishment of the cross-sector Land Safety Forum

The Land Safety Forum aims to bring together organisations involved in land safety and outdoor recreation, providing them with an opportunity to share knowledge and coordinate across campaigns and initiatives. A Land Safety Forum coordinator has been appointed and the first meeting was held in late June. There are currently 23 organisations and individuals in the forum.



ABOVE

Surf Live Saving NZ has 45 Emergency Call Out Squads

RIGHT

A combined Coastguard New Zealand and Life Flight training exercise



Frontline water safety

Ensuring people are safe while enjoying beaches, rivers, and lakes is a new area of focus for the NZSAR Council.

Government investment

Budget 2020 delivered \$45.368 million over three years for frontline water safety services. This money has been invested in Coastguard and Surf Life Saving NZ to assist with their ongoing operating costs.

This year, \$15.078 million was used by the two agencies to cover:

- Unit operating costs
- Maintaining and replacing operational assets
- Membership growth initiatives.

The Government’s investment has given both agencies secure funding, so their staff and volunteers can focus on providing essential frontline water safety services.

This investment in service delivery directly supports the achievement of the ‘Frontline prevention, search and rescue’ pillar in Wai Ora Aotearoa.



Wai Ora Aotearoa – Navigating to a safer future

Together with the wider water safety sector, the NZSAR Council contributed to Wai Ora Aotearoa – New Zealand Water Safety Sector Strategy 2025.

While the 2020 strategy was focused on reducing drowning deaths and injuries, Wai Ora Aotearoa has a wider focus on safety in and around the water. This aligns with the NZSAR Council goal of SAR prevention (see page 13).

Wai Ora Aotearoa also incorporates the three pillars of the Wai Puna model: strengthening connection to water through whakapapa (attitudes and beliefs), mātauranga (knowledge) and tikanga (behaviour), reflecting te ao Māori (the Māori worldview).

ABOVE

Surf Life Saving NZ provides frontline water safety services

RIGHT

Wai Ora Aotearoa – New Zealand Water Safety Sector Strategy 2025



Trained and ready for action

The NZSAR Secretariat funds the delivery of more than 150 courses annually, in pursuit of the NZSAR Council's goal of capable SAR people. Collective training, knowledge sharing and a culture of learning from each other are integral to our training programme.

By the numbers

More than 1,800 people received search and rescue training this year. Tai Poutini Polytechnic delivered 37 multi-agency management and coordination courses, while LandSAR ran 116 courses focusing on the skills and competencies relevant to land operational roles.

Every year, the NZSAR Secretariat commissions an independent survey to gather feedback from course participants. The most recent survey was run between December 2020 and February 2021 and relates to courses attended in the 2020 calendar year.



98% rated their tutors' knowledge as excellent or good



95% said teamwork was encouraged



98% said assessments were fair



91% had confidence they could use their new skills in a SAR operation

ABOVE
Canterbury District SAREX
February 2021

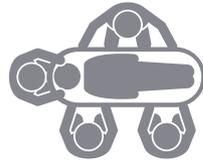


The best thing about SAR training

We asked participants what the best thing was about SAR training.



71% said learning from experienced tutors



71% said learning new skills



67% said being ready to assist in operations

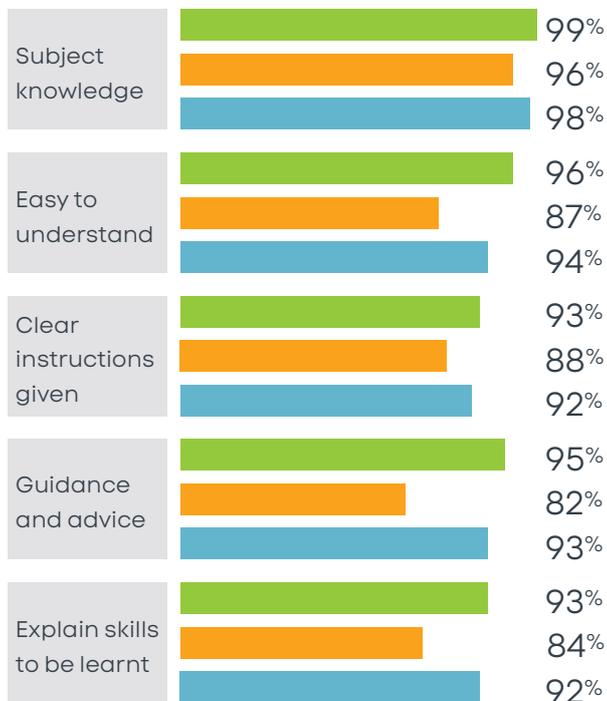


62% said working as a team

Feedback on SAR tutors

As has been the case in previous years, feedback on SAR tutors was exceptional.

Tutors (rated 'Excellent' or Good')



- Land-specific training (n=160)
- Multi-agency training (n=67)
- Total face to face training (n=227)

Exercising our skills

Each year, the NZSAR Secretariat funds 10 search and rescue exercises. Run by Police, these are an opportunity for individuals and teams to apply their skills without the pressure of an operational response.

Known within the sector as SAREXs, these multi-agency exercises are a valuable opportunity for people from different specialties to meet, work alongside each other and learn from the experience.

While they are conducted as practise sessions, SAREXs still require teams to plan, execute and review the search and rescue operation as if it was a real response.

This year, the NZSAR Secretariat invested \$97,283 in SAREXs.

Each SAREX is independently evaluated, with the reports published on our website.

ABOVE
Lochinver Station SAREX
September 2020



Missing aircraft inspires SAR training exercise

An unsolved aviation mystery provided a unique backdrop to a SAR exercise (SAREX) held in northern Otago earlier this year.

In February 1962, a de Havilland DH90A Dragonfly plane left Christchurch for a scenic flight to Milford Sound, but never arrived. Despite extensive searches over the last 59 years, no trace of the aircraft, pilot Brian Chadwick, or the four passengers on board has ever been found.

“The crashed aircraft is a well-known local mystery,” says Sergeant Nathan White, the SAR Coordinator for the Otago Coastal Police. “Previous SAR advisors and locals have put significant time and effort into locating the wreckage, so with a SAREX on the horizon we thought it would be a good time to give it another go.”

One theory is that the aircraft crashed somewhere in the Huxley or Hopkins valleys, not far from the Main Divide.

The Hopkins valley intersects three Police SAR territories – Otago Coastal, Otago Lakes and South Canterbury – and is within easy reach of the LandSAR groups based in Omarama, Oamaru and Twizel.

Twenty-seven people from across the Police and LandSAR came together for the three-day exercise in May 2021. Six of the participants were new SAR volunteers.

For LandSAR Group Support Officer Kelly Hoskin, the most valuable part of the exercise was the opportunity for everyone to come together.

“Not only do the teams get out and about in one of the most spectacular

areas of New Zealand, but they also have the chance to become familiar with the personnel and capabilities of their neighbours.”

It’s a sentiment echoed by Nathan. “With so much SAR capacity in the area, it’s rare that the groups come together to work on an operation at the same time,” he says. “The SAREX presented an excellent opportunity to train with a common purpose and share experiences and knowledge.”

Attendees were split into groups and provided with photographs, maps and eyewitness accounts relating to the missing plane. From these, each group determined probable areas where the plane could be and came up with a search area for the following day – a task usually carried out by the Incident Management Team (IMT).

Steep terrain and the amount of snow encountered on the second day meant that the planned search for the Dragonfly had to be scaled back. Instead, teams re-focused and searched nearby sub-alpine areas, and had several opportunities to become familiar with entering and exiting a helicopter.

ABOVE

LandSAR volunteers searching the sub-alpine zone during the SAREX. Image courtesy Rupert Yates

"While we weren't able to fulfil our original intention to search for the Dragonfly above the snowline, the feedback from the exercise was positive," says Nathan. "Most of the participants were field team members who benefited greatly from seeing how an IMT plans a search."

"The Dragonfly is still out there somewhere – perhaps we'll have more luck on the next SAREX!"



ABOVE

The missing de Havilland Dragonfly ZK-AFB, at Milford Sound in 1961
Image courtesy Edna Bates via Richard Waugh

Spotlight on SAR people



Andrew Wong Too

Sergeant Andrew Wong Too is the officer in charge of search and rescue for Taranaki.

My involvement in search and rescue started back in 2010. I was drawn to it for two reasons: it seemed like a natural fit for my love of the outdoors, and it was very different to my day-to-day role in the Impairment Prevention Team. Search and rescue is about as far from my normal role as it's possible to get.

It's hard to plan for search and rescue as you never know when you will get called out. Luckily my boss used to be involved in search and rescue several years ago so he's very understanding of the demands of the role.

Teamwork is key for search and rescue. We've got 12 officers in the Taranaki Police SAR Squad. We're also supported by volunteers from two Coastguard units, Cape Egmont Sea Rescue, the Surf Life Saving NZ Emergency Call Out Squad and two LandSAR groups. It's a busy area but I'm lucky to have such passionate and skilled people to work alongside.

It is a demanding role, especially in a small community where

you might know the people involved personally. The operation that sticks in my mind was when two students and their outdoor education instructor were swept off Paritutu Rock. It was a significant search, over an extended period, and I knew two of the three people involved. That gives you the extra drive to try and return them to their families.

Having hobbies outside of work helps care for the mind. I like to go mountain biking and explore new places with my three kids. I'm also into white water kayaking. On one memorable trip I ended up going for a swim and my boat floated off downstream. I got myself out of the water and sent some friends downriver to recover the boat – I didn't want to inadvertently start a search and rescue operation!

There's nothing as rewarding as being able to reunite someone with their family. That, and the teamwork, is what keeps me going.

Supporting health, safety, and wellbeing

Supporting the search and rescue sector agencies with health, safety, and wellbeing has continued to be a priority for the NZSAR Secretariat this year

FATIGUE GUIDANCE NOTE FOR SEARCH AND RESCUE

Not drunk, not speeding, just tired

DRIVE FRESH!
Never try to push through.

Calculate your risk of driving when tired!

RISK FACTORS	ADD
Slept less than 6hrs in the past 24 hrs	3
Slept less than 14hrs in the past 48hrs	2
Been awake for more than 16hrs	3
Worked night shift in the last 3 days	2
Have a sleep disorder e.g. insomnia	3
Driving between 2pm and 5pm	1
Driving between midnight and 6am	3
Had any alcohol in the last 2hrs	2
Driven for more than 5hrs without a break OR	2
Driven for more than 8hrs without a break	3
TOTAL	

CAUTION If you score 4 You may be driving tired more often than you realise which would make you a significant road hazard.

WARNING If you score 5-7 You are at a high risk of having a crash. Avoid driving. Have a power nap.

DANGERS If you score 8 or more You are an extreme driving risk/hazard on the road. You should NOT be driving! Get out all other factors. You need at least 8hrs sleep before you drive again.

If you're feeling drowsy, you may drift in and out of sleep

In a short 3 second sleep at 100km, you can travel the length of a rugby field **WITHOUT KNOWING IT!**

FATIGUE CHECKLIST

Use this checklist to identify signs of fatigue in your self and others

PHYSICAL SIGNS	MENTAL SIGNS	EMOTIONAL/AFFECTIVE SIGNS
<input type="checkbox"/> Eye rubbing <input type="checkbox"/> Yawning <input type="checkbox"/> Slumped posture <input type="checkbox"/> Slow blinks <input type="checkbox"/> Desire to sleep <input type="checkbox"/> Reduced coordination and motor skill <input type="checkbox"/> Micro sleeps or spacing out <input type="checkbox"/> Slow reaction time <input type="checkbox"/> Nausea or vomiting, headaches or dizziness <input type="checkbox"/> Not wearing all protective gear and equipment properly/at all	<input type="checkbox"/> Slowed reaction time and response time to questions or conversations <input type="checkbox"/> Reduced situational awareness <input type="checkbox"/> Poor memory <input type="checkbox"/> Distracted <input type="checkbox"/> Failure to anticipate <input type="checkbox"/> Omissions/carelessness <input type="checkbox"/> Poor decision making and judgement <input type="checkbox"/> Decrease in problem solving <input type="checkbox"/> Greater tolerance for error <input type="checkbox"/> Reduced visual perception	<input type="checkbox"/> Irritable, easily frustrated <input type="checkbox"/> Tense communication <input type="checkbox"/> Withdrawn, un-talkative <input type="checkbox"/> Hyper-reactivity <input type="checkbox"/> Delayed response on 2-way radio <input type="checkbox"/> Disregard for command orders and tasking instructions <input type="checkbox"/> More quiet <input type="checkbox"/> Poor motivation or attitude <input type="checkbox"/> Unstable mood and/or strained relationships

NEW ZEALAND SEARCH AND RESCUE
Rangitikei, Whararua, Marlborough

FATIGUE GUIDANCE NOTE FOR SEARCH AND RESCUE

What is fatigue?

Fatigue is a normal state that people experience. It is a symptom of stress and associated with impaired performance either physical and/or mental. It can have the same negative effects on critical decision making as being chemically impaired (under the influence of drugs or alcohol). The stress experienced is often from exertion outside an individual's current fitness level or capacity (physical and/or mental) over a prolonged period of time, or can be as simple as fatigue brought on from sickness.

We often observe colleagues/workmates as "run down" referencing the fact a person is not performing as expected and needs rest (sleep) and/or food and water. Sleep plays a vital role in removing metabolic cellular waste from around the brain. A permanent pattern of less than sufficient levels of sleep has links to increased levels of depression, psychosis, stroke, and obesity.

NEW ZEALAND SEARCH AND RESCUE
Rangitikei, Whararua, Marlborough

The NZSAR Council has identified health, safety, and wellbeing as a risk for the sector that requires ongoing work. The identified risk is two-fold: the injury or fatality of SAR people as they carry out SAR operations and exercises, and ensuring appropriate support is available for mental health.

Over the past year, we have worked with the SAR sector agencies to improve reporting and ensure there are processes in place to reduce the risk of serious health, safety, or wellbeing incidents occurring.

Health, safety, and wellbeing workshop

We hosted a two-day workshop in April 2021 which was attended by representatives from 12 agencies involved in SAR. The workshop was a valuable opportunity for all agencies to discuss health, safety, and wellbeing issues, and to learn what the various agencies are doing to improve reporting, increase understanding, and reduce risks.

Some of the areas discussed in the workshop included a presentation on fatigue and the risks this presents, a discussion on aviation SAR operations, safety in training, managing risk in high performing teams, and wellbeing programmes for frontline SAR members.

Some specific outcomes from the workshop included:

- Developing posters and brochures about managing fatigue in SAR, which are available to SAR agencies
- Updating our SAR Exercise Evaluation Guidelines and report templates to remind evaluators to observe health and safety practices during training exercises
- Seeking expert advice on how to manage overlapping duties of persons in charge of a business or undertaking (PCBU) in a multi-agency SAR situation
- Ensuring we continue work with the SAR aviation operators to understand and reduce risk
- Working with the SAR partner agencies to develop positive performance indicators for health, safety, and wellbeing.

ABOVE

Fatigue Guidance poster and front cover of the brochure

RIGHT

Ruapehu Alpine Rescue Organisation team members
Image courtesy LandSAR

Shining a light on psychological wellbeing

Unresolved searches, emotionally charged environments, and recovery operations are just some of the factors that can have a detrimental effect on the psychological wellbeing of both volunteers and paid professionals.

Some of the Government's \$44.018m investment in SAR this year has been used for SAR agencies to engage third-party counselling and support providers. These agencies have developed programmes to ensure the wellbeing of their members. Other SAR agencies are working their way through how to best support their people, and we look forward to reporting on their progress next year.



Spotlight on SAR people



LandSAR Wakatipu volunteers Sophie and Millie Aitken (right)

High country farmer Millie Aitken is a volunteer with the Wakatipu LandSAR group.

I WAS 18 when I got my first search and rescue callout. I was mowing the lawns at the time and was so excited that I was finally old enough to be called out for an actual operation, which was for a teenager who had become separated from her school group.

I remember thinking it couldn't be that hard as it was an area I'd been in before, but I found I had a lot to learn. As we reached our camp for the night, we were struggling to maintain communications with our base. Instead, we had to radio a nearby Department of Conservation hut warden, who would relay our message back to base, and then they'd relay the reply to us. This was all new to me – why couldn't we just talk to base, many mountains away?

We found the missing girl not long after setting up camp – or rather, she found us! She was overwhelmed and couldn't be walked out, so I got another first that night – my first night-time helicopter flight, with the pilot and crewman both using night vision goggles.

I'll always remember that first search because the missing person was the same age as me. Being involved in search and rescue has made me think about where I go tramping in the future, and how this kind of situation can be minimised.

My younger sister Sophie ended up joining LandSAR after being inspired by my stories. We've been nicknamed 'double trouble' by the others in the Wakatipu group, and it's been so cool having her there searching with me.

It's a very humbling feeling, knowing I have the training and experience to help save someone's life in the outdoors. I've been involved in search and rescue for nearly seven years now, but I still consider it a special thing to be able to reunite someone with their family and friends.

Over the last couple of years, I've been able to progress through the different levels and do some additional training. That's one of the best things about search and rescue – you never stop learning, and the opportunities just keep coming.



Raising awareness of distress beacons

In October 2020, the NZSAR Secretariat began its first digital marketing campaign encouraging New Zealanders to hire or buy a distress beacon. The campaign was run with input from the Department of Conservation, the Mountain Safety Council and Maritime New Zealand.



“We know that people are increasingly going online to plan their trips,” says Duncan Ferner, NZSAR Secretariat Manager. “So, we thought we’d try some targeted advertising spread across relevant websites and social media.”

Advertising agency GSL Promotus was tasked with coming up with the campaign collateral and placing the ads. After some discussion, the tagline ‘Make memories, not the 6PM news’ was chosen to sit alongside the call to action of ‘Hire or buy a distress beacon’.

The campaign steered away from recommending specific brands of distress beacons, instead working to raise awareness of beacons more generally. The ads directed people to a website where they could find more information about the different types of beacons and where they could be bought or hired.

Overall, 4.2 million impressions were delivered across Facebook and high-traffic websites including TradeMe, Metservice, TVNZ OnDemand, and online outdoor retailers. Ten percent of visitors to the website clicked through to a page outlining where beacons could be bought or hired.

ABOVE BOTH IMAGES
Some of the campaign collateral developed by GSL Promotus

The campaign ran through to Easter 2021 and was reviewed by staff from NZSAR, the Department of Conservation, the Mountain Safety Council and Maritime New Zealand,

incorporating data sourced from beacon retailers, hire centres and the Rescue Coordination Centre NZ registration database. The review indicated that the campaign had an impact on

the number of beacons being hired, sold or registered between October 2020 and April 2021, when compared to the year before.



82%

increase
in distress
beacons
hired



124%

increase
in distress
beacons
sold



32%

increase
in distress
beacons
registered
with RCCNZ

Spotlight on SAR people



Soren Low

Soren Low is the Deputy District Manager (Auckland) and newsletter editor for Amateur Radio Emergency Communications (AREC).

I joined AREC because it seemed like a good opportunity to use my radio interests to help the community. Sometime that's at planned events like bike races and car rallies. Other times it's unplanned events like search and rescue callouts, or Civil Defence emergencies.

My most memorable search and rescue experience would be a week-long training course at Dip Flat in Marlborough. It was an opportunity to connect with other AREC people from around New Zealand, as well as spending time with Police and seeing first-hand how search and rescue is executed.

When I'm assisting with a search and rescue operation, I'll use the radio equipment owned by Police or LandSAR. For other tasks like a car rally or training exercise, I'll bring my own gear. That can be an interesting challenge as you are given a spot to go to, then you have to work out how to get your signal back to base.

There's a real 'can-do' attitude within the search and rescue sector which is very inspiring. It can be full-on, but everyone works together with

such passion and professionalism.

AREC provides me with the opportunity to mix technical, procedural and people skills in a challenging way. I enjoy looking for new ways of doing things – balancing how we can embrace new technologies but still make it simple for the end user to get their message through.

My day job is business transformation at KiwiRail. This includes getting amongst various operational projects as well as working with people to solve problems and looking for opportunities to improve safety and service.

Outside of work and AREC, I really enjoy photography, tramping, and going on adventures with my two children – although there's not a lot of relaxing when they are around!

Volunteering with search and rescue has really opened my eyes to what a talented and dedicated group of people work in this area. I would really encourage anyone to get involved – there is such comradery, and it is very rewarding.



SARdonyx data reveals new insights

With two full years' worth of data now available for analysis, the sector's joint operational information system SARdonyx continues to guide the work of the NZSAR Secretariat.

SARdonyx was launched in May 2019 and is the primary source of data gathered from incidents within New Zealand's search and rescue region. Data is inputted into the system by the two coordinating authorities – Police and the Rescue Coordination Centre New Zealand – and is used by the NZSAR Secretariat to plan prevention campaigns, review operations, connect with the sector, and respond to media enquiries.

Daryl Bloomfield, the NZSAR Secretariat's Senior Information Analyst, says the value of SARdonyx is becoming more apparent as time goes by.

"Having a user-friendly interface makes it easy for the coordinating authorities to provide precise, useful and consistent information. In turn, that allows the NZSAR Secretariat to retrieve information directly from the system, instead of having to ask the agencies – which frees them up to focus on SAR operations."

Even administrative matters like planning a sector-wide aviation workshop were made easier with the use of SARdonyx. By applying a filter on all SAR operations in a 12-month period, the NZSAR Secretariat could extract a list of all the helicopter companies which had been involved in SAR – ensuring the workshop was capturing an accurate representation of the sector.

Utilising the filters in SARdonyx also revealed some surprising information about the vehicles called upon to assist in SAR operations. As well as the usual NZ Defence Force assets, helicopters, merchant ships and recreational boats, a front-end loader and a snow groomer were recorded as helping rescue people in distress.

While the data collected prior to the introduction of SARdonyx is not as comprehensive, it's still possible to compare information collated over time. A request from Maritime New Zealand to assist with a media enquiry resulted in a surprising finding that has shaped the NZSAR Secretariat's prevention work.

ABOVE

Two climbers were rescued from Copland Pass after setting off their distress beacon
Image courtesy Otago Rescue Helicopter

RIGHT

A story about distress beacons, utilising SARdonyx data, was syndicated across newspapers nationwide
Image courtesy Kāpiti Observer and Stuff Ltd



Beacon relief amid agony of remote dirt-bike crash

DERRE JAMESON

A dirt bike rider heard his best friend's cry before ending an agonising five-kilometre rescue journey strapped to the back of a ute.

Ian Reed was riding alongside a friend on a remote four-wheel drive track in the Akatarua Forest Park, on February 8.

He was coming around a corner at less than 10km/h when his bike skidded on rocks and his right leg twisted out at a 90-degree angle as it caught on a rock behind him.

Ian Reed's foresight in carrying a distress beacon paid off.

He heard his leg snap as his tibia and fibula broke in two. His ankle was also broken. "It was like someone shoving a red hot poker inside your leg - twice," Reed said.

Fortunately the keen dirt-biker and motorcycle enthusiast was wearing full safety gear and carried a distress beacon, which he immediately set off.

He fell "completely and utter [ly]" as seeing a rescue helicopter approaching, but the inaccessible terrain meant he was transported by a ute for the first 5km, fording rivers and crossing rocky trails, stopping regularly for a paramedic to administer pain relief.

"To receive the sick training about it, it was the most painful

experience in my life," he said. Reed, an IT coach, said he bought the beacon almost 10 years ago and took it on every ride, but had never used it before.

New Search and Rescue NZ figures show a rising number of people who need help in using distress beacons.

More than 2000 devices were registered in December alone, a 30 per cent rise on the previous year.

Reed was airlifted to Wellington Hospital, where a titanium rod was inserted into his leg.

It will be six weeks before he can walk and about six months before he is fully healed.

But he is looking forward to riding in the back country again with his beacon.

SARdonyx data showed that one in three land-based rescues over summer 2020-21 was the result of a distress beacon being activated, compared to one in six over summer 2015-16. The number of rescues was similar, showing that there's been a discernible change in behaviour from people heading outdoors.

Distress beacons help pinpoint the user's location which narrows the search area considerably. Just over 111,000

are currently registered in New Zealand – a figure that is rising every year. Partly because of the one-in-three finding, the NZSAR Secretariat has continued to invest in a digital marketing campaign to raise awareness of distress beacons. This follows on from a successful campaign over the 2020-21 summer period (see page 24 for more information).

What does the future hold for SARdonyx? Improvements to the back end of SARdonyx have been the focus for the last two years, but with that work largely complete, the emphasis now shifts to enhancing the user experience. It is hoped that refreshed email reminders, more interactive landing pages, and enhanced reporting and dashboards will assist with the timely input and approval of operational SAR information.

Spotlight on SAR people



Samantha Mildon with Minister of Transport Michael Wood

Samantha Mildon is a search and rescue officer at the Rescue Coordination Centre New Zealand, based in Avalon.

I used to work on ships as a navigation officer, so there was always an element of search and rescue to my job. When the opportunity arose to work at the Rescue Coordination Centre NZ (RCCNZ) I took it, as I loved the thought of being able to use my training and experience to be able to help people in such a meaningful way.

RCCNZ is a part of the international search and rescue system. We often end up speaking to our colleagues in the Rescue Coordination Centres in neighbouring search and rescue regions - Australia, Fiji, New Caledonia, French Polynesia, United States, and Chile. We also speak to many local authorities on the Pacific Islands within the NZ Search and Rescue Region including Tokelau, Samoa, Tonga, Niue, and the Cook Islands.

Offshore maritime rescues can be interesting as I'll often end up talking to foreign merchant

or fishing vessels, working out if they can assist us as vessels of opportunity.

One of my most memorable rescues was a Korean fishing vessel which activated its distress beacon in the Ross Sea, Antarctica. The ice had damaged the steering system, rendering it unusable, and the crew had no way to manoeuvre.

It took 16 days to get the ship free and clear of the ice. It was done by an icebreaker while another fishing vessel towed it through the path created. It was almost five weeks before they were safe in port. This was a great example of an incident where many countries and authorities worked together to get the vessel and crew to a place of safety.

When I'm not on shift in the RCCNZ Operations Room, I'll either be surfing, or training for my next marathon on some of the amazing local trails in Wellington.



Search and rescue in the Pacific

The New Zealand Defence Force (NZDF) plays a critical role in responding to incidents within the New Zealand search and rescue region, including the Pacific Islands.

What is the NZDF's role in a SAR operation?

The NZDF supports civil authorities with on-call search and rescue coverage in maritime and land environments. New Zealand's geographic location results in some unique challenges and the NZDF has trained personnel and specialist military equipment and assets that can be used.

The NZDF may get a call from the Rescue Coordination Centre New Zealand (RCCNZ) to assist with a SAR operation in New Zealand waters or around the Pacific. RCCNZ will in turn be working with their colleagues at the Rescue Coordination Centre in Fiji on search and rescue operations in the Pacific. For assistance with a SAR operation on land here in New Zealand, the call might come from Police as the lead agency. The NZDF work closely with those agencies to provide the personnel and assets to help.

What happens when you get the call that people are missing and a search needs to get underway?

Once the NZDF has been contacted for support in a SAR operation, staff at the NZDF's operational headquarters, Joint Forces New Zealand, authorise the deployment, and personnel and assets get ready to go. The agencies involved provide as much information as possible including last

known coordinates, drift patterns and search areas. It's very much a team effort, and one that everyone hopes will be accomplished successfully.

What assets do NZDF use for SAR?

The NZDF is committed to their national search and rescue role. To meet this commitment and respond to requests from RCCNZ, they maintain fixed-wing aircraft, helicopters and ships on-call 24/7, 365 days a year. They also have the capacity to conduct land-based SAR activities with response groups in the North and South Islands.

For SAR operations in the Pacific, the Air Force P-3K2 Orion long-range maritime patrol aircraft will be deployed.

Aircrew on the aircraft can use a range of methods, including radar technology, to locate missing people at sea. It's immensely satisfying when the crew see the smiles and waves from a small group of fishermen on a small boat, which might have lost power and been drifting for days.

Aircrew can deploy survival packs with food, water, and radios so communications can be established with the crew on board a boat. They can also deploy life rafts. Once a missing boat has been found, the aircraft will typically remain overhead until the people have been rescued.

ABOVE

The NZDF assisting with the search for a missing kayaker

NZDF assets include:

- Royal New Zealand Air Force (RNZAF) P-3K2 Orion long-range maritime patrol aircraft
- RNZAF C-130 Hercules fixed wing aircraft
- RNZAF NH90 medium-utility helicopters. Aircrew on the NH90 helicopters carry out SAR operations, and the helicopter may be used to insert ground search teams into remote and rugged terrain. The NH90s can handle difficult weather conditions which smaller civilian helicopters might not be able to, and also have winching capabilities for lowering searchers and equipment to the ground and for winching people to safety
- Royal New Zealand Navy SH-SG(I) Seasprite helicopters may be used for surveillance and reconnaissance during SAR operations
- Royal New Zealand Navy (RNZN) ships respond to mayday calls and SAR operations. The RNZN will always have a ship on duty, ready to respond at short notice in emergency situations
- The RNZN dive and hydrography unit HMNZS MATATAUA can assist Police with underwater searches

including using remotely-operated and autonomous underwater vehicles

- Response groups in the North and South Islands may work with Police and LandSAR teams on ground searches.

Has the emergence of COVID-19 affected search and rescue operations in the Pacific?

The NZDF works closely with Pacific countries – including through their network of Defence advisors and Ministry of Foreign Affairs and Trade officials – on clearances to land aircraft for refuelling and logistics stops during multi-day SAR operations in the Pacific. Approved NZDF COVID-19 protocols are carried out for the duration of these tasks.

Working with their Pacific partners safely in a COVID-19 environment has been hugely important to the NZDF. They have successfully conducted multi-day SAR operations in the Pacific, carrying out contactless logistics stops including in Nauru and Fiji.

Spotlight on SAR people



Bradley Walters

Bradley Walters is a SAR duty coordinator for Surf Life Saving Kariaotahi, near Waiuku.

I've been a surf lifeguard for 15 years and involved in search and rescue for the last 10. Kariaotahi Beach set up one of the first emergency call out squads in the country and I was asked to join it. I'm always looking for ways to continue developing my skills, so it was an easy thing to say yes to.

My most memorable rescue was the night we were called out to rescue three people whose boat had overturned on the Waikato River bar. It was pitch black, with no moon, and there was too much sea spray for the rescue helicopter to do anything but light up the water for us. We headed out in the inflatable rescue boat to find two of the three patients unconscious in the water. I honestly thought they were gone.

I found out later that it was four minutes from launching the boat to arriving back on shore with three patients. We were running on pure adrenaline. One of the patients

received 90 minutes of CPR on her way to hospital, but survived and made a full recovery. She's a miracle, and it was pretty cool when she later came back to say thanks for saving her life.

That rescue was a real team effort with Coastguard, Police, and the Auckland Westpac Rescue Helicopter Trust. We ended up receiving a few awards for that one. I was lucky enough to go to London with the team to receive an award from the International Maritime Rescue Federation in 2019.

Keeping your skills current is crucial for search and rescue. If you get an opportunity to upskill – whether that's a practical course or in incident management – take it. Every course is valuable. A keen attitude is key as well.

When I'm not on patrol at Kariaotahi I'll head away with my mates to go fishing or hunting.



Supporting our volunteers

The strength of New Zealand's search and rescue sector lies in its dedicated and highly skilled volunteer workforce. Ninety-one percent of the 11,561 people involved in SAR in New Zealand are volunteers, renowned for their pragmatism and willingness to help at a moment's notice.

A 2019 report from Volunteering New Zealand was a watershed moment for the sector, highlighting the challenges ahead and offering several recommendations around how the volunteer workforce could be better supported in the future.

The first year after the report's release was focused on adopting a set of guiding principles for volunteer involvement, creating a volunteer strategy template, and beginning work on a common data standard.

The work done this year has focused on practical initiatives that will safeguard the future of SAR volunteers in New Zealand.

Managing volunteers in the SAR sector

Three of the four non-Government agencies involved in SAR – Coastguard, LandSAR, and Surf Life Saving NZ – have established a permanent paid role that includes looking after their volunteers.

These individuals, along with an Amateur Radio Emergency Communications (AREC) representative, meet monthly, coordinated by the NZSAR Secretariat. The

meetings provide an opportunity for each agency to share information and connect at a grass-roots level. Feedback to date indicates that this is a useful forum for leveraging off each agency's expertise and experience in managing volunteers.

Cross-agency workshop

In May 2021, Coastguard hosted staff from AREC, Surf Life Saving NZ, LandSAR, and the NZSAR Secretariat for a two-day workshop in Auckland about supporting volunteers. As well as a practical on-water exercise, the workshop covered leadership and governance structures, diversity in the volunteer sector, the role of the NZSAR Secretariat, and cultural awareness.

Planning for the future

The 2019 study challenged the SAR volunteer agencies to leverage off each other's initiatives and create new initiatives for the future. Some of the ideas being developed include:

- A cross-sector SAR recruitment drive, so people can be directed to the agencies that best suit their skills and availability

ABOVE

On the water at the May 2021 volunteer workshop

- Combined training and cross-crediting of existing qualifications, so that volunteers with multiple agency memberships don't need to repeat basic training for each agency
- Expanding existing recognition programmes such as discount schemes, so that other volunteer agencies aren't required to build their own.

Research to provide a baseline

The priority for the next year is to continue to build up the SAR sector's understanding of the volunteer sector. Utilising a high-level research programme, the sector seeks to understand how existing volunteers perceive the engagement, leadership, training, and overall volunteer experience within SAR.

The research is also being designed to provide a baseline so that factors influencing a person's capacity to volunteer can be anticipated ahead of time.

"We want to see how volunteer engagement evolves over time," says NZSAR Secretariat Principal Advisor Andy Greig. "If we can determine that people stop volunteering for SAR for certain reasons or at certain life stages, we can

take steps to mitigate the impact of individuals leaving volunteering. This in turn increases the overall capacity of the SAR sector."

Understanding our volunteers

Work has continued collecting information on the makeup of the volunteers from the four SAR agencies while ensuring privacy is maintained.

Agencies have been focusing on increasing the diversity of their volunteer workforce. This means over time they will better reflect the communities they support.

Spontaneous volunteers

Spontaneous volunteers – community members who offer their services for SAR on an impromptu basis – are a new and evolving issue for the sector. They are in addition to our core volunteer workforce and often don't have the same level of training as the SAR agency volunteers.

Discussions are continuing between the SAR volunteer agencies and the wider volunteer sector with a view to creating an agreed plan for how spontaneous volunteers can be organised and managed for SAR.

Spotlight on SAR people



Rosie Musters

Rosie Musters is an instructor with Coastguard Nelson.

I've always loved the sea. I'm descended from generations in the British Royal Navy and grew up with childhood stories of seafarers.

My foray into Coastguard coincided with the start of an air patrol unit in Nelson in 2000. I had just got my private pilot's licence so was like, 'oh let's go flying!' I took part in specialist SAR training and then became a co-pilot/navigator on the Cessna 172.

Back then, the technology we used included a heavy battery and radio set that allowed us to communicate with Police on shore. On one memorable occasion, we were conducting a search in the Marlborough Sounds. The weather was so appalling and the turbulence so bad, the battery stored behind the back seat flew up and hit the roof of the aircraft.

We quickly decided to head for home.

The era of air patrol in Nelson ended with the arrival of cell phone communication and GPS on boats. I then shifted to Coastguard Nelson's sea-based operations, where my focus is on training the boat crew and as a member of the Incident Management Team.

We're a close crew here. My partner Rosie and I have used training from our respective careers in psychology and counselling to develop a mental health support system for our volunteers, who might struggle with aspects of what we are sometimes confronted with.

When I'm not volunteering for Coastguard, I do Tai Chi, gardening, and geocaching – as well as spending some time out on the water in my own boat.



Ice-olation! Search and rescue in the south

New Zealand's search and rescue region extends as far south as Antarctica. Antarctica New Zealand shares some insights on how search and rescue works at the bottom of the world.

What is Antarctica NZ's role in SAR?

Antarctica New Zealand operates a Joint Search and Rescue Team with the United States Antarctic Programme. Initial responses in the Ross Island area are carried out with the mutual aid and support of both agencies. Collaboration between the two agencies enables assets and resources to be assigned to activities on the Antarctic continent. Antarctica New Zealand activities involve personnel operating in remote deep field locations, overland/ice shelf traverse, sea ice and aviation. Our operational and SAR capability is required to cover all these areas.

What happens when you get the call that people are missing and a search needs to get underway, and who do you work with on a SAR operation?

Antarctica New Zealand, Scott Base, works closely with the United States Antarctic Programme, McMurdo Station, for search and rescue. An on-call SAR team is at the ready for a mutual aid response. The RCCNZ has developed the Ross Sea Region Response Plan with the assistance of New Zealand and United States Antarctic Programmes. This is a broad response plan to marine and air rescue response in Antarctica.

ABOVE

A Joint Search and Rescue Team training session. Image courtesy Catharine Kircher / Antarctica New Zealand

What assets does Antarctica NZ use for SAR?

In a normal season Antarctica New Zealand has helicopter and fixed wing aircraft as well as all-terrain vehicles, skidoo and Toyota Landcruisers for the local area. Antarctica New Zealand fire crews also provide a valuable resource and contribution to SAR support.

Other National Antarctic Programmes in the Ross Sea region have assets that may contribute to, or provide assistance, in support of SAR activities. There is a very collegial approach to assistance when needed in Antarctica. Antarctica New Zealand is an active participant in the Joint Search and Rescue Team with the US programme. This team is actively on standby and ready to deploy 24/7, 365 days a year.

What prevention protocols has Antarctica NZ put in place to prevent any spread of COVID-19 while on operations overseas?

Ice-olation! Everyone travelling to Scott Base has to complete two weeks in isolation at an Antarctica New Zealand managed isolation facility before they deploy to Antarctica.

Antarctica New Zealand and its Ross Sea region partners have a commitment to preventing COVID-19 entering the continent. Robust medical testing procedures are in place prior to departure and during the season on ice in support of public health notifications to the New Zealand Health Authorities. Other health protocols exist on station once personnel arrive until COVID-19 testing regimes confirm that operations can return to normal, and not require face coverings or social distancing.

Has refuelling been affected at all?

Last season, there was no ability to support either a cargo vessel resupply or fuel tanker to McMurdo Sound. All resupply activities for both Scott Base and McMurdo Station were limited to the airlink across the 2020/21 season. The airlink operated from Christchurch for the summer period between October 2020 to March 2021. Noting that this was a reduced season, priority was given to supporting essential operations and station life support systems.

Spotlight on SAR people



Lisa Cooper and her team

Adventure tourism tutor Lisa Cooper is a team leader with Tasman Swift Water Rescue, based in Nelson.

My first rescue was one of my most memorable. I was heading out of Murchison on the highway, on my way to catch a flight to Canada, when I heard the fire siren. It wasn't long before I saw the broken fence and the lights of the Police car. A logging truck had veered off the motorway at speed, crossed a paddock and dropped down the riverbank, head-first.

At the time, I was a commercial rafting guide for Ultimate Descents. I had all my gear in the car, so I just chucked it on. I swam out to the driver, who was trapped in the cab, took him some pain relief, and just kept up the communication. I called my colleague who came to help with his raft and kit. We were able to use the raft to ferry fire officers out to the truck and – eventually – as a platform to get the driver out.

There are 15 of us in the Tasman Swift Water Rescue team. We're all volunteers who do lots of kayaking

and rafting. We train regularly as a team on all the local Tasman rivers so we can work efficiently together.

A huge percentage of our work involves submerged cars. Some people get themselves into trouble when trying to cross rivers in 4WDs, only to be swept away by the current. Flooding also causes a few washouts – when there's a rapidly rising river, the riverbanks can become unstable pretty quickly. If there's any need for SAR resource in moving water situations, we have the skills and the gear to help. We can get to those people faster than land-based teams. We can also search riverbanks and see into the trees from a different angle, which can be really valuable.

A couple of years ago, we were part of a combined SAREX with Surf Life Saving NZ, Coastguard, recreational kayakers and the NZ Jet Boat Association – everybody was sharing ideas.

Celebrating dedication and success

The New Zealand Search and Rescue Awards are presented annually in recognition of outstanding achievements in search and rescue nationwide. After last year's ceremony had to be moved to the regions because of COVID-19, this year's ceremony at Parliament was a welcome return to normality.



Gold Award – Operational



Bernie Pepper, Mike Beausoleil and Hannah Latta – Life Flight

For the rescue of an adult and child swept out to sea near Wainuiomata on 15 November 2020.

The Life Flight rescue helicopter was deployed to the coast off Wainuiomata to rescue an 11-year-old boy who had been swept off his feet by a wave, as well as a member of the public who had gone to his aid. Both had made it to a rocky outcrop 180 metres offshore before the young boy was again swept away by a wave.

When pilot Bernie Pepper, crewman Mike Beausoleil and paramedic Hannah Latta arrived on scene, a 30-knot northerly wind was blowing, creating severe turbulence and a choppy sea.

Standing at the door of the chopper, 300 metres off the coast, Mike spotted the boy's red shoes. Hannah was winched down to retrieve the boy who was hypothermic and barely conscious.

After bringing the boy back to shore to be treated by a waiting ambulance crew, Bernie, Mike and Hannah flew out to retrieve the member of the public who was still on the rocky outcrop. It was too dangerous to deploy Hannah into the water a second time, so Bernie hovered the helicopter only a metre above the rock. Hannah and Mike between them managed to get the man inside the helicopter.

Both the adult and child made a full recovery.



Gold Award – Support



Tim Hogan

For his commitment to search and rescue through the creation and ongoing maintenance of the Mobile Locate software service

Technical consultant Tim Hogan is the creator of Mobile Locate, a web-based software service used by emergency services staff to help locate people in distress. Since its launch in 2013, Mobile Locate has been used thousands of times.

Mobile Locate works when a person is within a cellphone coverage area, has at least five percent battery on their device, and can access mobile data. These low barriers to entry mean it is easily accessed by most outdoor users when needed.

The combination of cellphone coverage across land and marine environments in New Zealand, plus the ease of using the service, means that a lost person's location can be established within seconds. This allows the right resources to be deployed and prevents lives from being lost.

Mobile Locate is now so common that it has become a verb and a noun within emergency services call centres. Examples include "Comms, have you done a Mobile Locate?" & "Hang on, I will Mobile Locate them."

Tim is described by Police staff as a humble man who has never sought recognition for his work developing a world-leading product that saves lives every week.



Certificates of Achievement – Operational



**Aoraki Mt Cook Alpine Rescue Team,
Aoraki Mt Cook Incident Management Team,
Otago Rescue Helicopter,
Rescue Coordination Centre New Zealand**

For the rescue of two climbers near Copland Pass on 10 January 2020

Two climbers attempting the Copland Pass set off their distress beacon at 11pm after finding themselves stuck on a small ledge, with a significant weather front imminent.

The climbers were located using night vision goggles, but turbulence made a winch rescue impossible. The Alpine Cliff Rescue team climbed across 30-degree snow slopes to reach the stranded climbers. They were loaded into the helicopter with a weather window of less than 20 minutes remaining. One of the climbers was sent to hospital for further medical treatment but made a full recovery.



**Coastguard Nelson, Nelson Police SAR Squad,
Tasman District Harbourmaster Team,
Rescue Coordination Centre New Zealand**

*For the rescue of six people from SV Ocean Gem near Rangitoto ki te Tonga/
D'Urville Island on 18-19 March 2020*

The Rescue Coordination Centre coordinated the rescue of the SV *Ocean Gem* after the vessel lost its steering system and started drifting towards Rangitoto ki te Tonga/D'Urville Island in 25 knot winds. The vessel was located by Coastguard volunteers, but with four-metre swells the towing operation was beset with difficulties and took nearly 12 hours to cover the 51 nautical miles to Nelson.

Partway back to Nelson, the Tasman District Harbourmaster Team met the Coastguard rescue vessel to refuel and relieve several seasick Coastguard crew members.



**LandSAR Turangi, Ruapehu Alpine Rescue Organisation,
Taupō Police SAR Squad, National Park Police SAR Squad,
Tukino Ski Patrol**

*For the rescue of nine climbers from the Whangaehu Glacier on Mt Ruapehu
on 26-27 September 2020*

The rescue of an injured climber on the slopes of Mt Ruapehu took seven and a half hours and involved 22 people in rapidly deteriorating weather.

The injured woman was placed in a stretcher which was carried out of the glacier using ropes and belay system. Rescue teams worked together to pre-rig sections of the descent so that the rescue of the climber and her eight companions could be completed as quickly as possible.

The woman's injuries were unsurvivable and she sadly died during the descent.



Certificates of Achievement – Support



Max Corboy

For his service and commitment to Surf Life Saving NZ and the Otago Emergency Call Out Squad

Max Corboy's search and rescue involvement started in 2010 when he joined his local callout team.

As team leader, Max has created a high-performing team structure based around introducing new members, rotating current members and establishing a training group. His team members then take their new-found SAR experience back to their local clubs, enhancing the development of skills across the region.

Max is also a member of the Surf Life Saving NZ National SAR Working Group, where he works to develop best practice for Emergency Call Out Squads across the country.



Sergeant Vincent Ranger

For his service and commitment to search and rescue

Vince has been involved in search and rescue for 22 years. In his role as the search and rescue coordinator for the Waikato district, Vince has overseen the rescue and recovery of hundreds of lost people, some of which have been high-profile, weeks-long search and rescue operations.

At a national level, Vince was recently called upon to assist with evidence gathering at the Pike River Mine. He was also part of the Disaster Victim Identification team who worked on both the Christchurch mosque attacks and the Whakaari / White Island eruption.



Dr Charmaine Tate

For her service and commitment to search and rescue

Dr Charmaine Tate is regularly called upon by both Police and the Rescue Coordination Centre New Zealand at critical points during search and rescue operations.

She is considered New Zealand's leading authority on ascertaining how long a person might be able to survive in the land or marine environment given the conditions at the time the person goes missing.

It is always a difficult decision, not made lightly, for an Incident Controller or Search Mission Coordinator to suspend search operations, but it is a decision made easier with Charmaine's advice and counsel.



Sam Milligan

For his service and commitment to LandSAR and WanderSearch in the Wairarapa region

Sam Milligan has dedicated 56 years to search and rescue. His main focus is the WanderSearch programme, supporting the search for people with cognitive impairments who go missing.

He acts as the conduit between the aged care and disability sectors and LandSAR, and has networked the Wairarapa rest home communities.

Searching for a missing person with a WanderSearch device takes a special skill set and requires in-depth knowledge of how to use receivers and aerials. Sam has dedicated countless hours to training local volunteers and providing opportunities for them to practise their skills.

Secretariat's report



Duncan Ferner
NZSAR Secretariat Manager

"There is no doubt that we live in turbulent times. The COVID-19 global pandemic continues its long reach into many aspects of our lives, and it seems that landscape-altering flooding and droughts are happening with increasing regularity. But the search and rescue sector has weathered these storms, and I have every confidence we will continue to do so."

The second half of 2020 was something of a milestone for the sector, as the Government's significant increase in funding started to translate into new positions being created within organisations, new equipment being rolled out, new programmes being introduced, and existing programmes being expanded (see page 14). With additional funding comes additional oversight and an inevitable increase in paperwork, but I hope you'll agree it's been worth it.

The NZSAR Secretariat has also welcomed a host of new faces this year. The Government's additional funding included provision for a new Principal Advisor and two new Senior Advisors. With those roles filled, we now have a full complement of staff - supported as always by a loyal band of contractors and consultants.

Nearly all the statistical information in this report has come from SARdonyx, our operational reporting system that has just entered its third year. Having two full-year data sets is incredibly valuable, and the ease with which we can pull information out is in stark contrast to systems we have used previously (see article page 26).

While we will continue to extract and analyse data from SARdonyx, over the next 12 months our focus will shift to increasing the system's usability.

Supporting the SAR sector agencies with health and safety requirements has continued to be a priority for the Secretariat over the last year, with a recent focus on psychological safety and dealing with trauma. Not every SAR operation ends with good news for waiting family and friends, and I'm proud of the work we have done to help agencies support their people.

New Zealand is unique in how 91 percent of our SAR people are volunteers, but that uniqueness makes us vulnerable to changing trends in how and where people use their free time. Some people may want to offer their time and skills on an ad-hoc basis, which is at odds with the years of experience traditionally needed to get someone up to a SAR Manager, skipper or team leader level (see article page 30). The increased Government funding has allowed several agencies to appoint volunteer manager roles to tackle these challenges, and to ensure our sector's operational capacity is maintained in the future.

SAR training remains a key focus of the Secretariat. While some courses had to be changed due to COVID-19, we've managed to deliver 82 percent of what we committed to for the year. This wouldn't have been possible without the commitment and dedication of a tight-knit group of search and rescue tutors. It's been a privilege to attend several training sessions in the last year, covering everything from probability of survival through to board-level governance. Every time, I walk away inspired by the willingness of our people to upskill themselves and provide a vital community service.

Finally, I'd like to express my gratitude to the wider SAR community who have assisted us over the last 12 months. While the NZSAR Secretariat has grown, the progress we are making on our ambitious work programme would not be possible without the input and advice of a great many people. In particular, the members of the NZSAR Council and NZSAR Consultative Committee have guided our direction of travel, challenged our thinking and given freely of their time and expertise. Thank you.

Governance

NSS: National Security System

SAROPs: Search and Rescue Operations

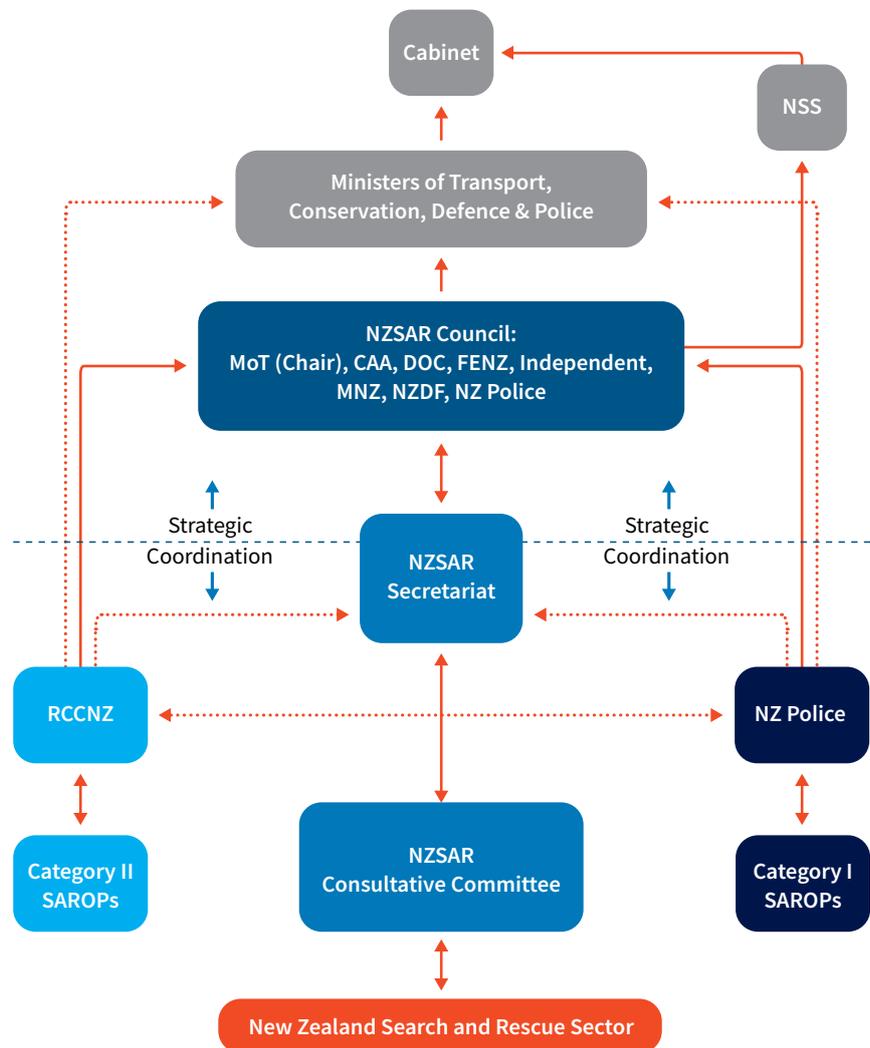
NZSAR Council

The Council's role is to provide national strategic governance and leadership to New Zealand's search and rescue sector.

In keeping with the Council's high-level strategic function, its membership is drawn from the chief executives (or delegated to a senior executive) of the Ministry of Transport, New Zealand Police, New Zealand Defence Force, Department of Conservation, Maritime New Zealand, Civil Aviation Authority, Fire and Emergency New Zealand, and an Independent Member.

NZSAR Secretariat

Provides the NZSAR Council with information, support services and advice. It also provides sector leadership and implements measures to effect strong strategic coordination of New Zealand's search and rescue sector.



NZSAR Consultative Committee

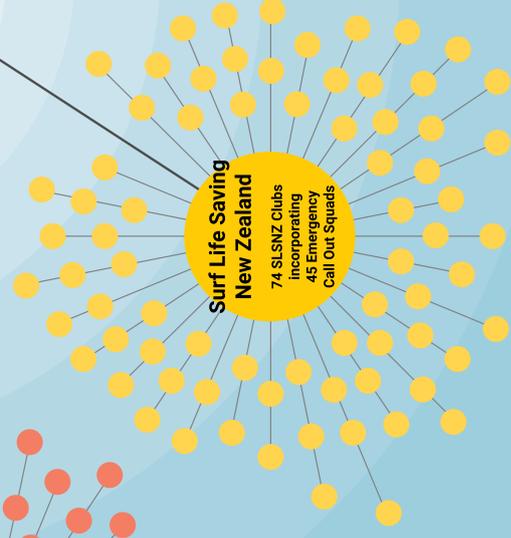
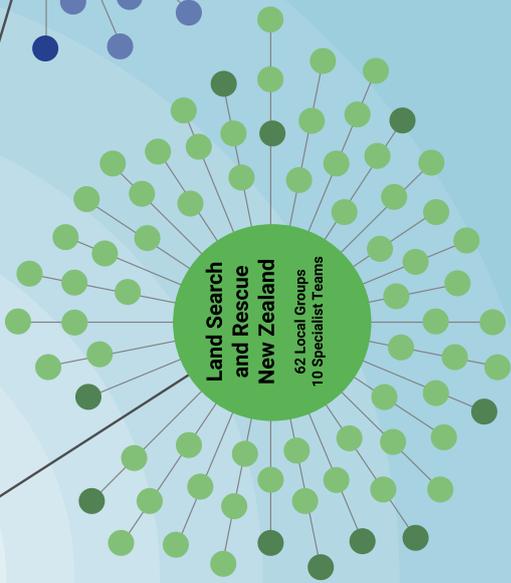
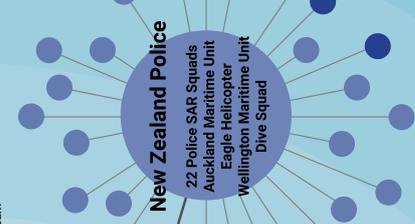
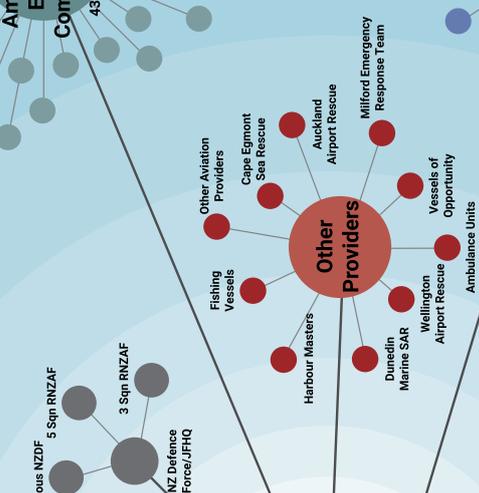
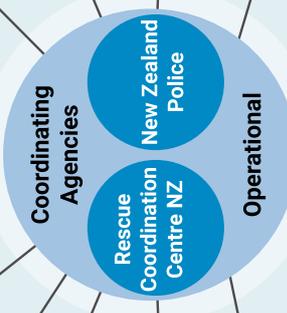
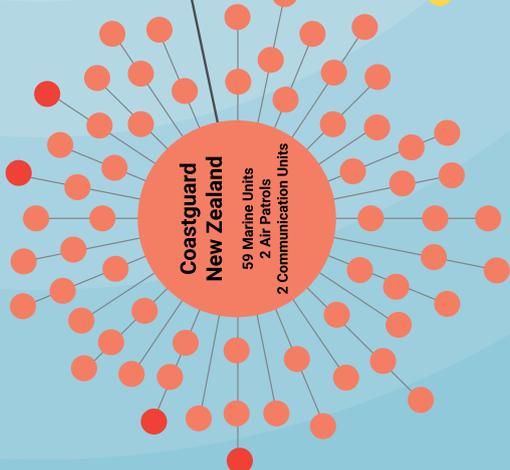
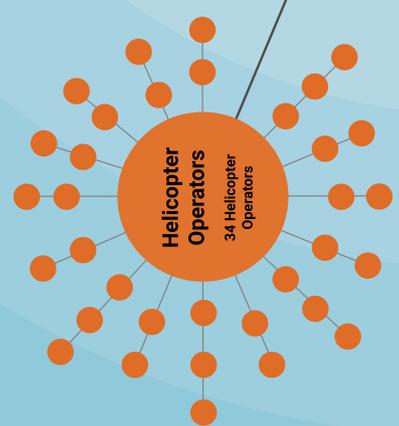
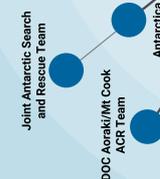
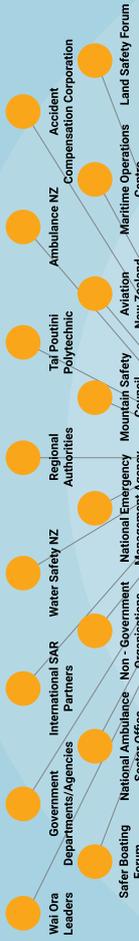
Provides a national forum for all New Zealand SAR stakeholders, including voluntary groups. Consultative Committee members include:

- Amateur Radio Emergency Communications
- Ambulance New Zealand
- Antarctica New Zealand
- Aviation New Zealand
- Civil Aviation Authority (CAA)
- Coastguard New Zealand
- Department of Conservation (DOC)
- Fire and Emergency New Zealand (FENZ)
- Land Safety Forum
- Land Search and Rescue New Zealand
- Maritime New Zealand (MNZ)
- Maritime Operations Centre
- Ministry of Transport (MoT)
- National Ambulance Sector Office
- New Zealand Defence Force (NZDF)
- New Zealand Mountain Safety Council
- New Zealand Police
- NZSAR Secretariat (Chair)
- Rescue Coordination Centre New Zealand (RCCNZ)
- Surf Life Saving New Zealand
- Water Safety New Zealand

The Council, Secretariat and Consultative Committee operate cohesively to ensure their objectives are successfully delivered.

OUR SECTOR

Partners



NEW ZEALAND SEARCH AND RESCUE

Rapu Whakarauora Aotearoa

New Zealand Search
and Rescue Council
nzsar.govt.nz

