

INDEPENDENT SAROP REVIEW

AORAKI MT COOK

Location: Aoraki Mt Cook National Park

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Report version: Final

Reviewer(s): *Win van der Velde – Independent Contractor to NZSAR*



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*Ki te tuohue koe, me he mauka tei tei,
Ko Aoraki anake.*

*If you must bow your head,
Then let it be to the lofty mountain,
Aoraki.*



Executive Summary

This review was initiated by the NZSAR Council, to establish the search and rescue arrangements, documentation, agreements and procedures utilised across search and rescue related operations undertaken in the Aoraki / Mt Cook area over the summer period of 1 November 2019 – 15 February 2020, including Cat I, Cat II and Ambulance managed incidents. Identify areas of excellence, sufficiency, lack, relevance, appropriateness, and those that may need improvement.

During this period 24 search and rescue operations were undertaken in Aoraki Mt Cook National Park. All the operations were carried out with the support of the Aoraki Mt Cook Alpine Cliff Rescue (ACR) team, albeit the operations were coordinated by either Police, the Rescue Coordination Centre of NZ (RCCNZ), St John Ambulance Air desk or the Department of Conservation (DoC).

Three operations have formed the focus of this review, each identifying learnings that can be applied across the wider SAR sector.

On 19 December 2019, a solo international climber failed to return home on his international flight. Inquiries established he was still on Aoraki Mt Cook, however no definite climbing route was known. After 6 hours of helicopter flying over a two-day period failed to locate any sign of the climber, an executive decision was made by Police to suspend this operation. No peer review was undertaken of the operation. Family for the missing climber immediately funded a private search, that was managed by DoC and the ACR team, and the body of the climber was located on day two of this private search. The body was located in an area that had been flown on day one of the original search.

On 11.00 pm on 11 January 2020, a personal locator beacon (PLB) was activated near Copland Pass, Aoraki Mt Cook. Two alpine trampers had become stranded, with insufficient equipment and changing weather conditions. RCCNZ activated the Otago Air Ambulance helicopter, equipped with night vision equipment, whilst DoC established an Incident Management team (IMT) and activated their ACR team. The weather conditions were too windy to undertake a winch rescue, so the ACR team redeployed, with one team flying in and establishing a staging post on the mountain, whilst a second team was flown to the staging area, and then trekked on foot, locating and escorting the stranded trampers back to the staging area, before being flown out. The courage and tenacity shown by the helicopter crew and ACR team was at the highest level.

On 15 January 2020, two injuries were brought to the attention of St John Ambulance communication centre, and responded to by their Air desk, with the deployment of an Air Ambulance helicopter from Christchurch. The first incident occurred at 11.00 am. The Police SAR coordinator in Timaru was appraised of the situation, and the ACR team assisted Ambulance in the recovery of the patient from Sefton Bivouac on Aoraki Mt Cook.

Whilst the Air Ambulance helicopter was on site at the Aoraki Mt Cook Emergency Operating Centre (EOC), a second incident was reported at 3.45 pm to St John Ambulance communications centre, of a woman who had fallen near Mueller's Hut.

Again, the Police SAR coordinator was advised, and a discussion ensued as to who had command and control for the recovery of the patient. Air desk believed, because of the Alpine location, it was Police responsibility as a Cat 1 SAROP. Police believed it was an Ambulance recovery operation for Air desk, and Police would assist as required. The victim was 8 minutes flight time from the EOC, however remained on the ice in severe pain for 1 hour 47 minutes from initial notification, before Police led the response, and medical assistance was finally able to reach her.

The key themes identified from this review included the lack clarity by frontline operators between an Air Ambulance helicopter deployment and a coordinated search and rescue response, collaboration across agencies, the suspension process of search and rescue operations, and the processes to be applied to risk assessments and operational debriefs.

This review also identified the courage and commitment shown by the Aoraki Mt Cook ACR team, and their willingness to respond to calls for assistance in some of the most extreme conditions.

Current discussions between Air desk, St John, Wellington Free Ambulance, Police, RCCNZ, and NZSAR to refresh the 2016 letter of agreement (LOA), should provide an excellent platform for addressing a number of the findings, including the potential engagement of other key stakeholders such as NASO, Department of Conservation and Emergency Air Ambulance Rescue helicopter representation in the agreement.

Similarly, discussions between Canterbury Police and Department of Conservation to refresh the Memorandum of Understanding (MoU) between the two agencies for the 2020/2021 summer period on Aoraki Mt Cook should also address a number of findings going forward, including consideration for the development or involvement of NASO and RCCNZ in the MoU.

1. Recommendations

1. Establish a strategic interagency working group involving representation from NZSAR, NASO, Air desk, RCCNZ, Police, Department of Conservation and the three regional Helicopter Rescue Services to mitigate existing risk identified within the search and rescue and emergency medical response sectors, to meet biannually (or more regularly during its initial establishment), and to provide assurance across the sectors, that the response to requests for assistance utilising aerial assets are being safely managed.
2. Utilise the Aoraki Mt Cook Alpine Cliff Rescue team to work in collaboration with national Alpine Cliff Rescue Teams to develop national Alpine Cliff Rescue best practice methodology and certification expectations, aligned to international best practice.
3. Develop a generic template that can be followed by all sector agencies in the undertaking of hot and formal debriefs, so that staff become familiar with process, expectations and can present to the key topics and outcomes / learnings.

2. Introduction

Background¹

The Coordinating Authority for search and rescue operations (SAROP) in NZ, is the agency or body responsible for the overall conduct of that Operation. The Coordinating Authority will lead and manage the operation. The New Zealand Police and the Rescue Coordination Centre New Zealand are the two recognised Search and Rescue (SAR) Coordinating Authorities in New Zealand.

For any operation, there can only be one Coordinating Authority who is responsible for the management and coordination of that operation. New Zealand Police are the Coordinating Authority for all Category I SAROPs. The Rescue Coordination Centre New Zealand is the Coordinating Authority for all Category II SAROPs.

Category I operations typically require the use of local personnel and resources and can be carried out efficiently and effectively at a local level. Category II operations typically require the use of national or international resources and may involve coordination with other countries.

On occasion, both Police and RCCNZ will be notified of a rescue requirement. Only one agency will be the lead agency, and with the agreement of both Coordinating Authorities the operation may be re-categorised at any time and responsibility passed in either direction.

In cases where the victim of a search has died, the New Zealand Police have a legal responsibility to carry out the body recovery activities in accordance with the Coroners Act 2006. During a Category I SAROP New Zealand Police, as the Coordinating Authority, will handle body recovery as part of the SAROP. During a Category II SAROP the RCCNZ is the Coordinating Authority and will manage all SAROP activity but, where practicable, will defer all matters relating to any subsequent body recovery activity to New Zealand Police.

All search and rescue operations are undertaken in accordance with the Coordinated Incident Management System (CIMS)². CIMS describes how New Zealand agencies and organisations coordinate, command, and control incident response of any scale, how the response can be structured, and the relationships between the respective CIMS functions and between the levels of response. As part of the CIMS modelling, it is standard practice in SAROPs to establish an Incident Management Team (IMT) at an Emergency Operating Centre (EOC).

Often, because of remote locations for SAROPs, an on-scene coordinator is appointed. When two or more SAR facilities are working together on the same SAR operation, it may be advantageous if one person is assigned to coordinate the activities of all the participating facilities. The Coordinating Authority may designate an On-Scene Coordinator (OSC) with a clear delegation of tasks. The OSC should be the most capable person available, taking into consideration SAR training, communications capabilities, and the incident management support available to the OSC to achieve the delegated tasks.

National Ambulance Sector Office

The National Ambulance Sector Office (NASO) is a joint office between Accident Compensation Corporation (ACC) and the Ministry of Health (MoH), located within MoH. It is jointly funded and governed by the Ministry and ACC. NASO works closely with DHBs. NASO was first established in September 2008.

¹ <https://nzsar.govt.nz/assets/Downloadable-Files/Operational-Framework-for-the-NZSRR-March-2017.pdf>

² <https://www.civildefence.govt.nz/assets/Uploads/CIMS-3rd-edition-FINAL-Aug-2019.pdf>

NASO’s objectives include providing a single voice for the Crown on strategic and operational matters regarding Emergency Ambulance Services (EAS) and managing and monitoring funding and contracts from both parent agencies related to the delivery of EAS. NASO works closely with road and Air Ambulance helicopter service providers, the wider health sector, and other government organisations to achieve its objectives.

In February 2017, as part of its strategic focus, NASO established an Air desk capability within St John Ambulance call centres in Auckland and Christchurch, staffed by two clinical support officers who are trained to intensive care level and have air sector experience, with the purpose of managing Emergency Air Ambulance Helicopter (EAAH) resources and tasking including the delivery of nationally consistent dispatch decisions that deploy the right asset, from the right location, with the right crew (skills) and equipment, to ensure there is the most appropriate air ambulance and crew to meet specific incident requirements twenty four hours per day, seven days per week (24/7).

The Air desk support Search and Rescue operations, however, have no command or control function within a Search and Rescue operation. All deployments involving contracted Air Ambulance helicopter must be advised to the Air desk.

NASO manage the contract for service with the three Regional Emergency Air Ambulance Rescue Helicopter operators, however, is not a current partner in the Letter of Agreement (LOA) between Police and RCCNZ as it relates to Search and Rescue response.

Aoraki Mount Cook National Park

Aoraki Mt Cook is one of New Zealand’s National Parks, managed by the Department of Conservation (DoC). The park is a magnet to tourists looking to walk the various tracks and mountain routes, and to climbers looking to scale the various peaks, including Aoraki Mt Cook at a height of 3724 metres.

During the 12 months 1 April 2019 – 31 March 2020, in excess of 1,000,000 people visited the national park.

It is recognised that the largest proportions of visitation occur during the summer period November through to March, and it is for this reason this review focuses on the time period 1 November 2019 to 15 February 2020.

SUMMARY OF VISITOR DATA		2019 – 2020
Location	Visitor Numbers	
Visitor Centre	397,058	
Hooker Valley Road	1,095,803	
Tasman Valley Road	588,262	
Sawyers Road Counter (near Aoraki NP entrance)	1,130,326	

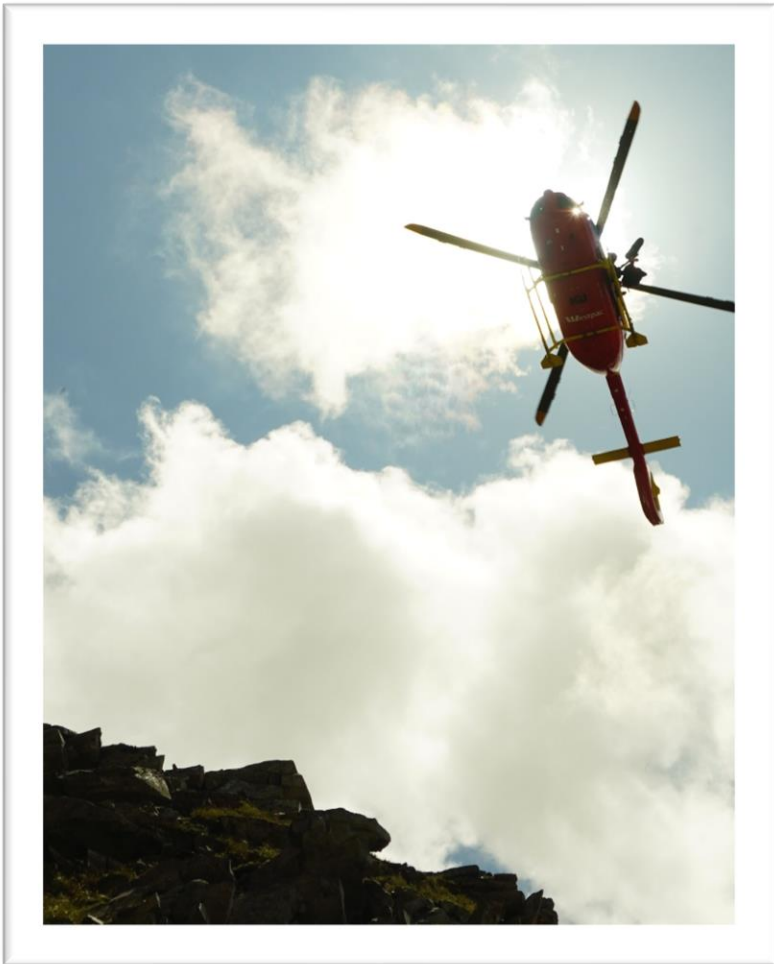
Aoraki Mt Cook is unique within the search and rescue sector, with DoC mitigating the risk to visitors, by employing personnel who, amongst other duties, make up the specialised on-call Alpine Cliff Rescue team, that is funded to undertake search and rescue operations.

Within the McKenzie basin, Police have two Constables stationed at Twizel (65 km – 45 minutes’ drive time), and sole-charge Constables at Tekapo (106 km – 1 hr 15 minutes’ drive time) and Fairlie (148 km – 1 hr 45 minutes’ drive time).

The Police Search and Rescue team for the area is located at Timaru (210 km - 2 hrs 30 minutes' drive time). The Police district SAR coordinator is located in Christchurch (330 km – 4 hours' drive time).

Between the 1 November 2019 and 15 February 2020, a total of 24 search and rescue operations (SAROP's) were undertaken within the Aoraki Mt Cook National Park. These operations all varied in nature, ranging from early notification of incidents to the DoC duty officer, notification via 111 call to the St John Ambulance communication centre, triggering an Air desk helicopter deployment, activation of a beacon triggering a Rescue Coordination Centre of NZ (RCCNZ) response, or a notification to Police of an injured, lost or overdue person triggering an operational response.

This review looked at all the operations and associated process and procedures. All were carried out with skill, expertise, and professionalism. This document will focus on three of those operations, where it is believed there is an opportunity for some key learnings.



3. Terms of Reference

1. Purpose: Establish the search and rescue arrangements, documentation, agreements and procedures utilised across search and rescue related operations undertaken in the Aoraki / Mt Cook area over the summer period of 1 November 2019 – 15 February 2020, including Cat I, Cat II and Ambulance managed incidents. Identify areas of excellence, sufficiency, lack, relevance, appropriateness, and those that may need improvement.
2. Gain an understanding of the sequence, times of events, key search decisions and agreements for these operations, and the relevance and application of system level documentation.
3. Review and consider the following aspects with reference to confirming, improving, and/or refining any aspects of SAR documentation, systems, processes, training, skills, equipment, and technology:
 - a. The IMT tools and arrangements including search tools, planning, investigation, intelligence, information flow and information analysis used and applied across the operations.
 - b. The processes applied in determining the positions and sizes of areas to be searched and the capabilities, teams, skills, and equipment applied to those search areas, given the information available at the time.
 - c. The ability to scale, resource and support the operations with appropriately trained personnel and resources.
 - d. Search suspension and/or conclusion, and transition to the recovery phase (exclude the conduct of the recovery phase itself) where relevant.
 - e. Family and Iwi liaison and support arrangements.
 - f. The management of family and other spontaneous volunteers.
 - g. The utilisation of appropriately trained personnel and resources.
 - h. Media relations.
4. Identify any skill, equipment, technology, document, agreement, process, or procedure that reinforces good practice, or may contribute to an improvement for SAROPs in this area, or similar areas.
5. Make system-level recommendations relevant to validating and/or improving New Zealand's SAR system, its people, equipment, documentation, agreements, skills, processes, and procedures.

4. Background

This review was undertaken, looking at the multi-agency interests and responses to calls for assistance by those on Aoraki Mt Cook National Park between 1 November 2019 and 15 February 2020, being the recognised visitor summer season.

To achieve this, the reviewer travelled to Auckland, Christchurch, Timaru and Aoraki Mt Cook and spoke directly to the people involved with rescue operations, identifying their role, what went well, what did not, and what lessons could be taken away.

A total of 24 rescue operations were undertaken, and this review will focus on three of them:

19 December 2019	-	Haast Ridge	-	Lone climber extended search
10 January 2020	-	Copeland Pass	-	PLB - Night rescue
15 January 2020	-	Mueller Hut	-	Ambulance Air desk activated operation

4.1 Haast Ridge - 19 December 2019

Initial Search

On 13 December 2019, an experienced international climber arrived in New Zealand, with the intention of climbing Aoraki Mt Cook via the Zurbriggen ridge. Although no definite plan was established, and no contact was made between the climber and DoC, inquiries suggested he would initially walk to the Haast Hut, then to Plateau Hut, and then ascend the summit, and either return to Plateau Hut, or return by the Cinerama Col route.

On 14 and 15 December 2019, two days of awful weather were encountered on the mountain, with strong nor-west winds.

On the 18 December 2019, the climber was to fly out of New Zealand from Christchurch airport, arriving back in his home country on 19 December 2019. This did not occur, and an alert was raised late on the evening of 19 December 2019, by family members with NZ Police.

Initial inquiries by the on-call SAR Coordinator for Police based in Timaru, established the climber had not been involved in an accident between Aoraki Mt Cook and Christchurch, and Immigration NZ confirmed he had not departed NZ.

On 20 December 2019, the rental vehicle being driven by the climber was located in Blue Lakes car park, Aoraki Mt Cook, indicating the climber was still on the mountain. DoC established an Incident Management Team (IMT) at the Aoraki Mt Cook emergency operations centre (EOC).

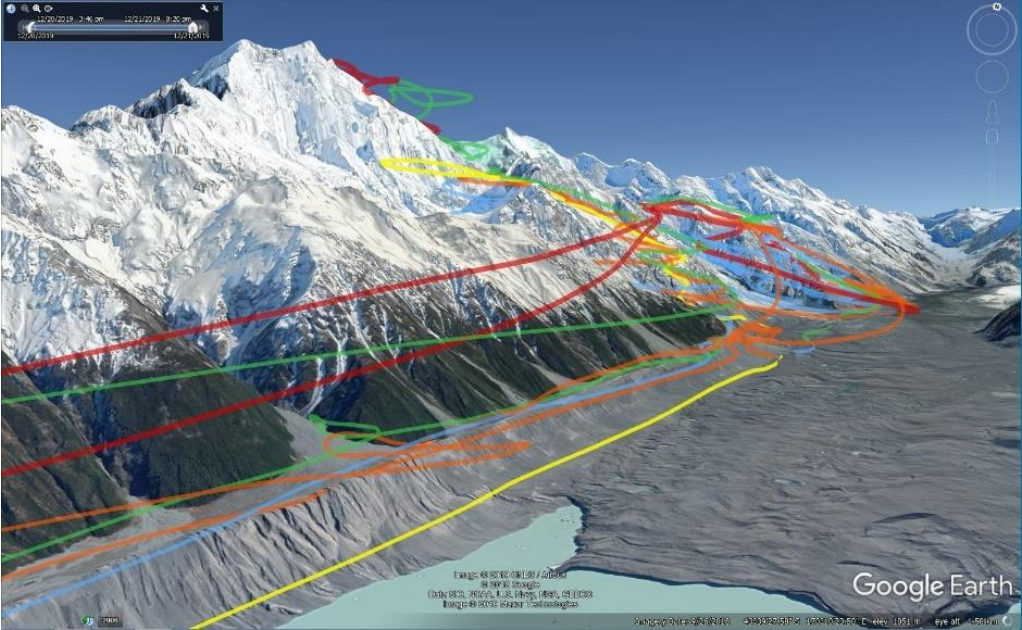
The Police SAR coordinator continued initial control of the operation from Timaru, and arrangements were made for Police to send an Incident Controller to the IMT from Twizel. Initial authority was also sought from Police for the deployment of a helicopter and ACR team to fly the mountain.

Local inquiries with guides and helicopters failed to yield any additional information on sightings of the climber, although one helicopter operator had noted substantial avalanche activity as a result of the bad weather.

At 1.00 pm on 20 December 2019, based on known information, a scenario weighting carried out by the ACR team, identified a 34% likelihood the climber was the subject of an avalanche, with a 17% likelihood he had fallen.

At 3.47 pm on 20 December 2019, due to the unfavourable weather conditions, the first helicopter reconnaissance was undertaken.

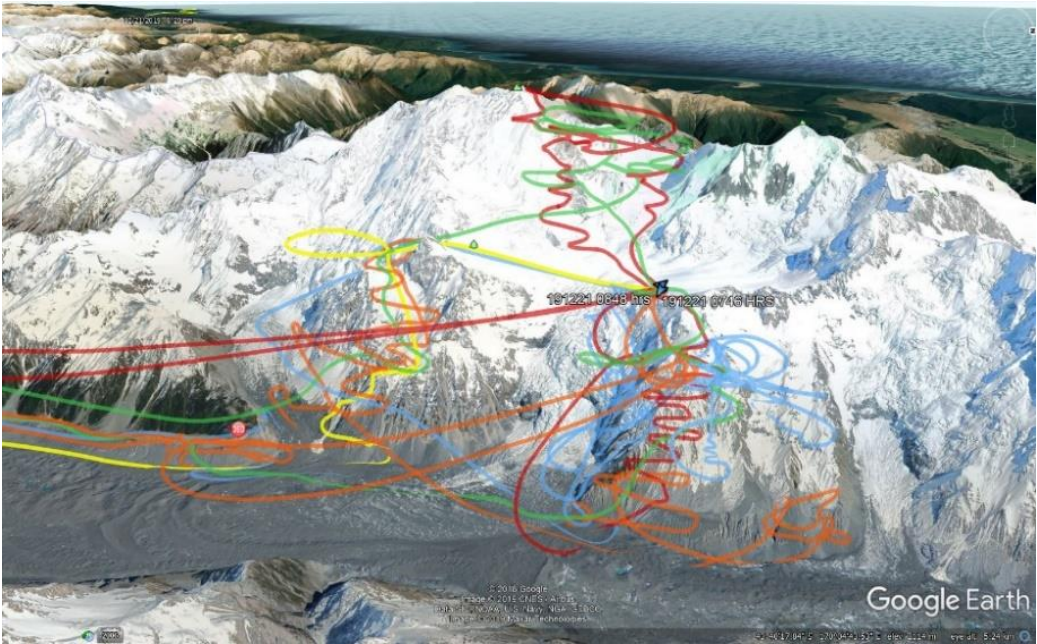
Weather conditions did not allow for a thorough flight of the mountain, so the Haast Ridge was flown, and Haast Hut inspected for any signs of the climbers presence, and the Boys Glacier and Cinerama Col were flown, before returning to the EOC at 5.04 pm.



Left and below: Original flight search path by helicopter courtesy ACR team

At 7.30 am on 21 December 2019, with improved weather conditions, the helicopter departed with the ACR team to fly the mountain proper. The helicopter flew over Cinerama Col to Plateau Hut and carried out an examination of the hut, before flying the Haast ridge, up to the Zurbriggen ridge.

Avalanche activity was noted on the Haast ridge, and ACR members were dropped onto the ridge to carry out a closer inspection of the avalanche debris. The ACR team were then flown to Haast Hut, then Morain Wall below Ball Hut via Cinerama Col.

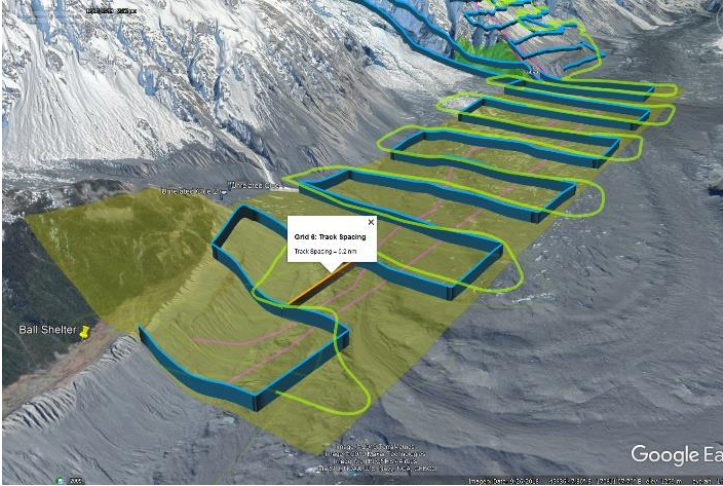
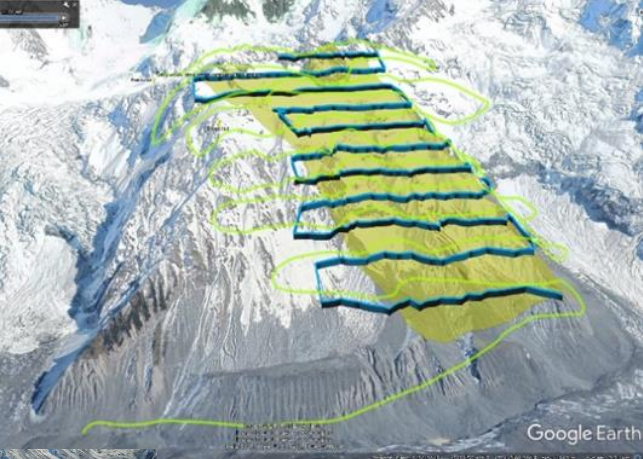


At 12.12 pm on 21 December 2019, the helicopter returned to the EOC.

At 1.41 pm, following a telephone briefing between the Police Incident controller and Police management, an executive decision was made to suspend the search until new information came to light. At the time of suspension, assessments by the IMT indicated it was *highly unlikely* that the climber would be located alive.

Private Search

Family and associates of the climber, distressed over the operations suspension, sought to mount a private search and recovery operation. Initial discussions involved managing already exhausted family associates who had flown to NZ, and then wanted to immediately commence a climb of the mountain terrain. A helicopter charter flight of the area was undertaken with the family liaison representative before discussions were undertaken around the execution of a private search.



DoC agreed to undertake an additional limited search of the mountain, allocating two further days searching, privately funded by the family.

On day two of this search, as the helicopter was looking to complete its final sweep and return to the EOC, the body of the climber was located some distance down a cliff face near the Haast Ridge, and subsequently recovered.

Grid flight pattern utilised in private search courtesy ACR team



Location where body located

4.2 Copland Pass – 10 January 2020

At 11.01 pm on 10 January 2020, RCCNZ were advised of a beacon activation on Aoraki Mt Cook, at an altitude of 2,200 metres. The on-call ACR team were notified, and an IMT and response team activated. RCCNZ were advised of the inability of THL to undertake night flying and the need to activate the Air Ambulance helicopter in either Christchurch (Garden City Helicopters) or Queenstown (Otago Helicopters).

At 11.18 pm, the on-call Police SAR coordinator at Timaru advised RCCNZ they had also been informed of the incident. Police were alerted via cell phone by the party involved, advising they were a group of 2 that departed Welcome Flat at 09.00 am. They had limited alpine experience, limited climbing gear, but no shelter. They were currently on a 45-degree slope 2km from the Copland Hut. Police agreed that RCCNZ would lead the Category II SAR response.

At 11.22 pm a three person ACR team confirmed they were prepared and available for deployment.

At 11.38 pm, Garden City Helicopters indicated their unavailability due to low cloud cover over Christchurch, and Otago Helicopters in Queenstown were activated.

At 11.53 pm Otago Helicopters departed Queenstown, arriving at the EOC at Aoraki Mt Cook at 1.08 am. Weather conditions were 30 knots with cloud forming. The plan of action was to reconfigure the aircraft for winching, and then depart with the ACR team.

At 1.33 am the helicopter and two ACR members departed for the rescue location.

At 2.20 am the helicopter returned to the EOC after it was established it was both too windy and too steep to winch or put ACR team members on the ground. Contact had been made with the two men seeking rescue, prior to returning to the EOC where the ACR team re-equipped.

A revised plan, to fly the ACR team in as close as possible, where one team would establish an emergency landing / staging area and shelter just above Copland Shelter, whilst a second team trekked across the alpine ridge to reach the stranded party. The helicopter would return to the EOC and await a call from the ACR team before returning to the mountain.

At 5.00 am the ACR team reached the stranded party and commenced the return trek to the emergency shelter.



Photo courtesy Alpine Cliff Rescue team

At 5.45 am due to the deteriorating weather conditions, a request is made for additional helicopter support to be on standby and assist in the extraction from the mountain if required.

At 6.09 am Otago Helicopter flew to a lower staging area in the mid Hooker Valley, ready for a snatch extraction, and at 6.26 am commenced extraction of the parties, 3 at a time, from the high extraction location.

At 7.04 am the IMT confirmed everyone was off the mountain and back at the EOC. The additional support helicopter that was on standby was stood down.

4.3 Sefton Bivouac / Mueller Hut Rescues – 15 January 2020

Sefton Bivvy

At 11.02 am on 15 January 2020, Ambulance received a 111-call advising of an injured 19 yr. old male, who had fallen down some rocks whilst climbing Aoraki Mt Cook. He was conscious and breathing, although had suffered head injuries. A GPS location was identified through his cell phone location³, approximately 200 metres from Sefton Bivouac, at an altitude of 1650 metres.

The incident was referred to the Ambulance Air desk, and a Garden City Air Ambulance helicopter was tasked to attend from Christchurch by the Air desk.

Police were advised through the communication centres Inter-cad computer system, and the on-call SAR coordinator from Timaru advised. At 11.35 am the SAR coordinator contacted Air desk indicating he would review what resources were available in the area.

At 11.39 am, Garden City Air Ambulance helicopter was 53 minutes out from the victim location with 3 persons including a paramedic on board.

At 11.45 am Police contacted the Aoraki Mt Cook ACR team, and an Incident Management Team is activated.



At 11.57 the Air desk was contacted by the ACR team and they volunteered their services due to the alpine location of the patient. Air desk then tasked the helicopter to fly via the Aoraki Mt Cook EOC and uplift the ACR team to assist in the rescue.

³ <https://www.mbie.govt.nz/science-and-technology/it-communications-and-broadband/our-role-in-the-ict-sector/emergency-call-services/emergency-caller-location-information/>

At 12.31 pm the Air Ambulance helicopter arrived at the EOC, and a plan was developed between the ACR and Air Ambulance helicopter team, for the helicopter to fly the ACR team to the victim site and winch down one at a time. Once on the ground, an assessment of the patient would be undertaken, before winching the patient and one ACR team member back to the aircraft. They would then be flown back to the EOC for further medical assessment and treatment, whilst the helicopter returned to uplift the people trekking with the injured climber, and the remaining ACR team member.

At 12.46 pm Twizel Police advised Air desk they would travel to Aoraki Mt Cook EOC.

At 1.18 pm the Air Ambulance helicopter dropped two ACR team members at the Sefton Hut, where they were met by an associate of the injured victim. The ACR team then made their way to the patient location.

At 1.34 pm contact was made with the injured patient, and an assessment undertaken.

At 2.33 pm the Air Ambulance helicopter confirmed they had recovered and were enroute to the Aoraki Mt Cook EOC for initial triage. The patient injuries included head lacerations and a sore arm.

At 2.45 pm the helicopter departed the EOC to refuel, prior to returning to the rescue location to uplift the remaining ACR member and patient associate.

At 3.13 pm, the helicopter returned to the EOC with the remaining party.

Mueller Hut

At 3.45 pm St John Ambulance emergency call centre received a 111-call advising of a 22-year-old female who had slipped on ice and had damaged her leg. The victim was conscious and breathing, but in a lot of pain. A GPS position was identified for the injured woman through her cell phone location, approximately 30 minutes trek from the Mueller Hut on Aoraki Mt Cook.

This case was reviewed by the Ambulance Air desk, who were aware the Air Ambulance helicopter was still on site at Aoraki Mt Cook, and requested they contact the Air desk.

At 4.02 pm Police were advised through the communication centres inter-cad computer system of the second incident and the Police SAR coordinator requested to contact the Air desk.

At 4.03 pm the onsite Air Ambulance helicopter contacted the Air desk and was briefed on the second incident. They advised they were at the EOC with a patient status 3. They would discuss the recovery of the second victim with the ACR team, and delay transporting the status 3 patient. Air desk indicated they had arranged for a second Air Ambulance helicopter to travel to the EOC for the purpose of transporting the first victim to Christchurch hospital.

At 4.05 pm the Police SAR coordinator contacted the Air desk. They were advised by Air desk that the second patient was on an unformed track near Mueller Hutt. They advised that they had dispatched a second Air Ambulance helicopter from Christchurch, however the first Air Ambulance helicopter remained at Aoraki Mt Cook and could immediately respond. The ACR team identified the second victim location as below the Mueller ridge line near boulder field and final slope.

At 4.11 pm in consultation with the Police Incident Controller, Operations Manager and Air Ambulance helicopter pilot, an agreed course of action was adopted to activate the local Helicopter Line (THL) rescue helicopter and use a long line instead of deploying the second Christchurch Air Ambulance helicopter.

At 4.12 pm Ambulance communications centre were updated by the victim party, advising the victim was conscious and breathing. She had slipped on ice, hit her head on rock, and the pain

was increasing. She had pelvic and back pain, could not feel her left leg, and was bleeding from her right leg.

At 4.13 pm the second Air Ambulance helicopter confirmed with Air desk they were enroute to the EOC with a single crew response to uplift the first patient.

At 4.17 pm the Police SAR coordinator contacted Air desk and confirmed they would utilise the initial Air Ambulance helicopter that was on site, however it would need to be tasked by Air desk as it was an Ambulance response job.

Air desk pushed back advising that due to the alpine location it became a Category I Search and Rescue operation and was therefore the responsibility of Police to task. Police disagreed, indicating they would be in a position to assist if the matter became complicated, otherwise the helicopter tasking would rest with Ambulance.

At 4.18 pm the IMT Operations manager contacted Air desk and advised that the primary Air Ambulance helicopter was now dealing with the transportation of the first victim back to Christchurch. The Operations manager confirmed a local rescue helicopter would be utilised in the recovery of the second patient, and the second Christchurch Air Ambulance helicopter could be utilised to then transport the second patient from the EOC.

At 4.22 pm the local THL rescue helicopter was activated.

At 4.24 pm the Police Incident Controller contacted the IMT and was advised that the initial Air Ambulance helicopter was now departing with their priority patient and would not be available for the second patient. Authority was sought and approved, for the local THL rescue helicopter to be deployed as the second Air Ambulance helicopter from Christchurch was 60 minutes away.

At 4.30 pm Police SAR contacted the IMT and confirmed authorisation for the deployment of the local THL helicopter. He also advised that the local Tekapo Police officer was enroute to the EOC and provided victim details to the EOC.



At 4.39 pm Air desk were advised by the primary Air Ambulance helicopter that they were no longer involved in the second victim rescue and were transporting the first victim to Christchurch.

At 4.50 pm the local rescue helicopter arrived at the emergency centre Aoraki Mt Cook.

At 4.55 pm local Tekapo Police advised they were enroute to the EOC.

At 4.59 pm associates of the victim again contacted Ambulance seeking an update on the rescue support. They advised the patient was still in a lot of pain and was still bleeding.

At 5.02 pm the THL rescue helicopter was loaded with three ACR team members.

The plan was to drop the ACR team to the patient location by long line. The patient would be assessed and stabilised prior to being either loaded or long lined directly back to the EOC.

At 5.11 pm the helicopter landed at the top of the Mueller ridgeline, enabling the ACR team to descend to the patient.

At 5.17 pm the second Christchurch Air Ambulance helicopter landed at the EOC with two paramedics.

At 5.19 pm the ACR team confirmed they have made contact with the patient and would assess injuries. Four other persons were trekking with the victim.

At 5.24 pm pain relief was administered to the patient by the ACR team, and arrangements made to transport the patient in a stretcher by long line, directly to the EOC. The ACR team confirmed the patient pain level was 8 out of 10 but manageable. Patient status 2.



At 5.34 pm ACR updated that patient took a long slide 50 – 70 metres down a steep snowy slope. No loss of consciousness. Chief complaint major pain in pelvis and lower back. Long laceration along thigh. Heart rate fine.

At 5.50 pm the ACR team confirmed the patient was packaged, conscious and pain managed, and would be stretchered by longline direct from the site to the emergency centre. At 6.01 pm the Tekapo Police member arrived at the Emergency centre.



At 6.04 pm the victim arrived at the EOC, where she was immediately treated by paramedics. The helicopter then returned to Mueller hut to uplift the four remaining members of the victims' party, before returning a third time to uplift the remaining ACR team members.

At 6.31 pm the patient was transferred to the second Christchurch Air Ambulance helicopter and transported to Timaru hospital. The patient was status 3.

5. Evaluation Methodology

5.1 Agreed outcomes of the Review

To undertake a review of the operations undertaken on Aoraki Mt Cook over the summer window, to identify any systemic learnings, improve SAR system processes, standard operating procedures, documentation, teaching materials and indicate future SAR exercise needs.

5.2 Review scope

This review is to ascertain the search and rescue arrangements, capabilities, documentation, and procedures utilised, and the management and resourcing of SAR assets. Identify areas of excellence, sufficiency, lack, relevance, appropriateness, and those that may need improvement.

This review has not looked at the Rescue helicopters or crew, and the required operating qualifications, certifications and national standards applied to their deployments.

Matters relating to the Coronial processes are out of scope.

5.3 Information collection

This review was undertaken initially accessing the event logs from RCCNZ, Police, Ambulance and Aoraki Mt Cook DoC and overlaying those logs.

Interviews have been undertaken with all key primary participants including:

Canterbury Police, Ambulance Communications centre, Ambulance Air desk, National Ambulance Sector Office, RCCNZ, Garden City Air Ambulance helicopters, the Helicopter Line Mt Cook and DoC Aoraki Mt Cook personnel.

After collating all the information, and in consultation with independent subject matter experts, findings have been identified, and recommendations made.

5.4 The process followed in preparing and submitting the report

All interviews with participants in this review were voluntary. Notes were recorded during the interview and the final document was consulted with the member/s concerned.

The lessons that can be taken from the Search and Rescue component of the identified operations were then compiled, along with any associated recommendations for the NZ Search and Rescue Council's consideration.

5.5 Other information

The following is an overview of the agencies and their associated structures, as it relates to the three operations reviewed:

5.5.1 National Ambulance Sector Office (NASO)⁴

The National Ambulance Sector Office (NASO) is a joint office between Accident Compensation Corporation (ACC) and the Ministry of Health (MoH), located at the Ministry. It is jointly funded and governed by the Ministry and ACC. NASO works closely with DHBs. NASO was first established in September 2008 and was confirmed by the Ministers of Health

⁴ <https://www.health.govt.nz/new-zealand-health-system/key-health-sector-organisations-and-people/national-ambulance-sector-office-naso>

and ACC in June 2009, with the formal announcement of the New Zealand Ambulance Service Strategy.

NASO is staffed by a team from ACC and MoH. The Manager role is a joint appointment, with reporting lines to both organisations. NASO is responsible to MoH and ACC for the joint planning and funding of ambulance services on behalf of both agencies.

NASO's objectives include:

- progressing the New Zealand Ambulance Service Strategy
- providing a single voice for the Crown on strategic and operational matters regarding Emergency Ambulance Services (EAS)
- managing and monitoring funding and contracts from both parent agencies related to the delivery of EAS.

In February 2017, as part of its strategic focus, NASO established an Air desk capability within St John Ambulance call centres in Auckland and Christchurch, staffed by two clinical support officers who are trained to intensive care level and have air sector experience, with the purpose of managing Emergency Air Ambulance Helicopter (EAAH) resources and tasking including the delivery of nationally consistent dispatch decisions that deploy the right asset, from the right location, with the right crew (skills) and equipment, to ensure there is the most appropriate air ambulance and crew to meet specific incident requirements twenty four hours per day, seven days per week (24/7).

To achieve this, tenders were called for, and the country divided into response regions for service delivery. The South Island is one region, operating under Helicopter Emergency Medical Services NZ Ltd (HEMS)⁵ involving Garden City Aviation and Otago Helicopters.

The North Island is split into two, northern and central regions. The northern region is contracted to Northern Rescue Helicopter Limited (NRHL), which has two sub-contractors, Northland Emergency Services Trust (NEST)⁶ and Auckland Rescue Helicopter Trust (ARHT)⁷.

The central region is contracted to Central Air Ambulance Rescue Limited (CAARL), who have several sub-contractors including Philips Rescue Helicopter Trust (PRHT)⁸ providing coverage from Waikato to Palmerston North (4 providers), Westpac Rescue Lifeflight Trust (Lifeflight)⁹ covering Wellington and the upper South Island, Hawkes Bay Rescue Helicopter Trust (HBRHT)¹⁰ covering the wider Napier Hastings region, the Trust Tairāwhiti Rescue Helicopter (TTRH)¹¹ providing coverage to the Gisborne East coast region, and the Taranaki Rescue Helicopter Trust (TRHT)¹² covering the Taranaki region.

The Air desk support Search and Rescue operations, however, have no command or control function within a Search and Rescue operation. All deployments involving contracted Air Ambulance helicopter must be advised to the Air desk.

NASO manage the contract for service with the three Regional Helicopter Rescue operators however is not a partner in the current Letter of Agreement (LOA) between Police and RCCNZ as it relates to Search and Rescue response.

⁵ <http://www.hems.co.nz/>

⁶ <https://www.nest.org.nz/>

⁷ <https://www.rescuehelicopter.org.nz/>

⁸ <https://www.rescue.org.nz/>

⁹ <https://www.lifeflight.org.nz/>

¹⁰ <https://www.hbrescuehelicopter.org.nz/>

¹¹ <http://www.eastlandrescue.co.nz/>

¹² <https://taranakirescue.org.nz/>

5.5.2 St John Ambulance Air desk

The St John Air desk was established in February 2017, as an initiative to look at enhanced Emergency medical response. The Air desk is overseen from the Auckland Clinical Control Centre, with operational desks in Auckland and Christchurch, staffed by two clinical support officers who are trained to intensive care level and have air sector experience.

The Air desk dispatch and coordinate all emergency air ambulance helicopter resources in the country. Air desk staff assess calls for service to help ensure the right helicopters are dispatched to the right situations, carrying the right medical crew based on evaluations of locations and terrain, weather conditions and patient requirements.

The Air desk manage the deployment of Air Ambulance helicopters to respond to emergency medical events or assist in medical transfers between DHB's. Air desk approve the dispatch of Emergency Air Ambulance helicopters to Search and Rescue operations, however, have no command or control function within a Search and Rescue operation. All deployments involving contracted Emergency Air Ambulance helicopters must be advised to the Air desk.

5.5.3 Rescue Coordination Centre of NZ

The Rescue Coordination Centre New Zealand (RCCNZ) is New Zealand's national search and rescue coordination organisation, a division of Maritime NZ and is based in Lower Hutt. RCCNZ is responsible for coordinating all major maritime and aviation search and rescue missions within New Zealand's search and rescue region¹³. These incidents are termed 'Category II' search and rescue incidents.

RCCNZ is a joint rescue coordination centre that operates 24 hours, seven days a week all year, and is permanently staffed with a minimum of two internationally qualified Search and Rescue Officers (SAROs). They also manage New Zealand's distress beacon system including receiving distress beacon alerts for either RCCNZ action or referring to another agency such as Police for actioning.

Category II SAR operations are managed remotely from a control room in Avalon, Wellington. All Category II operational expenditure is funded by RCCNZ.

5.5.4 Police Search and Rescue

New Zealand Police are the Coordinating Authority for all Category I SAROPs. Category I operations typically require the use of local personnel and resources and can be carried out efficiently and effectively at a local level.

New Zealand is broken down into 12 Policing districts, and each district is again broken down into policing areas. Canterbury is a policing district, comprising three areas, Canterbury Metro, Canterbury Rural and South Canterbury. Each area has a search and rescue response capability, with a Sergeant based in Christchurch as a full-time district SAR Co-ordinator.

South Canterbury SAR comprises a Senior Sergeant plus six personnel, all based at Timaru. One member of the squad is on-call 24/7, for a seven-day period from 8.00 am Friday morning to 8.00 am the following Friday morning.

The McKenzie basin has a Constable stationed at Tekapo, and two Constables stationed at Twizel. One of the Twizel Constables has completed SAR training standards including the National Dip Flat basic SAR training and Managing Land Search Operations (MLSO) courses in 2004. The MLSO course was the precursor to the current managing Initial Response and the Extended Search Planning courses required, before taking on an Incident Controller role.

¹³ <https://www.maritimenz.govt.nz/about/what-we-do/safety-and-response/RCCNZ/>

The second Constable at Twizel has received no SAR training, and the Tekapo Constable has attained a basic SAR training through attendance at the Dip Flat national SAR training course. None of the members are actively involved in the ongoing training or certification in SAR.

The South Canterbury policing area is managed by an Area Commander (Inspector level) experienced in search and rescue, who has oversight and approval of operational expenditure within the area, including the Search and Rescue operational response and deployment of helicopters for SAR operations.

5.5.5 Aoraki Mt Cook Department of Conservation Search and Rescue¹⁴

Within the Aoraki Mt Cook region, the Department of Conservation (DOC) undertakes all land-based SAR operations in the Aoraki Mt Cook National Park and surrounds. From a current resource of 16 full time employees, only 4 have an ability to be utilised in Incident Management Team roles, and 4 in Alpine Cliff Rescue operational response roles.

The specialist Aoraki Mt Cook ACR team comprises 4 full time positions and 3 seasonal staff, with the support of specialist rescue helicopter craft, aviation personnel and rescue equipment.

During the peak summer season, the ACR team is on standby to be deployed 24 hours per day, 7 days per week. Currently, NZ Police and the Department of Conservation achieve this through a Memorandum of Understanding (MOU), which includes agreement to provide funding for training and equipment needs, and deployment expectations.

An average of 60 rescue operations per year are carried out by the ACR team, for an estimated 800,000 visitors over the peak period to the Aoraki Mt Cook National Park. Responses range from simple Personal Locator Beacon (PLB) "locate and retrieve" un-injured persons, through to multi-casualty / multi-day / time-critical / difficult, high-alpine terrain extrications of patient/s or deceased persons, involving aviation rescue techniques, and co-ordination with other SAR-sector organisations.

The team was initially established in the 1970's by civil aviation to ensure the appropriate expertise would be available to attend any air crashes in the New Zealand Mountains. Since then the team have developed and matured into the highly professional response team, employed by DoC operating on behalf of the New Zealand SAR sector and the wider Government's National Security System (NSS).

The ACR team is located in the heart of the Southern Alps, at Aoraki Mt Cook National Park village. The majority of local SAROPs within the National Park require Helicopter response (70% between 2011 and 2019).

The ACR team has unique strengths and capabilities which position it as an extremely valuable, readily deployable, specialist tactical team. These include: -

- the only paid alpine rescue team in New Zealand with contractual response responsibilities for operational deployment
- operate within a government agency thus contribute to "All of Government" NSS response in National SAR / Civil Defence Emergency Management (CDEM) events
- local contracted rescue helicopter and pilots deployable on a minimal standby notification period

5.5.6 NZ Search and Rescue Secretariat

The New Zealand Search and Rescue Secretariat is modelled on the Canadian National SAR Secretariat. The Secretariat is accountable to the NZSAR Council. It provides the Council with support services, policy advice, and assists in the coordination of Council strategy.

¹⁴ Extract from "Aoraki Mount Cook Search and Rescue 2019 FED business case – Executive Summary"

The Secretariat does not have an operational SAR role, nor does it oversee individual SAR delivery agencies. As part of its support for the NZSAR Council, the Secretariat provides leadership for the NZSAR Consultative Committee, which is a forum for all New Zealand based SAR stakeholders.

The Council, Secretariat and Consultative Committee work closely as a team. The Secretariat supports the processes of the Council and the Consultative Committee. The Secretariat also provides advice and support for the Council's external communications and media activity.

5.5.7 LandSAR

New Zealand Land Search and Rescue Incorporated (LandSAR) was established as an incorporated society in 1994. Its volunteers operate in suburban, urban, wilderness and rural areas including regional and forest parks, shorelines, and caves. Their unpaid professionals offer their specialist search and rescue skills free to the public 24 hours a day, 7 days a week via the New Zealand Police and the RCCNZ.

Although the Aoraki Mount Cook ACR team is employed by DoC, they are also part of the LandSAR ACR teams, being one of seven teams nationally.

6. Findings

Between the 1 November 2019 and 15 February 2020, a total of 24 search and rescue operations were undertaken within the Aoraki Mt Cook National Park. These operations all varied in nature, ranging from early notification of an incident to the DoC duty officer, notification to the St John Ambulance of an injury, triggering an Air Desk helicopter deployment, activation of a beacon triggering a Regional Coordination Centre of NZ (RCCNZ) response, or a notification to Police of an injured, lost or overdue person triggering an operational response.

Of the 24 operations, 3 were led by the Department of Conservation (one being the secondary private search mounted for a missing climber), 4 were led by the St John Ambulance Air desk, 4 were led by RCCNZ and 14 were led by Police. All of the operations were supported by the DoC Alpine Cliff Rescue team members.

6.1 Haast Ridge - 19 December 2019

It should be noted at the outset, that when this overdue climber was located, his injuries were such that death was instant, and any findings I have identified, would not have changed this outcome, albeit this was not known at the time.

Haast Ridge related to an international climber that failed to return home on his pre-booked international flight, triggering a search and rescue response within Aoraki Mt Cook. Initial inquiries by the on-call Police SAR Coordinator at Timaru ascertained that the missing climber was travelling in a rental vehicle, immigration records confirmed he had not left the country, and there had been no reports to Police of the climber being involved in a motor vehicle accident or similar, that would bring him to the attention of Police.

6.1.1 Command and Control

This incident commenced as a missing person inquiry, with a high probability it would turn into a search and rescue operation, mindful the subject was an international climber with an intention to climb Mt Cook.

Initial inquiries were undertaken by Police and the DoC duty officer in an attempt to identify the movements of the climber. DoC had no records of the climber having entered the national park or declaring any interest in climbing Aoraki Mt Cook. By agreement with Police, it was decided that DoC would carry out a patrol of the national park car parks the following morning, in an attempt to locate a possible rental vehicle.

During the early stages of this operation, no consideration appears to be given to the:

- Patrol of the car parks that evening being undertaken, to confirm the presence of a vehicle and influence decisions for the morning; or
- Planning toward the establishment of an IMT in preparation of an extended search of Aoraki Mt Cook; or
- Ability to activate a coordinated response lead by Police at first light.

At 8.00 am on Friday 20 December 2019, the duty on-call Police SAR coordinator briefed the Police Area Commander on the information known at that time.

At 8.30 am, the duty DoC ranger located the rental vehicle in a DoC car park, and a request was then made by the Senior Ranger to Police, that the incident be immediately escalated with the establishment of an IMT, and that a Police Incident controller be established on site.

6.1.2 Incident Controller

Aoraki Mt Cook DoC personnel established an Incident Management Team utilising only DoC personnel and activated their Alpine Cliff rescue team. A request was lodged with Police for an on-site Incident Controller, and arrangements made for the local SAR trained Twizel Constable to take up that role, whilst the SAR Coordinator would remain available from Timaru.

DoC personnel sought early approval for the deployment of a helicopter to carry out a reconnaissance flight of the mountain and possible huts. This was approved by the Timaru SAR coordinator, once a formal plan had been developed by the ACR team.

At 1.35 pm, the Twizel Constable arrived at Aoraki Mount Cook, as the Incident Controller for the SAR Operation.

At 2.50 pm the Police Incident Controller left the EOC with the local Twizel tow truck driver, to gain entry to and undertake a search of the climbers' rental vehicle. The search located a number of documents that indicated possible routes the climber was intending to take. At 3.33 pm the Incident Controller returned to the IMT.

Due to poor weather, the rescue helicopter was not able to deploy until 3.47 pm, only enabling a rapid reconnaissance flight of low-level ridges and huts, before returning at 5.04 pm.

Scenario weighting assessments undertaken by the ACR team indicated that there was a high likelihood the climber was the victim of an avalanche or fall, and due to the length of time passed, was probably deceased.

At 5.47 pm the incident controller briefed the Area Commander, who agreed to conclude for the day and recommence the following day. The IMT discussed options, including DoC funding a further flight that evening.

Inquiries were made with a subject matter expert on alpine survivability. They advised that if the climber had found shelter, there could be a possibility they may still be alive, without shelter, very unlikely.

At 6.00 am on 21 December 2019, the DoC ACR team and DoC IMT team commenced planning. At 7.00 am the Police Incident Controller arrived. At 7.30 am the Alpine Cliff Rescue team departed by helicopter, commencing a more detailed flight and examination of the mountain ridges and huts.

At 12.12 pm the ACR team arrived back at the IMT. At this point, no other persons on the mountain had seen the climber, and there was no indication the climber had been into or left any record of having been into any of the huts.

Inspections of potential avalanche sites had failed to locate any debris consistent with having come from any climber.

6.1.3 Search Suspension

At 1.41 pm, the Incident Controller briefed the Area Commander by phone, that after a total of 6 hours flying, no trace had been found of the missing climber. Based on the verbal briefing, and the high likelihood the climber would not have survived, the Area Commander directed that the search be suspended, pending any new information coming to light.

At no stage was the operation formally summarised or peer reviewed. A hot debrief was undertaken, and the operation closed down by 2.45 pm.

6.1.4 Operational Debrief

On 5 March 2020, this operation was formally debriefed. Key findings to come from the debrief included:

- What software technology is available that could assist in the search of a body on rugged mountain terrain
- Opportunities to review the Emergency Operating Centre setup and processes
- Peer review of the extended search modelling and process, especially prior to consideration of operation suspensions
- Additional training opportunity to the Aoraki Mt Cook IMT and search teams in CIMS, and national SAR training courses including MTIR, ESP and air observing.
- To have joint training with DoC, Police and LandSAR, to include IMT and field-based activities
- The need for psychological debriefs for staff
- To establish pre-Christmas formal debriefs of search operations and end of season debriefs for the operations that occurred over the summer period.
- Incorporate the use of technologies during training programmes, including thermal imagery and use of drones.

6.1.5 Review Findings

Initial action

All search and rescue operations should be dealt with urgency and priority, as they always have the potential to be life threatening. Clear taskings on the initial evening, and pre-planning for the next morning should have been undertaken, that could have seen the early establishment of an Incident Management team and planned courses of action.

Command and Control

Police are ultimately responsible for all Category I search and rescue operations. Although the DoC staff of Aoraki Mt Cook have extensive knowledge that should be drawn upon, and capability that should be utilised, any final decisions, approval or tasking must come from the Police Incident Controller.

Following the decision by Police to conclude flying on day 1, consideration was given by the IMT to DoC funding a further flight that evening. Any operational decisions of this nature need to clearly be in consultation with and receive the approval of the Incident Controller.

Incident Controller

The Police Incident Controller for any SAR operation should be a current trained member of the Search and Rescue team, that has undergone and continues to be exposed to ongoing search and rescue training, and has completed training through to Extended Search planning (land or marine dependent upon the environment involved).

To achieve a SAR Incident Controller certification follows a structured framework that ultimately concludes with the successful completion of the SAR Managers Course. Unfortunately, there are limited places on this once a year course, open to only 12 participants, and there remains no structure around *currency* of qualification.

Where staff are to be exposed to on-scene coordinator roles, the appropriate training and exercising in those roles needs to be provided. The expected deployment of McKenzie country Police personnel in Incident Controller or On-Scene coordination roles must be supported with training.

Requirements for SAR Management									
	National SAR Course	Selected Core Training Courses	Selected Specialist Training	CIMS 4	Manage the Initial Response (Land)	Extended Search Planning (Land)	Marine SAR Technical	Manage the Marine Response	SAR Managers Course
Operational SAR Squad Members	✓	✓	✓						
SAR Incident Controller (Land)	✓	✓	✓	✓	✓	✓			
SAR Incident Controller (Marine)	✓	✓	✓	✓			✓	✓	
SAR Incident Controller – Extended Search (Land & Marine)	✓	✓	✓	✓	✓	✓	✓	✓	✓

SAROP Suspension

Police policy clearly outlines:

A search suspension is a difficult decision involving humanitarian considerations and has a broad range of impacts. The approval to suspend resides at the executive level for both Category I and Category II searches.

When all avenues of SAR investigation and search have been exhausted and the missing person has not been found, the IC, having consulted with the IMT and specialist advisors (as to factors such as person profile, likely behaviours, survivability, risk to searchers) may recommend suspending a search.

All aspects of the SAR investigation and operation must be documented and collated by the IC. This must be peer-reviewed by a Police SAR Coordinator not involved in the SAROP (who may establish an IMT to assist in this review, and may include external expert advice, such as the RCCNZ).

The NZ Search and Rescue guidelines also outline national policy and procedure as it relates to SAROP suspension:

Suspending the operation¹⁵

If you are the Incident Controller, you need to complete a number of actions to suspend a SAR operation. Consider suspending an operation when rescue or recovery is very unlikely. You can consider suspending the operation if these conditions apply:

- *You cannot locate the subject and further SAR activity is not likely to result in rescue or recovery of the subject.*
- *You have evidence the subject is likely to be deceased and cannot be recovered.*

¹⁵ <https://nzsar-resources.org.nz/Guidelines/suspending-the-operation>

Follow a process when suspending an operation. To suspend an operation, you must complete these steps:

- *Examine the evidence and verify that no further options exist for investigation or SAR activity.*
- *Get a survivability report from a specialist.*
- *Complete all documentation for the SAR operation.*
- *Get a person who is suitably qualified to peer review the SAR operation.*
- *Let the family of the subject know that you intend to suspend the SAR operation.*
- *Get approval to suspend the SAR operation.*

You must get approval from the correct person to suspend SAR operations:

- *For Category I searches, you need approval from the Police District Commander.*
- *For Category II aeronautical searches, you need approval from the Director of the Civil Aviation Authority.*
- *For Category II land and maritime searches, you need approval from the Director of Maritime New Zealand.*

Do not suspend the SAR operation too quickly

- *You need to wait at least 24 hours from when you began the suspension process to officially suspend the operation.*

Understand what a suspension is not. A suspension does not involve:

- *recalling or standing down resources temporarily for refreshment because of increased risk from environmental conditions or fatigue*
- *redirecting limited resources to tasks that are higher priority, including non-search tasks such as investigation*
- *recalling SAR resources for refreshment because the plan is not achieving the expected results and needs to be refocused.*

The Canterbury Policing district has the resource and expertise within district, to deploy, manage and review this type of operation. This did not occur.

6.2 Copland Pass – 10 January 2020

At 11.01 pm on 10 January 2020, RCCNZ were advised of a beacon activation on Aoraki Mt Cook. The task was to locate and rescue two trans-alpine trampers stuck on a rock ledge on the eastern aspect of the Copland Pass Ridge, Hooker Valley, Aoraki Mt Cook.

The on-call ACR team were notified, and an IMT activated. The environment was steep alpine terrain, 40-degree angled slopes covered with snow and ice at an altitude of 2200 metres, with strengthening winds and an approaching unfavourable weather system.

6.2.1 Recognition

Although risks were elevated due to a night time response requirement in a hostile environment, the ACR team were very mindful that if they did not recover the stranded trampers prior to the weather front arriving the next morning, the likelihood of the trampers surviving would be substantially diminished.

At 11.18 pm, the on-call Police SAR coordinator at Timaru advised RCCNZ they had also been informed of the incident. Police were alerted by cell phone, by the party involved, indicating they were a party of 2 that departed Welcome Flat at 09.00 am. They had limited alpine experience, had some climbing gear, but no shelter. They were currently positioned on a 45-degree slope 2km from Copeland Hut.

At 1.57 am the Otago Air Ambulance helicopter commenced a search with the ACR team, utilising night vision equipment, and the personal locator beacon coordinates, with a plan of carrying out a winch recovery.

At 2.20 am the Air Ambulance helicopter returned to the EOC due to heavy wind and the inability to carry out the winch recovery. The rescue plan was modified, involving additional ACR team members to be landed on the mountain to establish a staging area, whilst the primary team trek in and recover the stranded party.

At 5.00 am the stranded party were located, and the party commenced their descent to the staging area. At 6.26 am the helicopter commenced two extraction runs of the stranded party and ACR team from the high staging area.

The professionalism, courage and tenacity shown by the ACR team and Air Ambulance rescue helicopter operator and crew is at the highest level.

6.2.2 Command and Control

With the activation of a personal locator beacon, RCCNZ were advised of this incident and commenced a lead Category II Search and Rescue role. Around the same time, Police received a cell phone call from the stranded party, which activated a Police lead Category I Search and rescue operation.

In consultation with each other, it became apparent early that RCCNZ had already commenced within the lead role, and a formalised confirmation of RCCNZ as lead was established. Police remained available in a support role as required.

The seamless transition reflected excellent operational command and control by both agencies.

6.2.3 Risk Assessment modelling

The risk assessment modelling adopted by the ACR rescue team, is a Green, Amber, Red model based on allocated weighting. Although this is still under development, actively evolving by the Aoraki Mt Cook ACR team, the model needs to identify mitigation strategies, and then a final weighting to better assess the true risks anticipated.

1 - Supervision	55		
2 - Planning	There is adequate information and proper planning time. SMEAC briefs are clear, understood and have been reviewed appropriately. Equipment list has been reviewed and is mission suitable. Correct PPE and task is within scope of the function?		
Contingency Resour	In the event mission does not go to plan do we have a plan B,C,D Ect? Are we resourced for further support i.e St Johns, other SAR teams, air ambulance? Do we have further airraft? How well developed is the IMT structure? Do we have a Minimum of 2 independent forms of comms to MCV - PLB, Radio, Sat Ph, Inreach, Call Pt. Is the common radio channel understood and communicated to rescuers and pilots? Are we in a known 'black spot'? Do we need the PRL? Do we have spare		
4 - Communications	Is there sufficient depth of experience and training for the task at hand? Does the atmosphere support a 'speak up' culture and values input and constructive critique? Is the team dynamic in a positive space?		
5 -Team Selection	Are the team members well rested physically and mentally? Is team morale in a good space? Is there any impairment (mental or physical) present within the team?		
6 -Team Fitness	Are we prepared correctly for the anticipated environment for operations? Are we subject to extreme weather, long approaches, remoteness, high objective danger or night operations?		
7 -Enviroment	Is the task hyper complex? What is the severity, probability and exposure to a mishap? Does the team feel prepared to aqit the anticipated mission? Do we have a high degree of situational awareness?		
8 -Task Complexity			
Overall Misson Risk Profile (low risk 8 - 35, moderate risk 35-61, high risk 61 - 80)	0		
Final Checks Completed?		YES / NO	Comments
Speak up?			
SAR Team buddy checks? (harness / Tx)			
HEC Beam/Hook fitted and checked?			
Pilot Tx equipped and checked?			
Duty Officer contacted and advised of plan and contingencys?			

Any subsequent completed risk assessment should then be independently reviewed by the lead coordinating agency prior to deployment, and reviewed again as part of the post op hot debrief, to identify what risks were not identified, and how the risks that were identified, were actually mitigated.

Any developed matrix, however, does need to remain sufficiently dynamic, so that those deployed in the field still have the ability to still self-assess and respond accordingly.

6.2.4 Review Findings

Tenacity

This operation was undertaken at night, in treacherous environmental conditions, exacerbated by a pending weather front. The tenacity shown by those involved is of the highest order, and clearly resulted in the lives of two trans-alpine trampers being saved.

Command and Control

The practiced procedural management of Category I and Category II operations was positively reflected, when both Police and RCCNZ became aware both were looking to engage with the operation, and the operation was formally passed to RCCNZ to manage.

Risk Assessment modelling

The ACR team are very good in the planning stages of an operation, discussing the potential risks and modelling, then mitigating those risks, however their current recording of that process does not reflect the factors considered and mitigated, and any change in weighting as a result of the risk mitigation strategies.

Any developed risk assessment matrix should also be reviewed by the coordinating agency enabling questions to be asked, and a degree of independence applied.

6.3 Sefton Bivouac / Mueller Hut Rescues – 15 January 2020

6.3.1 Command and Control

First Injury

At 11.02 am St John ambulance call centre received a 111 call of an injured 19-year male who had fallen down some rocks near the Sefton Bivouac on Aoraki Mt Cook. The victim had suffered facial injuries including broken teeth and was “sore all over”. The location of the victim was identified through cell phone location. Sefton Bivouac is located at an altitude of 1650 metres.

At 11.38 am Police confirmed they were aware of the incident and treating it as an Air desk ambulance response operation. They were aware that Air desk had already deployed the Garden City Air Ambulance helicopter who were 40 minutes out.

Police indicated they would deploy a liaison member to the EOC from Twizel.

At 11.47 am Air desk advised the Air Ambulance helicopter there was no SAR response at this time and tasked to travel direct to scene and undertake a winched recovery.

At 12.06 pm following contact from the ACR team, Air desk advised the Air Ambulance helicopter to go via the Aoraki Mt Cook EOC where the ACR team were available and able to assist.

At 12.56 the IMT briefed the Police SAR coordinator, that due to the steep terrain, the Air Ambulance helicopter was about to deploy with the ACR team.

At 1.36 pm, the helicopter landed at the Sefton Bivouac, and the ACR team made their way on foot to the injured patient.



At 2.37 pm the injured patient was transported to the EOC, where he received initial medical treatment by a paramedic, prior to being prepared for transport to hospital by Air Ambulance helicopter. The helicopter during this time refuelled, and then returned to transport the remaining tramping party and ACR team back to the EOC.

Second Injury

At 3.45 pm St John Ambulance call centre received a 111-call advising of a 22-year-old female who had slipped on ice near Mueller’s Hut. Although conscious, her injuries included a laceration to her leg and severe pain.

At 3.53 pm the Air Ambulance helicopter at Aoraki Mt Cook was asked to contact the Air desk.

At 4.02 pm the Police SAR coordinator was advised of the second incident and asked to contact Air Desk. Air desk advised Police the victim was injured on an unformed track near Mueller Hutt, at an altitude of 1800 metres. Air desk indicated the first Air Ambulance helicopter could be utilised for the rescue mission, and a second Air Ambulance helicopter would be deployed from Christchurch.

At 4.17 pm the Police SAR coordinator phones Air desk to confirm that the recovery of the second patient is an Ambulance response job, and they are the only ones that can task the Air Ambulance helicopter. Police will assist if the incident becomes complicated.

Air desk disagree, advising it is an alpine environment and therefore a Category I search and rescue operation led and owned by Police.

At 4.24 pm the DoC Operations manager at the IMT advise that due to injury to first patient and time delay, the Air Ambulance helicopter was departing with the first patient to Christchurch. The second Air Ambulance helicopter estimated time of arrival was still around one hour away, and a request was made for the deployment of the local THL rescue helicopter. This was approved by police.

At 5.28 pm the THL rescue helicopter and ACR team reached the injured patient, and confirmed the injuries were significant, with pelvic and back pain and a laceration to the leg.

At 6.08 pm, the patient was transported back to the EOC , before being transported to Timaru emergency department.

6.3.2 Review Findings

When does Ambulance Rescue end and SAR begin.

This patient was an 8-minute flight from the EOC. Due to the discussions between the Police Incident Controller and Air desk around command and control, tasking responsibilities and ultimately who was paying for the helicopter, it took 107 minutes from initial notification until medical assistance was made available to the patient, whilst an Air Ambulance helicopter was on site. Some additional factors, such as the primary Air Ambulance helicopter having to defuel before deploying to patient 2, and the on-site paramedic having the ultimate call on patient 1 status and priority, also need to be considered as part of this delay.

This reviewer has met with Air desk, NASO, Police, RCCNZ and DoC. Although the existing Letter of Agreement is extremely specific, there remains a lack of clarity by operators on role transition between remote locations and alpine locations. It is accepted that if ambulance are responding to a motor vehicle accident along a stretch of highway, but the exact location is not known, they do not need to activate a Police search to find the accident, they will simply fly the road.

However, when it comes to remote bush or alpine locations, there appears to be confusion where the role of Ambulance stops, and the role of Search and Rescue commences. Although the Air Ambulance helicopter responders are becoming more skilled, there is real concern in some quarters of the SAR sector, that the potential risks to the helicopter crew is too great, and the trained SAR experts should be utilised in the first instance.

NASO are of the view that their focus is on the rapid locating and providing of medical assistance to the patient, and that should non-medical trained personnel attempt to manage a patient in some situations (pelvis injury quoted as an example), this could have a detrimental or even fatal consequence.

Air desk and DoC are more of the view that where there is a known location, but it is isolated or remote, in that it is beyond the end of the road and therefore incorporates additional risk, then Police should be notified, and subject matter experts consulted around the safest manner in which to carry out the rescue.

RCCNZ are of the view that once notified, they will take a lead role and fully fund the recovery and transportation of the victim / patient, utilising ACR and medical helicopter personnel as appropriate. Financial implications are not an immediate consideration in the rescue of a human life.

With Police, the costs of operational deployments are met at a local level, not centrally funded. For Aoraki Mt Cook, Police contract the services of the local THL helicopter to fly, stabilise and transport victims from the mountain to the EOC. The responsibility then rests with Ambulance and NASO funded Air Ambulance helicopters to transit to hospital, as required. THL is also funded to partner in training exercises with the ACR team, with the pilots having a strong local knowledge of the mountain environment. As part of police fiscal prudence, the cost of THL is

substantially less than that of a NASO contracted Air Ambulance helicopter, and because of location, usually has a substantially shorter response time and greater geographic awareness.

Letter of Agreement¹⁶

In 2016, a Letter of Agreement (LOA) was signed by the CEO's of Ambulance NZ, Police, Maritime NZ (RCCNZ), St John, Wellington Free Ambulance and NZSAR. This agreement outlines the expectations on the signatory agencies, including:

When does an incident become a SAROP?

A SAROP is an operation undertaken to locate and retrieve persons missing or in distress. Typically, an incident is deemed a SAROP when:

- *the search and/or rescue requires a response by a SAR Coordinating Authority;*
- *the person(s) require locating – a search is required to locate them;*
- *retrieval of the person(s) requires specialist SAR capabilities – the person(s) are in a location which requires SAR response capabilities, such as remote and/or difficult terrain.*

When identifying a situation as a SAROP take into consideration the complexities required to locate and/or retrieve the person(s). Examples of incidents that are a SAROP include:

- *Activation of an emergency location beacon;*
- *Report of overdue trampers, climbers, kayakers, boat, aircraft etc;*
- *Report of an injured or sick person on a track or isolated location, not immediately accessible by an EAS vehicle or helicopter;*
- *Search for a person at risk in an urban area, e.g. missing child, elderly person, dependant person;*
- *'Someone' believed to be between point 'A' and point 'B' on a given route or track, but their exact location and approximate location is not confirmed;*
- *A rescue operation from a known location where weather conditions and/or specialist rescue skills and/or equipment are required e.g. alpine or cliff locations.*

The issues identified above are not unique to Aoraki Mt Cook, and around NZ anecdotal evidence has been presented of Air desk responding to incidents, when SAR sector personnel believe they should have been involved, and similarly the Air desk have briefed on incidents where they have been told they can respond because the location is known, irrelevant of the environmental risk.

This LOA is currently under review, and with the new agreement there needs to be a level of assurance at a strategic level, that matters are being discussed regularly by the signatories, and at an operational level, staff are being feedback the outcomes and expectations of those discussions.

Key stakeholders including NASO and Dept of Conservation need to be considered as part of the signatories to the agreement.

¹⁶ <https://nzsar.govt.nz/assets/Downloadable-Files/SAR-Ambulance-Letter-of-Agreement-Dec-2016.pdf>

6.4 Additional observations

6.4.1 Quality assurance

Of the 24 operations undertaken during the review period of interest, only one operation underwent a formal review. On initial scans of the operational documentation, all the operations appeared to have been approached and executed with professionalism and skill.

As a result of this review, a number of findings have been identified, providing opportunity for review, process modification and organisational awareness of developing issues. The opportunity to carry out these types of reviews provides a degree of quality assurance for the SAR Council, and their continuance is strongly recommended.

6.4.2 Notifications

Currently, there is an expectation that Ambulance Air desk will advise Police through inter-cad (on-line Ambulance Comms Centre to Police Comms Centre communication), of any incident that may relate to a remote location or require a search component. Upon notification, the Police Comms centre then must make contact with the Police district on-call SAR coordinator, who in turn makes direct contact with the Ambulance Air desk. This process can have a time delay of several minutes in situations that require immediacy of action.

Similarly, RCCNZ are expected to contact Ambulance Air desk, if they are responding to an incident, that may involve avalanche.

Finally, both coordinating authorities are expected to liaise with the Air desk, if they are looking to utilise contract NASO Air Ambulance helicopters, which may impact their availability for Air desk response.

RCCNZ provide an immediate 24 hours per day, 7 days per week trained SARO response capability. RCCNZ also have an excellent working relationship with Police. Consideration needs to be given as to whether the Ambulance Air desk look to utilise RCCNZ as their immediate point of subject matter expertise as it relates to SAR response, before a decision is made to escalate to Police Comms centres and on-call Police SAR coordinators.

6.4.3 SARDonyx

SARDonyx is the sector SAR data capture tool, developed to track all SAR operations undertaken, collating the operational detail, including operational debriefs and lessons learnt. On reviewing the 24 operations that occurred on Aoraki Mt Cook between 1 November and 1 March, a number of the Police operations had not been entered into Sardonyx, with a further number entered, but awaiting supervisory review.

All Police personnel are busy as they manage mainstream Policing roles alongside additional specialist roles, but there needs to be compliance around an accepted timeframe to have the operations loaded and peer reviewed. Moving forward, with the funding by NZSAR of an additional support person in every Policing district, the review and audit process could best sit with the district SAR coordinator to ensure timely district returns.

It should be noted that by the completion of this review, all outstanding SARDonyx entries were submitted and completed within the Canterbury Policing district.

6.4.4 SARTrack

SARTrack is the nationally approved platform for managing Search and Rescue operations in NZ. SARTrack is used in the Canterbury policing district, however, is not currently used in Aoraki Mt Cook.

An opportunity exists to deliver training to the IMT personnel, enabling them to utilise SARTrack, which in turn would enable operations to be remotely monitored across the wider district live. The introduction of SARTrack is not intended to replace having a SAR I/C at SAR IMT for an extended or multi period operation.

6.4.5 Incident Management Team

Aoraki Mt Cook DoC personnel are very committed to delivering a quality service both for the SAR sector (Police and RCCNZ) and the wider community. DoC currently have 16 full time employees at Aoraki Mt Cook, with only 4 trained to a level to competently serve in an operational IMT environment. With staff turnover at Aoraki Mt Cook relatively high, due primarily to location and seasonal availability of work, ongoing training and wider exposure to Incident Management teams, extended search operations, and CIMS modelling is strongly recommended.

DoC members responsible for establishing an IMT are usually at managerial level and deliver to a high standard. Unfortunately, it is the reviewers view that as a result of the service provided, Police do not always attend the IMT to take up a primary role when a SAROP is activated, either as liaison to the SAR Coordinator in Timaru, on-scene coordinator or as Incident Controller.

Historically, the Constables' at Tekapo and Twizel had a strong involvement with SAR and therefore were always at the IMT. Over recent years this has reduced to the point that over the last period, only a limited number of operations have seen police members on site, albeit a large proportion of operations are concluded in a short space of time.

6.4.6 Memorandum of Understanding

The Memorandum of Understanding between Police and DOC is due for renewal leading into the 2020 / 2020 summer season and needs to clearly reflect the expectations of both organisations around onsite command and leadership. This MoU should also reflect the ongoing training delivery available to DoC personnel from external agencies, to ensure the ongoing high level of delivery.

With the current review of this MoU, RCCNZ and NASO / Air desk also need to consider their relationship with Aoraki Mt Cook DoC and consider developing or being part of the existing MoU.

7. Conclusions

1. Over the summer of 2019 / 2020, 24 search and rescue operations were executed on Aoraki Mt Cook. These operations were managed by personnel from Aoraki Mt Cook DoC, who made up the Incident Management Team and Alpine Cliff rescue teams. The professionalism displayed by them is of the highest order and makes the remote leading of search and rescue operations by either Police or RCCNZ far more manageable.

2. The inter-agency relationships between the coordinating agencies, Police and RCCNZ, and Aoraki Mt Cook DoC are strong, and Canterbury Police are committed to the ongoing training, liaison, and support to the Aoraki Mt Cook team.

3. During this review process, a real concern identified was the lack of clarity around command and fiscal responsibility, relating to the deployment of Air desk initiated aerial assets. Confusion exists across Ambulance, Police, RCCNZ and DoC as to what constitutes a remote location for ambulance, and ultimately who is funding the rescue.

The 2016 LOA between the operational agencies (Ambulance NZ, Police, Maritime NZ (RCCNZ), St John, Wgtn Free Ambulance and NZSAR) clearly articulates when an incident becomes a SAROP, but the lack of feedback from a strategic level to an operational level has left uncertainty.

With the ongoing development of a refreshed LOA in 2020, consideration needs to be given to including NASO, DoC and regional Air Ambulance rescue helicopter representation as key stakeholders, increasing the number of meetings to biannually, and ensuring frontline operational personnel are aware of discussion outcomes and expectations.

4. Only one operation during the 2019 summer was an extended search that resulted in the recovery rather than rescue of a climber. A number of lessons have been identified from this operation, around process for the suspending of a search and rescue operation.

The findings of this review have been made available to the parties involved, and Canterbury Police are already reviewing their processes to address the issues identified.

5. Currently a MoU exists between Police and Aoraki Mt Cook in relation to funded training and service delivery over the summer periods. Consideration needs to be given by RCCNZ and Ambulance / NASO to either being part of or developing a similar MoU, assisting in the funding, training, and service delivery for Aoraki Mt Cook.

6. During this review, some initial concern was raised that the McKenzie country Police personnel were being exposed to roles such as Incident Controller on extended searches, without being suitably trained. It was ascertained that one of the three McKenzie country Constables, who was used in this role during this period of review, had successfully completed the required training in 2004, however is not a member of the Canterbury SAR and does not partake in any SAR training.

Consideration across the sector needs to be given, as to what constitutes being *qualified*, and what level of *currency* should apply to that qualification before it is considered *expired*. The member in this case, is well exposed to SAR operational deployments, however, is not part of the district SAR squad, and does not partake in currency SAR training.

7. Finally, only one of the 24 operations were formally debriefed. It remains paramount that all major operations undergo a formal debrief, and that NZSAR continue to coordinate independent reviews that provide an independent level of quality assurance around the search and rescue operations being undertaken.



8. Appendix

<Specifically include evidence to substantiate Findings, Conclusions, Recommendations. Number the Appendices in order, title or caption each piece of information.>

- A. Map of Aoraki Mount Cook
- B. Aoraki Mt Cook Organisational Structure
- C. Summary of Incidents
- D. SAR - Ambulance Letter of Agreement 2016

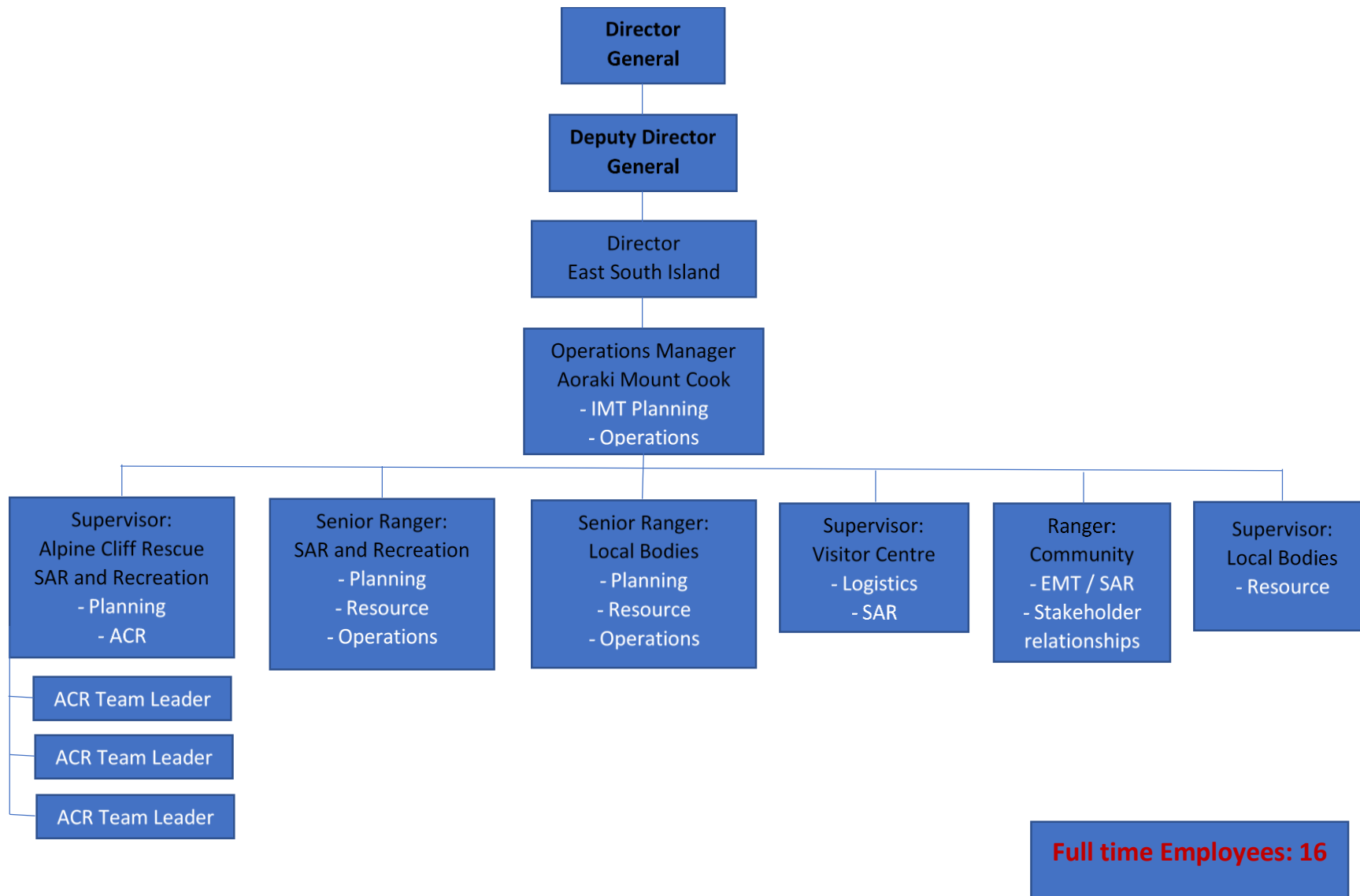
Appendix A

Map of Aoraki Mt Cook National Park



Appendix B

Aoraki Mt Cook National Park Department of Conservation Organisational Chart



Appendix C

Aoraki Mt Cook National Park Summary of Incident responses for period 1 November 2019 to 20 February 2020

	DATE / TIME	INCIDENT	LEAD AGENCY	SUPPORT AGENCIES
01	10 Nov 19 1010 hrs	<p>Overdue Hunting party</p> <p>Police SAR contacted by Mt Cook duty officer to discuss overdue Hunting Party from Liebig. Party were due out Saturday but have not signed out of the park.</p> <p>Phone call to THL ascertains that they were picked up the previous day.</p> <p>Mt Cook and SAR send message to In Reach but no response.</p> <p>Based on THL response no further action required.</p>	Police	DoC
02	13 Nov 19	<p>Tasman Valley, Aoraki Mt Cook National Park</p> <p>Air desk response to notification of patient with head injury in Tasman Valley near Blue lakes, following a fall.</p>	Ambulance	Air desk
03	21 Nov 19 0900 hrs	<p>Caroline Hut, Aoraki Mt Cook National Park</p> <p>Guide for Alpine Recreation calls for assistance when client has panic attack at Caroline Hut and refuses to leave.</p> <p>Client states is happy to pay for a helicopter ride back down, but operator needed Police tasking due to National Park no fly/landing areas.</p>	Police	DoC
04	26 Nov 19 1100 hrs	<p>Hooker Valley Track, Aoraki Mt Cook National Park</p> <p>Mt Cook Duty Office advises Police SAR of injured patient on Hooker Valley Track near the second swing bridge.</p> <p>DOC had already tasked four staff to walk into the patient with the mule stretcher to assist them back to the car park.</p> <p>SAR monitored, and patient recovered to an Ambulance on standby in the car park.</p>	Police	DoC Ambulance
05	29 Nov 19 1537hrs	<p>Haast Glacier Aoraki Mt Cook National Park</p> <p>RCC beacon activation that originally came in at 1800 meters on the Haast Glacier. Upon arrival, reports from Plateau Hut identified the actual beacon location just below Mt Dixon on the Grand Plateau.</p> <p>Hired PLB. The hirer is from the USA. The party is a party of two, climbing Mt Dixon. Emergency contacts are in the US</p> <p>Helicopter is at the EOC. ACR team of 3 with full kit going in with the pilot. Helicopter did a recon flight prior to the SAR team's arrival to identify the actual location of the rescue. The helicopter has spotted two people, one with a leg injury.</p> <p>Plan is to bring patient to EOC and have local doctor attend him until Westpac arrives from Christchurch. Helicopter will return to staging site at Plateau Hut to pick up climbing partner and rest of ACR team.</p>	RCCNZ	DoC

06	30 Nov 2019 1057 hrs	<p>Linda Glacier shelf Aoraki Mt Cook National Park</p> <p>PLB activation. Party of two were flown into a hut (unsure which one) and were planning to leave at 2am to climb Mt Cook, then be back around 11:30am or 3:00pm to fly back out from the hut.</p> <p>Local Helicopter Line and ACR team activated.</p> <p>The helicopter has contact with the party - one injured probably broken ankle. They are in difficult terrain and will need to set up a chest harness to strop patient out.</p> <p>Air Ambulance helicopter from Christchurch activated to transport patient once back at EOC.</p> <p>The helicopter brings patient and ACR out but left the uninjured party at the hut to make their own way out due increasing wind.</p> <p>Patient assessed at EOC - possible fractured ankle, so dealt with locally. HEMS helicopter returns to Christchurch without patient.</p>	RCCNZ	DoC Air desk
07	12 Dec 19 1730 hrs	<p>Mt Edger Thomson Aoraki Mt Cook National Park</p> <p>Party of two international tourists decide to climb to the summit Mt Edger Thomson. They under-estimate the climb, getting tired and sore / strained legs on the way down.</p> <p>As a result of being exhausted, and having no water, no shelter, inadequate clothing, and no torches request for assistance is made to Ambulance.</p> <p>Ambulance decline as no injury and passed to Police.</p> <p>Assessment – party poorly equipped. ACR team activated and party removed from mountain.</p>	Police	DoC Air desk
08	19 Dec 20 2200 hrs	<p>Haast Ridge Aoraki Mt Cook National Park.</p> <p>Friend reports 50-year-old Swiss climber missing after he fails to board his plane home. Rental car located at Blue Lakes car park Mount Cook.</p> <p>Informant states he was attempting to solo Mount Cook via the Haast Ridge however no trip intentions entered at base. No sightings of climber from guides in the area. Intended route searched by helicopter but no sign of him.</p> <p>Recent avalanche located above Haast Ridge which according to DOC staff was caused by unnatural means. Avalanche field searched using Recco however no sign of climber. Too dangerous to probe but likely that he triggered it and is buried.</p> <p>Search suspended 21 Dec by Area Commander pending further information.</p> <p>Family fund private search led by DOC. Private helicopter search locates body of missing climber at the bottom of Haast ridge.</p> <p>Body removed to Timaru and DVI completed there. Climber would have died instantly from injuries.</p>	Police DoC	DoC
09	28 Dec 19 1856 hours	<p>Hooker Valley track, Aoraki Mt Cook National Park</p> <p>Warden report to Police SAR of being approached by tourists with poor English saying there was an injured person on the Hooker Valley track needing assistance. DOC deployed to area and were unable to locate anyone. After exiting area informed that a tramper with an injured ankle was assisted from area by partner.</p>	Police	DoC

		Nil details gained of injured party.		
10	28 Dec 19	<p>White Horse Camping Ground Aoraki Mt Cook National park</p> <p>St John received tasking about patient with irregular breathing at White Horse Campground. Possible overdose</p> <p>SAR team was on site after returning from tasking up Hooker Valley so were asked to assist with locating patient. Patient located and begun primary /secondary survey and witness questioning.</p> <p>Ambulance arrived on scene and information handed over. Patient had possibly overdosed on medication in combination with large amounts of alcohol.</p> <p>DoC staff remain to assist Ambulance with patient monitoring and care and return to EOC for continued care / monitoring and handover to Christchurch Air Ambulance helicopter.</p>	Ambulance	DoC Air desk
11	29 Dec 19 0930 hours	<p>Copland Shelter Aoraki Mt Cook National Park</p> <p>Call from Copland shelter indicating that Party of 2x Adults and 4x teenagers were unable to self-extract from their location due to lack of confidence.</p> <p>DoC duty officer advised that conditions would not permit flying and they would have to wait for better conditions. Next window was for 08:00 30/12/19.</p> <p>Given Team handover on the 30/12/19, duty officer pre-warned the incoming team about the active job, so all members were fully up to speed and prepared for a 07:30 start.</p> <p>Local rescue helicopter fly's ACR team to site at around 08:30. Land at site, retrieve children and parents, fly home.</p>	DoC	
12	29 Dec 19	<p>Red Tarns Bridge Aoraki Mt Cook National Park</p> <p>Call received by DoC about injured party on the Red Tarns bridge, 70 y/o male fallen approx. 20 ft with head injuries and other laceration to arms, possible altered LOC, and slurred speech.</p> <p>Given proximity to SAR base and possible serious nature of patient a hasty response was deemed appropriate ACR team responded in vehicle with medical gear.</p> <p>Patient located and assessed / packaged and returned to EOC to handover to Ambulance. Further clean up and assessment of patient undertaken before loading into Ambo to transport to Twizel.</p>	DoC	Ambulance
13	3 Jan 20 1827 hours	<p>Bowie Ridge Aoraki Mt Cook National Park</p> <p>4 climbers reported as being overdue from a Summit attempt by guide who is at Plateau Hut.</p> <p>DOC request helicopter authorisation from Police - declined by incident controller due to insufficient information. Task sent re profiling climbers' capabilities and equipment.</p> <p>Inquiries made with local rescue helicopter re availability of helicopter and what time their last flight can be. Inability for night flying. Incident put on hold until the following morning.</p> <p>Midnight receive update from DOC indicating that original informant went looking for climbers and found them safe and well.</p>	Police	DoC

		No issues.		
14	5 Jan 20 1858 hours	<p>Hooker Track Aoraki Mt Cook National Park</p> <p>Female falls on track and husband calls 111 stating his wife cannot walk and is injured.</p> <p>Discussed with Air Desk and they are happy for police to manage as their only asset is in Otago. Police deploy ACR team and they locate injured person at start of track walking out with slight assistance from friends. No need for a SAROP.</p>	Police	DoC Air Desk
15	10 Jan 20 1600 hours	<p>Hooker Glacier Aoraki Mt Cook National Park</p> <p>Climber reports finding a pack and belongings thawing from the ice on the true left of the Hooker Glacier. Items recovered by DoC staff and exhibited by Police as they potentially belong to one of Mt Cook's missing persons. No obvious identifiers in the pack.</p>	Police	DoC
16	10 Jan 2020 2301 hrs	<p>Copland Pass Aoraki Mt Cook National Park</p> <p>PLB Activation with RCCNZ.</p> <p>DoC IMT and ACR team are activated. Local rescue helicopter has no night flight capability. Westpac Air Ambulance helicopters from Queenstown or Christchurch will need to be activated.</p> <p>Police SAR Timaru have also been informed of incident. Police were alerted by cell phone confirming party of 2 that departed Welcome Flat at 0900. They have limited alpine experience, have climbing gear but no shelter. They are currently on a 45 deg slope 2km for Copland Hut. Police agree that RCCNZ would be lead agency and coordinate a Category II SAR response.</p> <p>2335 hrs Otago Helicopters Queenstown deployed to EOC.</p> <p>0133 Air Ambulance helicopter confirmed at EOC. Will shut down briefly to reconfigure for winching. Currently 30 kts wind and cloud forming. Helicopter will take 1 x ACR team of 2 members and winch stranded party from location.</p> <p>At 0235 hrs helicopter advises they have been up to the scene - it is too windy and steep to winch or to put the ACR members onto the hill. They have talked to the men on the hill. They are back at the EOC where the ACR team will gather second team and more kit.</p> <p>A revised plan, to fly the ACR teams in as close as possible, where one team would establish an emergency landing / staging area and shelter just above Copeland Shelter, whilst a second team would have a 45/60 min trek across the alpine ridge to reach the stranded party. The helicopter would return to the EOC and await a call from the ACR team before returning to the mountain to uplift parties.</p> <p>At 0500 hrs the ACR team reach the stranded party and commenced the return trek to the emergency shelter. Due to the deteriorating weather conditions, a request is made for additional helicopter support to be on standby and assist in the extraction from the mountain if required.</p> <p>At 0609 hrs Otago Helicopter flew to a lower staging area in the mid Hooker Valley, ready for a snatch extraction.</p>	RCCNZ	DoC Police Air desk

		At 0626 hrs commence extraction of the parties, 3 at a time, from the high extraction location. 0704 hrs EOC confirms all parties now safely off mountain.		
17	15 Jan 20 1132 hours	Sefton Bivouac Aoraki Mt Cook National Park Ambulance communications centre receives a call that a 19-year-old German tourist tried to walk to the Sefton bivouac with a friend. Friend was faster than him and so he took a bad route and slipped down a hill. He fell about 100 metres and does not really remember how it happened. Friend called for help. Ambulance Job with Air desk tasking Garden City to Uplift. DOC ACR team in support. He suffered facial and head injuries and has a painful arm.	Ambulance	Air desk DoC Police
18	15 Jan 20 1605 hours	Mueller Hut Track Aoraki Mt Cook National Park Ambulance Communications Centre receives a call that a female trumper has fallen 70 metres near the Mueller Hut track, Mt Cook Westpac Air Ambulance helicopter receives call regarding this incident whilst still completing previous SAR Job. Advised female trumper has slid down steep part of track on her backside and loses control, falling 70 metres. Serious leg injury, lacerating it deeply on sharp rock during the fall. Discussion between Police and Air desk who has lead responsibility. Left with Police to manage. Air desk dispatched 2nd helicopter from Christchurch with ETA 1hr. Air1 departed Aoraki with first patient. DoC IMT recommended local rescue helicopter perform the rescue. Police approved. ACR team prepared for serious injury, flew in, and land on ridge. ACR team climb down to patient. Patient assessed patient and pain medication administered. Pain in pelvis, lumbar, long lac on thigh. Patient stropped from site direct to EOC in bowman bag. Remaining ACR team and 6 uninjured party members ferried down to EOC. Patient transported by HEMS helicopter to Timaru Hospital.	Police	Ambulance DoC Air desk
19	20 Jan 20 0830 hours	Hooker Glacier Aoraki Mt Cook National Park A 56-year-old male separates from his climbing partner to take a risky route while descending the Hooker Glacier. Reported overdue to Police after failing to return home that evening and not turning up to work the following day. DOC ACR and local Helicopter Line rescue helicopter tasked to search the area. They locate the missing party walking down the side of the Hooker Lake 28 hours after last seen by his climbing partner.	Police	DoC
20	31 Jan 20 1500 hours	Hooker Track Aoraki Mt Cook National Park DoC receive notification of an elderly female with heart palpitations, near the second swing bridge on the Hooker Track.	Police	DoC

		DOC staff advise they are with female who ended up walking out by herself without assistance. No SAR involvement required.		
21	3 Feb 2020 1746 hrs	South Huxley Bivouac, Huxley River Aoraki Mt Cook National Park SOS Alert from SPOT device received by the International Emergency Response Coordination Centre (IERCC). Male 50 yrs. with no medical conditions is in the bush shrimping. He is walking, not on vessel by himself. He has been in bush since the weekend and is due back in 3 days. DOC contacted. Heavy rain in area. Helicopter Line contacted. May be able to access area. Police SAR advised. DoC team of 4 heading to Glentanner. Helicopter Line believes may be able to reach the site. DOC team advise simple pickup – no injury. Will transport out due to bad weather. He was perfectly fine but would have been stuck there for 4 days and food would not have lasted. Dropped at his truck and confirmed safe to drive out.	RCCNZ	DoC Police
22	7 Feb 20 0800 hours	Mount Footstool Aoraki Mt Cook National Park Alpine guide contacts DoC staff via radio reporting a 29yo male near the top of Eugenie Glacier (northern side of Mt Footstool near the main divide saddle - 2450 metres) with an injured ankle. Guide stated that a toe-in hover load would be a suitable option for the rescue. Power check and scene assessment via helicopter. HEC operation was deemed the most desirable option for rescue. A team of 4 rescuers + pilot helicoptered to a tarn just below Sefton Bevy where HEC operations were staged. A team of three ACR team members lifted from the staging area near Sefton Bevy on the long line enroute to the scene. Patient packaged and extracted via two rescuers on HEC with one rescuer remaining on site with the patient's climbing partner. Helicopter backfills on the long line to the scene and retrieves remaining persons. Patient secured to helicopter stretcher and transported with partner via internal helicopter load to EOC. The patient suffered fractured leg and was handed over to St John Ambulance.	Police	DoC Ambulance
23	16 Feb 20 0130 hours	Mount Wakefield Aoraki Mt Cook National Park DoC reports a light that has been flashing toward the township for hours from the side of the mountain. Had initially been seen by a stargazer who believed he had witnessed the light fall down the side of Mt Wakefield. Heli flown in from Queenstown and containment line put in by DOC. Male located and had been bluffed out after fall. Had spent several hours shining his phone towards township but did not think to call 111. Not injured and returned to Mt Cook village where he is working.	Police	DoC
24	20 Feb 20 1532 hours	Hooker Valley track Aoraki Mt Cook National Park Ambulance are advised of a 74-year-old female who has heart issues after crossing first swing bridge on Hooker valley track.	Ambulance	Air desk DoC

		An Air Ambulance helicopter is dispatched by Air desk and DOC team went in on foot to assist until helicopter arrived. A specialist doctor and EMT happened to be walking track and were able to assist as well.		
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Appendix D

SAR - Ambulance Letter of Agreement 2016

New Zealand Search and Rescue and Emergency Ambulance Services Relationship Agreement

New Zealand Police, Rescue Coordination Centre of New Zealand, Ambulance New Zealand, St John, Wellington Free Ambulance.

PURPOSE

1. This letter of agreement (LOA) confirms the relationship between the Search and Rescue sector and Emergency Ambulance Services for managing patient recovery with respect to search and rescue operations.
2. Nothing in this LOA is intended to create legal relations between the parties and neither party will be liable for actions of the other.

PARTIES

3. The parties to this agreement are the New Zealand Police; the Rescue Coordination Centre of New Zealand (RCCNZ), representing Maritime New Zealand; Ambulance NZ, St John Ambulance, and Wellington Free Ambulance , representing the Emergency Ambulance Services; and the New Zealand Search and Rescue Secretariat. These are hereafter referred to as "the parties".

AGREED PROTOCOLS

4. Schedule 1 of this LOA describes agreed protocols for ensuring that the most appropriate resource is deployed by the most appropriate agency for the recovery of a patient with respect to search and rescue operations (SAROP).
5. Any amendments to the schedules and the addition of any new schedules, agreements or protocols must be agreed in writing between all of the parties.
6. Schedules may be reviewed and updated at any time as per (5) above and at least at the same time as the reviews of this LOA.

LIAISON AND COMMUNICATION

7. The CEOs of Maritime NZ, Ambulance New Zealand, St John Ambulance Service, Wellington Free Ambulance, NZSAR Secretariat and the Commissioner of Police (or their delegated senior representatives) will meet at least once during the year to discuss the strategic direction, priorities and plans for each agency. The meeting will address any area or issues with potential for the parties to achieve the goal referred to in point 3 above.

8. The parties agree to inform each other when developing policy that may impact on one or more of the other parties, or on Schedule 1 protocols, and to take all reasonable steps to ensure that there is adequate time for comment.

DISPUTES

9. Each party will raise any operational or policy concerns through appropriate internal channels.
10. All issues, disputes and differences between the parties will, firstly, be resolved by negotiation at the earliest opportunity at a local level.
11. Matters that remain unresolved or need further adjudication will be referred to the party representatives. If agreement cannot be reached within 28 days from referral, the matter will be referred, in writing, to the CEO of the partner agencies and the Commissioner of Police for final resolution.
12. Each party will consult with each other beforehand if either is considering providing information or comment on any matter:
 - which comes within the other parties' responsibilities, or
 - in which that other party has an interest.
13. This LOA is subject to Cabinet directives and any enactment.
14. Any party may terminate this LOA without cause by providing 28 days written notice to the other parties.
15. This LOA commences on the date it is signed below and will be reviewed no later than three years from the date of the latest signature below.

Name: *David Waters*
CEO, **Ambulance NZ**
Date: 21/12/16

Name: *Peter Bradley*
CEO, **St John**
Date: 19/12/16

Name: *Diana Crossan*
CEO, **Wellington Free Ambulance**
Date: 21/12/16

Name: *Keith Manch*
CEO, **Maritime New Zealand**
Date: 20/12/16

Name: *Mike Bush*
Commissioner of Police
Date: 8/12/2016

Name: *Duncan Ferner*
Manager, SAR Secretariat
Date: 12/12/2016

Schedule 1

New Zealand Search and Rescue and Emergency Ambulance Services Relationship Letter of Agreement

1. Purpose

- 1.1. The purpose of this Schedule is to describe agreed protocols for ensuring that the most appropriate resource is deployed by the most appropriate agency for the recovery of a patient in the event of a medical emergency that may be, or become, a search and rescue operation.

2. Search and Rescue Operation (SAROP)

- 2.1. A Search and Rescue Operation (SAROP) is an operation undertaken by a Coordinating Authority to locate and retrieve persons missing or in distress. The intention of the operation is to save lives, prevent or minimise injuries and remove persons from situations of peril by locating the persons, providing for initial medical care or other needs, and then delivering them to a place of safety.
- 2.2. The Coordinating Authority is the agency or body responsible for the overall conduct of the Search and Rescue Operation. The Coordinating Authority will lead and manage the operation. The New Zealand Police and the Rescue Coordination Centre New Zealand are the recognised SAR Coordinating Authorities in New Zealand.

3. Emergency Ambulance Services

- 3.1. The Emergency Ambulance Services (EAS) respond to medical emergencies and accidents, treat patients at the scene and, if necessary, transport them to hospital. Road ambulance services are provided by St John and Wellington Free Ambulance; Air Ambulance helicopter services are provided by providers who meet the requirements for Emergency Air Ambulance helicopter providers.
- 3.2. The Ambulance Communications Centre is the lead agency for non-SAROP medical emergency responses and authorises and dispatches road and Air Ambulance helicopter services.

4. When does an incident become a SAROP?

- 4.1. A SAROP is an operation undertaken to locate and retrieve persons missing or in distress.
- 4.2. Typically, an incident is deemed a SAROP when:
 - 4.2.1. the search and/or rescue requires a response by a SAR Coordinating Authority;
 - 4.2.2. the person(s) require locating - a search is required to locate them;
 - 4.2.3. retrieval of the person(s) requires specialist SAR capabilities - the person(s) are in a location which requires SAR response capabilities, such as remote and/or difficult terrain.
- 4.3. When identifying a situation as a SAROP take into consideration the complexities required to locate and/or retrieve the person(s).
- 4.4. Examples of incidents that are a SAROP include the following:
 - 4.4.1. Activation of an emergency location beacon.

- 4.4.2. Any report of overdue trampers, climbers, kayakers, boat, aircraft etc.
- 4.4.3. Any report for an injured or sick person on a track or isolated location, not immediately accessible by an EAS vehicle or helicopter.
- 4.4.4. A search for a person at risk in an urban area, e.g. a missing child, elderly person, despondent person.
- 4.4.5. 'Someone' believed to be between point 'A' and point 'B' on a given route or track, but their exact location or approximate location is not confirmed.
- 4.4.6. A rescue operation from a known location where weather conditions and/or specialist rescue skills and/or equipment are required e.g. alpine or cliff location.

5. Coordinating Authority Responsibilities

- 5.1. A medical incident that is not a SAROP is the responsibility of the Ambulance Communications Centre.
- 5.2. A SAROP is the responsibility of one of the SAR Coordinating Authorities:
 - 5.2.1. New Zealand Police: The Coordinating Authority for all Category I SAROPs.
 - 5.2.2. The Rescue Coordination Centre New Zealand: The Coordinating Authority for all Category II SAROPs.
- 5.3. Coordinating authorities should communicate as appropriate when initiating a response that may be defined as a SAROP, or is likely to result in a SAROP, so as to eliminate the risk of multiple authorities responding unnecessarily to the same event. This will also ensure that SAR resources in the area are alerted in a timely fashion in order to lend assistances where appropriate and to prevent undue time delays in the response.
- 5.4. An incident may change from a SAROP to a non-SAROP, or vice versa. When this occurs then responsibility for managing the incident will also transfer.
- 5.5. With the agreement of both SAR Coordinating Authorities any SAROP may be re-categorised at any time and responsibility passed in either direction.
- 5.6. Responsibility for the SAROP must be formally transferred in accordance with established Standard Operating Procedures.

6. NZ Police

- 6.1. Police are responsible for coordinating Category I SAROPs. Category I is defined as SAROPs that are coordinated at a local level, including, land operations, subterranean operations, river, lake, and inland waterway operations, and close to shore marine operations. The nature of 'close to shore' will vary according to the availability of local resources and the need to task national assets. Typically, such operations will be within New Zealand territorial waters (12 nautical miles).
- 6.2. It is the responsibility of Police to notify RCCNZ for all relevant SAROPs as per established protocols. For a Category I SAROP, the Police will manage the operation and advise RCCNZ once the SAROP is complete.
- 6.3. It is the responsibility of Police Communications Centres, and I or Police SAR Officer, to notify Ambulance Communications Centres when an Ambulance resource (e.g. Helicopter) is required for the SAROP (Category I) or for the purposes of clinical assessment and or treatment. If an Ambulance resource is required, Police will keep Ambulance Communications Centres updated throughout the operation to ensure a timely and coordinated response.

7. Rescue Coordination Centre NZ (RCCNZ)

- 7.1. The RCCNZ are responsible for coordinating Category II SAROPs. Category II is defined as SAROPS that are coordinated at the national level; including, operations associated with missing aircraft or aircraft in distress and off-shore marine operations within the New Zealand Search and Rescue Region. Category II SAROPs typically require the use of national or international resources and may involve coordination with other countries.
- 7.2. It is the responsibility of RCCNZ to notify Police for all relevant SAROPs as per established protocols. For a Category II SAROP the RCCNZ are the Coordinating Authority and will manage the operation. The RCCNZ will advise Police when any air resources have been tasked. The RCCNZ will also notify Police once the SAROP is complete and confirm the outcome, including the last known location of the person(s) retrieved.

8. Ambulance Communications Centres (St John or Wellington Free Ambulance)

- 8.1. The Ambulance Communications Centre is the lead agency for medical incidents that are not a SAROP.
- 8.2. As soon as the Ambulance Communications Centre identifies an incident as a SAROP, it must transfer the incident to a SAR Coordinating Authority to take over incident control.
- 8.3. Ambulance Communications Centres should also notify Police of any incident that has the potential to be a SAROP to enable early notification and activation of SAR.
- 8.4. A SAROP notification or actual incident will remain open in the Ambulance system (CAD) until Police confirm the SAROP is complete. If the SAROP requires a resource that is also controlled by Ambulance Communications Centres, CAD will be updated to show that resource as unavailable for Ambulance Services.

9. Activation of distress alerting devices

- 9.1. In the event the Ambulance Communications Centre becomes aware of an activation of a distress alerting device, either by being informed of the activation or because the Ambulance Communications Centre requests that one of the devices is activated to assist with location of a casualty, then RCCNZ must be informed without delay. This is to avoid the possibility of a dual response to the same incident. Distress alerting devices include: PLB, EPIRB, ELT (Distress Beacons), SPOT beacon or InReach device.

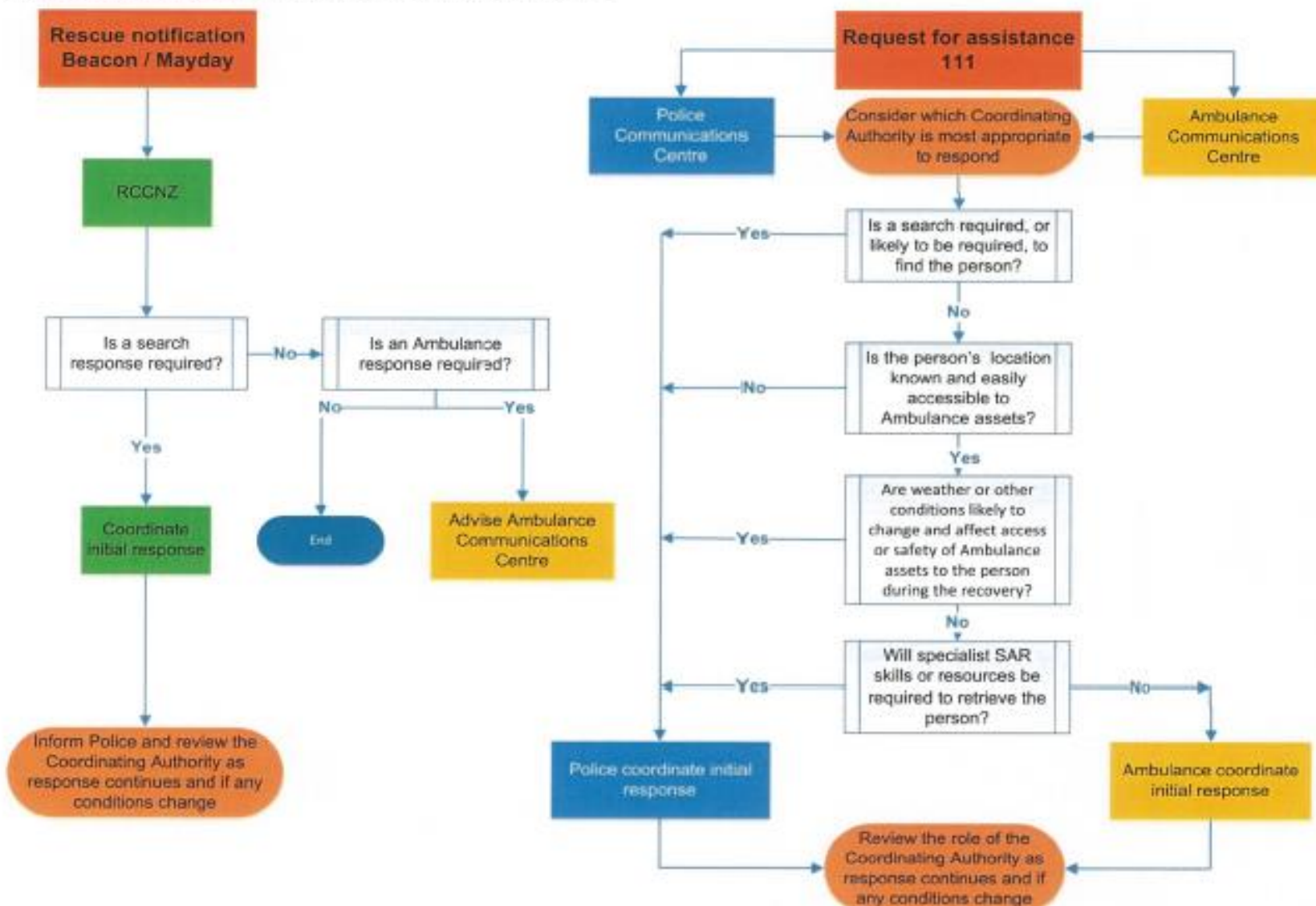
10. Commitment to Education

- 10.1. All parties to this agreement recognise that these protocols require staff to understand their agency's responsibilities, and when these responsibilities may change.
- 10.2. All parties agree to share the outcome of debriefs and any insights identified to enable lessons to be shared.
- 10.3. All parties agree to commit to training call centre staff, and those with responsibility for managing incidents, on the interpretation and implementation of the protocols of this agreement.

11. Decision Making

- 11.1. Refer to diagram 11.2 on next page.

11.2 Coordinating Decision Diagram: SAR or Ambulance?



Schedule 2

Definitions

1. Coordinating Authority.

- 1.1. The Coordinating Authority is the agency or body responsible for the overall conduct of the Operation. The Coordinating Authority will lead and manage the operation.
- 1.2. The New Zealand Police and the Rescue Coordination Centre New Zealand are the recognised SAR Coordinating Authorities in New Zealand.
- 1.3. The Ambulance Communications Centres are the lead agency for non-SAROP medical emergency responses

2. Search and Rescue Operation (SAROP)

A Search and Rescue Operation (SAROP) is an operation undertaken by a Coordinating Authority to locate and retrieve persons missing or in distress. The intention of the operation is to save lives, prevent or minimise injuries and remove persons from situations of peril by locating the persons, providing for initial medical care or other needs, and then delivering them to a place of safety.

3. Category I SAROP

A SAROP coordinated at the local level, including land operations, subterranean operations, river, lake and inland waterway operations and close-to-shore¹⁷ marine operations¹⁸.

4. Category II SAROP

A SAROP coordinated at the national level; including, operations associated with missing aircraft or aircraft in distress and off-shore marine operations within the New Zealand Search and Rescue Region¹⁹.

5. National Ambulance Sector Office (NASO)

A business unit within the Ministry of Health staffed with personnel from ACC and the Ministry of Health. One function of NASO is to manage and monitor funding and contracts from both agencies related to the delivery of Emergency Ambulance Services (EAS).

6. PLB

Personal Locator Beacon

7. EPIRB

Emergency Position Indicating Radio beacon, designed specifically for the marine environment'

8. ELT

Emergency Locator Transmitter designed for the aviation industry.

¹⁷ The nature of 'close-to-shore' will vary according to the availability of local resources and the need to tasks national assets. Typically, such operations will be within NZ Territorial waters (12 nautical miles),

¹⁸ Category I SAROPS typically require the use of local personnel and resources and can be carried out efficiently and effectively at the local level.

¹⁹ Category II SAROPs typically require the use of national or international resources and may involve coordination with other states.

Schedule 3

Search and Rescue Funding

3.1 SAROPs are funded by the Coordinating Authority.

SAROP funding categories	Agency responsible for funding
Category I	NZ Police
Category II	RCCNZ

3.2 When Police are the Coordinating Authority, they will pay for cost of the SAROP. If Police request an ambulance response; Police will pay for the SAROP, and ACC or Ministry of Health will pay for the ambulance.

3.3 When RCCNZ are the Coordinating Authority they will typically pay the full cost of the SAROP, for the whole duration of the operation, even if the operation requires an ambulance response. As with a Police coordinated SAROP there may be post operation reallocation of costs.

3.4 **Note:** In order for ACC and Ministry of Health to pay for the ambulance, the request for the ambulance must be made via the Ambulance Communications Centres. The Ambulance Communications Centres will then dispatch the most appropriate resource.