THIS FINDING IS SUBJECT TO PROHIBITIONS AND RESTRICTIONS ON PUBLICATION UNDER S 74 OF THE CORONERS ACT 2006

IN THE CORONERS COURT AT AUCKLAND (IN CHAMBERS)

CSU-2019-CCH-000400

I TE KŌTI KAITIROTIRO MATEWHAWHATI KI TĀMAKI MAKAURAU (I TE TARI)

UNDER

THE CORONERS ACT 2006

AND

IN THE MATTER OF

An inquiry into the death of Tracey Alison SMITH

Date of Findings: 18 July 2022

FINDINGS OF CORONER M DUGGAL

Introduction

[1] On the Queen's Birthday weekend of 1 June 2019, Tracey Alison Smith, aged 55, and her teenaged son travelled to the Nelson Lakes National Park to hike to Angelus Hut. Encountering difficulties in adverse weather conditions, Ms Smith suffered from hypothermia and did not reach the hut. Her body was found at Speargrass Valley on 2 June 2019.

[2] Ms Smith's death was referred to the coroner and an inquiry was opened. Having considered whether an inquest is necessary or desirable in this case and complied with the

notice and legislative requirements, I have decided to conclude my inquiry by conducting a Hearing on the Papers and giving a Chambers Finding.

Issues

[3] The issues that I have considered are the cause and circumstances of Ms Smith's death including whether there are any recommendations and / or comments which may prevent deaths in similar circumstances.

Cause of death

[4] On 4 June 2019 pathologist, Dr Michael Myskow, carried out a post mortem examination. Dr Myskow's opinion was that the cause of Ms Smith's death was hypothermia.

[5] Samples of Ms Smith's blood and urine were taken for toxicological analysis. Forensic toxicologist, Helen Poulsen, reported that no alcohol was detected in the blood or urine.

[6] Acetone was identified in Ms Smith's blood and urine at approximate levels of 10 and 70 milligrams per litre respectively. Acetone is a normal product of metabolism and in healthy individuals blood acetone levels are usually lower than 10 milligrams per litre. Dr Poulsen reported:

Elevated blood and urine acetone concentrations most commonly arise from uncontrolled diabetes or a prolonged period of fasting, starving or exercise. Chronic alcohol use and hypothermia may also result in elevated acetone levels. Such blood and urine acetone levels are not life threatening of themselves, but they may reflect more serious metabolic conditions such as ketoacidosis.

Dr Myskow opined that the elevated acetone concentrations were likely associated with hypothermia. I accept Dr Myskow's advice regarding the cause of Ms Smith's death.

Circumstances of Ms Smith's death

Background

[7] Ms Smith and her 15-year-old son had hiked together often. In New Zealand, they had hiked the Heaphy Track, Old Ghost Road and the Abel Tasman track several times. Overseas, they hiked a crater in Hawaii. They were used to high altitudes, but Ms Smith was not accustomed to hiking in deep snow and had not done much hiking over the summer of 2018/19.

Events of 31 May – 2 June 2019

[8] Taking advantage of the public holiday weekend of Queen's Birthday in June 2019, Mrs Smith and her son planned to hike to Angelus Hut, a long-planned trip which they originally intended to do at Easter in 2019. On Friday 31 May 2019, they left their Takaka home and travelled to St Arnaud where they spent the night at the Travers Sabine Lodge.

[9] The Lake Angelus basin is the most popular backcountry site in Nelson Lakes National Park. Located in the Travers Range high above Lakes Rotoiti and Rotoroa, Angelus Hut is 1,650 metres altitude and sits at the base of a peninsula which almost splits Lake Angelus in two.

[10] At the Travers Sabine Lodge Ms Smith spoke to the manager, who advised her that Angelus Hut was not a safe option in the deteriorating weather conditions forecast for the following day. The weather forecast was for 85km/h winds and -16 degrees Celsius temperatures. Ms Smith decided to hike Paddy's Track and stay at Bushline Hut instead.

[11] The pair left the Lodge at 8:00am on 1 June 2019 and went to the Department of Conservation ("DOC") Visitor Centre. Ms Smith discussed the weather with DOC staff and told them of the changed plan to hike to Bushline Hut. Ms Smith had rented personal locator beacons for previous hikes but did not on this occasion. Her reasons for not doing so are unclear.

[12] From the DOC Visitor Centre, Ms Smith drove to the Mount Robert carpark. While at the carpark, Ms Smith saw a large group of people hiking to Angelus Hut and made an on-the-spot decision to hike to Angelus Hut via the Speargrass Track, a more sheltered route than along Robert Ridge. Ms Smith and her son left the carpark at about 9:45am.

[13] The first part of the Speargrass Track is a 6.9 kilometre walk to Speargrass Hut. From there it is a 4.75 kilometre walk to Angelus Hut and the track climbs to around 1,720 metres before descending into the Angelus Basin where the hut is located.

[14] Mother and son arrived at Speargrass Hut at about 1pm. Shortly before reaching the hut, they joined another group of six (6) people. Ms Smith's son reported that this part of the hike was comfortable and a member of the other the group also said that the pair seemed well prepared and in good spirits. They continued together to Speargrass Hut where they stopped for a quick snack and a toilet break. The other group of hikers were pushing on to Angelus and left Speargrass Hut at about 1:30pm.

[15] Ms Smith thought about staying the night at Speargrass Hut but left at 1.30pm with her son. Although they took a lot of food including dehydrated meals, frozen meals, brie, wraps, soups and chocolate, they did not have time to eat a full lunch if they were to make it to Angelus Hut. Instead, they ate dehydrated apple crisps, scroggin, brie, pita chunks and a boiled egg. At that time, the weather was overcast, but not windy. The track was only lightly sprinkled with snow.

[16] An hour into the hike to Angelus Hut, the snow was starting to get deeper, and the hill was getting steeper. It was cold, snowing lightly, but there was no wind and visibility was good. Ms Smith's son recalled a particularly steep part of the ridge, which required navigation on their hands and knees, climbing upwards through snow. The snow became thigh-deep for Ms Smith and knee-deep for her son when standing upright. Three quarters of the way on the ascent, he noticed that his mother had fallen behind. As he waited for her to catch up, the other group carried on; Ms Smith and her son became separated from the other group.

[17] By then his mother was taking small steps and told him that she was experiencing a lot of leg cramping. She began falling over repeatedly and they were making little progress. Ms Smith's son tried to pull her along with a tramping pole and make the track easier by moving snow out of the way, but the depth of the snow made this very difficult. By 5.00pm the visibility was limited to about 200 metres, the temperature dropped further, and the wind increased. The other group saw ice blowing and water bottles hitched to backpacks froze. Given the reduced visibility the other group of hikers were unsure if Ms Smith and her son were still following or had turned back. They told police that even when they were able to see the valley behind them, they never saw Ms Smith and her son after becoming separated. The group arrived at Angelus Hut at about 6:15pm.

[18] That weekend, Angelus Hut had a volunteer hut warden who had arrived on Friday 31 May 2019. Volunteer hut wardens do not have specialist training. Their primary role is described by DOC as helping visitors to enjoy their stay. Volunteer hut wardens are required to be experienced trampers, capable of minor repairs to maintain the huts and able to make radio contact with DOC staff. They check booking receipts from trampers, provide information and are available to assist search and rescue staff if required.

[19] The volunteer hut warden ("hut warden") heard the group of six hikers arrive at about 6.30pm. Shortly thereafter a male from the group sought assistance, as one of their group had become cold and dehydrated. He told the hut warden that two more hikers were on the track behind them, an older woman and younger male, who appeared to be struggling. When the hut warden went to the guest dormitory to assist the person needing aid, she saw six people and assumed that this included the outstanding pair. She provided assistance and went back to her accommodation for the night.

[20] When it became dark Ms Smith and her son put on their head torches, but the wind was so strong that it blew them off. Her son felt that the wind was strong enough to "blow him over". By this time, Ms Smith was tired, hungry and thirsty. Their water bottles had frozen. She kept eating snow to quench her thirst, despite her son telling her it would make her colder. Ms Smith was crawling, and her hands started to freeze from being in the snow.

[21] When they were nearly at the top of the ridge, Ms Smith's son realised that she had hypothermia. He saw icicles on her face and her skin had become so brittle it was starting to bleed. Ms Smith had stopped talking and was groaning. He tried to warm her and help her in various ways including trying to lift her and by removing her pack. He hooked the pack straps over a track pole. He realised that her vision had deteriorated significantly as she could not see the track poles. He wanted to feed her scroggin but his

hands were too cold and stiff to open the pack. His mother would not have been able to eat the scroggin as her mouth was frozen.

[22] Realising that he was in danger of getting hypothermia too, he made the decision to carry on to the Hut. By then, Ms Smith was lying face down in the snow. The snow became deeper further along the track. In the dark, cold and wind, his progress was painstakingly slow. He made it to the ridge but could not find the path to the Hut. He got lost and circled back to where his mother was. By then, she was not moving at all. He resumed his track to the hut. He could make out the outline of Lake Angelus, requiring caution and further slowing his progress. Eventually he decided to head straight for the lights, sliding over the snow. By this point, his legs were cramping, and he was falling over. Resorting to crawling, he reached the hut at 11:15pm.

[23] Inside the hut, he explained what had happened and that his mother had died. Given the weather conditions, it was not possible for those in the hut to search for her. An adult woke the hut warden and told her about the teenage boy arriving and that Ms Smith had died of hypothermia on the track.

[24] The hut warden explained that she could not radio out as the DOC radio in St Arnaud was not staffed until 9.00am the next morning. She checked the hut handbook to see if the radio could be used to contact 111. Unfortunately, her incorrect understanding was that the only way to contact 111 was to activate a personal locator beacon. Accordingly, she advised the adults in the group to activate their beacon.

[25] The group discussed whether to activate their beacons but decided not to as they thought Ms Smith had died. In the circumstances, the group thought that activating their beacons that night would initiate a search that would unduly place search and rescue staff at risk given the inclement weather. They decided to wait until the next day to raise the alarm.

[26] The hut warden went to speak to Ms Smith's son and the other group of hikers at about 8.00am on the morning of 2 June 2019. She realised that their beacon was not activated and considered whether she should activate the DOC-issued beacon that she had but decided to radio basecamp instead as the beacon only enabled one way

communication. She radioed the basecamp at Rotoiti at 8:45am. Staff at the basecamp informed police and a helicopter was despatched to find Ms Smith.

[27] The helicopter had an intensive care paramedic and a police officer. It departed at 9:40am and, after a brief search, located a red pack hooked onto a track pole. They could see the outline of a person approximately ten metres from the pole. They landed at 10:10am and the person, later confirmed as being Ms Smith, had a complete ice mask over her face. Ms Smith's pupils did not react when ice was removed from her face. The medic confirmed that Ms Smith was dead.

Department of Conservation Investigation

[28] DOC completed a full investigation following Ms Smith's death and provided a report to assist my inquiry ("the DOC report"). The purpose of the investigation was to identify improvements in how DOC manages visitor safety. DOC have also provided information to this inquiry following a coroner-requested report prepared by the Mountain Safety Council.

[29] The DOC report did not identify any issues with DOC's management practices that contributed to Ms Smith's death. However, several recommendations were identified for system improvements. The DOC report noted that while the recommendations may not have prevented Ms Smith's death, they have the potential to improve visitor's decision-making about risks faced in the outdoors.

[30] DOC's visitor risk management policies are aimed at managing hazards at visitor sites and informing visitors of the risks. Visitors to public conservation land are responsible for making their own decisions about risks based on the natural hazards in the environment. DOC uses the concept of 'predominant visitor group' to define the broad characteristics of users of facilities and areas. The predominant visitor groups vary according to skill and the level of risk that they are willing to accept, from those seeking short, low risk experiences to the opposite end of the spectrum where people with advanced skills are seeking a wilderness experience. The Speargrass to Angelus Route is managed for 'Backcountry Adventurers', the group with the second highest level of risk tolerance.

[31] DOC observed that many visitors to the Speargrass / Angelus track do not have the requisite level of skill. However, it is not practical in the mountain environment to build the track to fully cater for less experienced visitors. This gap is addressed via new safety signs advising visitors to check their skill and experience before proceeding further on the Speargrass / Angelus track. However, such signs cannot be used on all tracks and are placed at targeted sites associated with higher risks arising from the terrain, the impact of severe weather and the proportion of visitors who may not have the appropriate level of skill and experience to safely navigate the track.

- [32] In summary the recommendations relevant to this inquiry included:
 - i. Alteration to the Angelus Hut web page to include emphasis on winter hazards and information on the difficulties of the route in winter. This was completed in May 2020.
 - ii. Reviewing the Angelus Hut Warden Handbook ("Handbook") emergency procedures and training so hut wardens understand the required response to an emergency. The Handbook clarifies that in a medical emergency, which occurs after hours, the Hut Warden can either use the radio to make a phone call to 111 or activate their DOC-issued personal locator beacon.
 - iii. Improvements to safety signs for visitors to the site. DOC installed temporary signs and is awaiting advice on the completion of a national project to make permanent changes.
 - iv. Place a safety sign at the Angelus turnoff at Speargrass Hut. This is a with a ranger holding up their hand in manner to signal 'stop'. It reads "Decision Time!" with a large exclamation mark in a yellow box. The text on the sign reads:

"There is a long way to go and many unbridged stream crossings that can be hazardous when in flood. The most difficult and exposed section is ahead.

Feeling tired or cold?

Weather getting worse? Wind stronger/colder? Cloud coming in?

IF YES - TURN BACK! MAKE IT HOME SAFE"

Hiking in a group? ASK EVERYONE HOW THEY'RE DOING.

This safety sign was placed on the turnoff to Angelus in May 2020.

Mountain Safety Council report

[33] As part of my inquiry, I sought a report from the New Zealand Mountain Safety Council¹ (MSC) that reviewed the events leading up to Ms Smith's death, identified contributing factors and made recommendations to prevent future deaths.² The MSC identified several factors which contributed to Ms Smith's death including weather condition, track conditions, clothing, equipment, food, experience in hiking and decision making. Each of these factors is discussed below.

1. Weather conditions

[34] The weather conditions were a significant contributing factor in Ms Smith's death. Ms Smith was clearly cognisant of the weather-forecast portending inclement weather, discussing it with the owner of the Lodge she stayed at and with DOC staff at the Visitor Centre. The MetService forecast on the morning of the trip was:

> Weather forecast for Nelson Lakes National Park issued at 7:30am 1 June 2019. Occasional showers, with snow showers to 700 metres, easing later, Southwesterlies, gale at times, severe gale about higher ground. Wind at Travers Saddle (1787m): Southerly 80km/h easing at night. Wind at Visitor Centre (660m): Westerly 20km/h rising to southerly 50km/h afternoon. Free air freezing level: 1000 metres.

[35] The weather conditions were fine when Ms Smith and her son left the carpark. After they left Speargrass Hut, light snow started to fall. The forecast conditions arrived by 5.00pm, when Ms Smith was already fatigued.

2. Track conditions

¹ The New Zealand Mountain Safety Council is a national organisation which encourages safe participation in land-based outdoor activities. It works with partner organisations including the New Zealand Police, DOC and ACC.

² The report was prepared by Bevan Smith and David Mangnall; reviewed by Nathan Watson.

[36] Snow covered the track from Speargrass Hut to Angelus Hut. It got deeper the further they progressed and was up to waist depth near the top of the ridge. It became increasingly difficult to walk through and by the top of the valley, some sections required crawling on hands and knees, causing both fatigue and legs to become wet, and hypothermia more likely.

3. Clothing

[37] Senior Constable McCormack of the Search and Rescue Police Squad considered that Ms Smith's clothing was of reasonable quality but insufficient for the alpine environment. Senior Constable McCormack is responsible for the Alpine Rescue Portfolio.

[38] Ms Smith had two thermal layers on her upper body but there was no thick insulating layer on her upper body. Her woollen hat and headband were also lightweight. On her lower body, Ms Smith had two cotton layers, a thermal layer and lightweight, insufficient pair of over-trousers. The lower part of Ms Smith's body would have suffered significantly in the extreme negative temperatures.

[39] Ms Smith's gloves were also insufficient for snow conditions. While acceptable for normal hiking, they were made of microfleece and contained no wind-stopping or waterproof capacity, becoming insufficient once wet. Ms Smith also had a second pair of gloves in her jacket pocket, which she had not used, and a third pair of gloves in her pack which was a type of ski glove and would have been more suitable for the conditions. Snow was found on the ski gloves which indicated they had been used at some stage.

[40] A good quality down jacket and a sleeping bag were found inside Ms Smith's pack. A snowfoam mat was tied to the outside of the pack. These items could have made a significant difference to Ms Smith's warmth in the alpine environment. Ms Smith had not packed any shelter, such as a bivvy bag or tent.

[41] Ms Smith's clothing was generally adequate for most tramping conditions, and, if used appropriately, could have helped to avoid hypothermia. However, the MSC identified the use of cotton thermal leggings as contributing to hypothermia. MSC opined that the combination of sweating from climbing Speargrass Valley and walking through deep snow would have resulted in Ms Smith's legs becoming quite wet. When dry, cotton helps to insulate the skin by trapping warm air; once wet, it loses any insulating properties as it dries by leaching heat from the body. Over time so much heat would have drained from her legs that they became numb, lost sensation and restricted blood circulation. Eventually, she would have lost the ability to control her legs. If Ms Smith had not been wearing cotton leggings, her thermal leggings may have worked better as thermal leggings retain their insulating properties when wet.

4. Equipment

[42] Ms Smith's decision not to rent a beacon suggests that she may have considered the trip as relatively low risk. If so, it is possible that her planning, preparation and ontrack decision making did not consider the potential risks. Although it was not a causal factor, the MSC noted that, a beacon or other communication device used early enough, may have resulted in a different outcome. Earlier on the same day two people from a different group were rescued from Robert Ridge in similar conditions.

[43] Some of the equipment Ms Smith had with her, could have been used to survive the night by, for example, digging down into a snowdrift and sheltering from the wind; emptying their packs and using their packliners as an emergency shelter; huddling together inside their sleeping bags, with their snowfoam mat underneath to insulate them from the ground.

5. Food

[44] The MSC report noted that Ms Smith and her son did not appear to have any breaks as they headed up Speargrass Valley. A brief stop at Speargrass Hut, meant a full lunch was not eaten. Eating sufficient quantities of food, carbohydrates in particular, is very important when tramping in cold environments as the body consumes carbohydrates rapidly to fuel core muscle groups, as well as keep the body warm. Good tramping practise is to eat larger meals than usual, stop regularly for snack breaks and stay hydrated.

[45] Her son's description of Ms Smith as hungry, tired and thirsty, illustrates that she was feeling the effects of a lack of food and water. Compounding the problem, the further they travelled, the harder it became to eat or drink as the cold temperatures froze their water and made accessing food from their packs extremely difficult.

6. Experience

[46] Ms Smith and her son had the experience, knowledge and equipment to hike to Angelus Hut in fine weather conditions. As such, following advice about bad weather conditions, they initially changed their plan and decided to hike Paddy's Track and stay at Bushline Hut. Unfortunately, Ms Smith changed her mind at the Mt Robert carpark, when she saw that others were hiking to Angelus Hut.

[47] As the warning signs started to appear, with Ms Smith lagging behind, she did not make the key decision to stop and turn back to Speargrass Hut. The MSC noted that even experienced trampers can struggle to make the decision to turn around having already invested in the hike, and by the time Ms Smith became hypothermic, she had lost the cognitive function necessary to make such a decision. With more knowledge of the signs of hypothermia, she may have made an earlier decision to turn around to Speargrass Hut or to manage the hypothermia.

7. Decision making

[48] The MSC opined that the most significant contributing factor in Ms Smith's death were the decisions she made on the day and that two heuristic traps (social proof and scarcity), which appear to have influenced Ms Smith.

[49] Social proof involves looking to others for guidance in an ambiguous situation. Here, it involved being affected by other people attempting the track, making it safe in Ms Smith's mind. Ms Smith saw others in the carpark and joined a group going to Angelus Hut. The effect of falling into this heuristic trap was that she may not have considered how much time they needed to reach Angelus Hut. Ms Smith may also have, at some level, considered her and her son to be followers of the other group, rather than considering the risks and making decisions independently.

[50] The second heuristic trap identified by the MSC is that of scarcity. This occurs in situations where there is a small window of opportunity to achieve a goal, resulting in rushed decisions or insufficient consideration of the risks involved.

[51] Further, Ms Smith and her son had already deferred a hike over Easter weekend to Angelus Hut. This influenced her decision to hike to the Angelus Hut rather than the shorter and safer tramp to Bushline Hut.

[52] The MSC opined that the effect of scarcity was that once the decision had been made to carry on from Speargrass hut with the other group, it became a race against time. The pair did not take adequate rest breaks, missing food and water. Perhaps critically, Ms Smith did not have the opportunity to assess their progress and calmly evaluate whether they should turn back.

MSC Conclusion

[53] The MSC concluded that a number of factors contributed to Ms Smith's death. Critical among these were her decision to proceed to Angelus Hut, likely influenced by others going and failing to turn back once it was clear that she was struggling. The severe weather and challenging track conditions were significant contributors. Low temperatures, gale-force winds, waist-high snow at points and low visibility made progress extremely challenging. Compounding matters was the lack of food, drink and rest, as well as cotton leggings sapping heat from Ms Smith's legs. All of this contributed to Ms Smith developing hypothermia causing a decline in her ability to make decisions.

Potential recommendations and comments

[54] A Coroner may make specified recommendations and comments in relation to a death which may, if drawn to public attention, reduce the chances of further deaths in similar circumstances.³

[55] In its report, the MSC suggests a number of recommendations and comments, each of which I consider below, together with responses and information from the affected people or entities.

For trampers and hikers

[56] The MSC made the following comments for trampers and hikers:

- (a) Act on advice given by trusted sources such as DOC visitor centre staff;
- (b) Always carry an emergency communications device, whenever heading into the backcountry or outside of reliable cell phone coverage.
- (c) Consider the experience and fitness levels of all members of your group and anticipate how the terrain may change in different weather conditions. Allow enough time to complete your trip in daylight hours and have alternative plans in case it takes longer, or conditions change.
- (d) Allow enough time to take regular rest breaks to eat and hydrate, particular in cold and wet conditions. If this is not possible, plan for refuelling or turning back.
- (e) Be prepared to make early and conservative decisions to stop and turn back, especially when encountering terrain and weather conditions beyond your experience and fitness.
- (f) Do not wear cotton layers as they draw heat away from the body when wet.
- (g) Always carry some form of emergency shelter, such as a tent fly, tarpaulin or bivvy bag on all tramping trips, even in summer.
- (h) Learn to identify the signs of hypothermia and act quickly to get warm again.
- [57] I endorse these comments.

[58] The MSC also considered the decision of the other hikers in Angelus Hut not to activate their personal locator beacon. They were told that Ms Smith had died, and they were concerned about unnecessarily risking the safety of other people in the severe weather conditions. These concerns were genuine and motivated by a laudable desire not to risk other lives. No personal criticism can be made of decisions that were made in tragic and highly stressful circumstances. Discussion of this issue is aimed at providing guidance to prevent future deaths.

[59] The MSC emphasised that the responsibility of deciding whether it is safe to respond in an emergency rests solely with the emergency response authority, either the New Zealand Rescue Coordination Centre or the Police. These authorities would have assessed the situation and considered the risks to the rescuers. Individual hikers should rely on their judgement and activate devices / beacons when a person's life is or may be at risk.

[60] DOC agrees with the MSC report on this issue and advises that the promotion of beacons is a key area of focus for it. Since 2019 DOC has provided information on beacons on its website and on social media. It lists beacons in the gear section of the information sent to people with bookings at Angelus Hut prior to their trip. DOC has beacons for rent at most of its visitor centres.

[61] I endorse MSC's comments that trampers / hikers who have a beacon or emergency communication device should not hesitate to activate it when a person's life is or may be at risk. The relevant emergency response authority will make appropriate risk assessments and respond accordingly.

For the Department of Conservation

[62] The MSC observed that the volunteer hut warden did not know that the radio could be used to call 111, raising questions about the training given to volunteer hut wardens by the DOC. The MSC recommended a national review of hut training to address this issue and that emergency procedures were put in place to provide guidance to hut wardens.

[63] DOC advises that changes have already been made in the Angelus Hut Warden Handbook and training programme. It is developing a national hut warden standard operating procedure. The standard operating procedure will set out the role of hut wardens including in emergency situations. This document is being drafted and will be completed in 2022.

For organisations involved in the emergency retrieval and care of hypothermic patients

[64] The MSC noted that Ms Smith's death was confirmed after a St John New Zealand ("St John") intensive care paramedic carried out an assessment of her to ascertain whether she had any signs of life. Based on St John's Clinical Procedures and Guidelines ("the Procedure"), MSC have raised whether consideration was given to delaying the pronouncement of death and transporting Ms Smith to a hospital with the facilities to provide cardiopulmonary bypass or ECMO, while she was warmed. The Procedure states as follows:

"Because the metabolic rate drops significantly with severe hypothermia, it is possible for patients to survive prolonged cardiac arrest secondary to hypothermia.

Survival...usually requires the patient to be transported to a hospital with the facilities to provide cardiopulmonary bypass or ECMO, while the patient is warmed."

[65] St John advise that Ms Smith was carefully clinically assessed. Her body was frozen solid, and she was not showing any signs of life. She was unresponsive, pulseless, not breathing and had fixed dilated pupils. The Intensive Care Paramedic deemed resuscitation efforts to be futile and pronounced her dead. The Clinical Director of St John, Dr Tony Smith, advised that, in his clinical opinion, the decision to declare Ms Smith dead was correct.

[66] Dr Smith noted that the while it is possible for a very small proportion of patients who have cardiac arrest following hypothermia to survive, the challenge is the window of opportunity is very narrow and many people are not found until well after suffering cardiac arrest.

[67] As there is no clinical evidence to suggest that St John's assessment of Ms Smith's death was incorrect, I make no recommendations or comments regarding this issue.

Findings

[68] I find that Tracey Alison Smith, aged 55, died at Speargrass Valley in the Nelson Lakes National Park on 1 June 2019.

[69] The cause of death was hypothermia.

Restrictions on publication

[70] Pursuant to section 74 of the Coroners Act 2006, I am satisfied it is in the interests of decency and personal privacy to prohibit the publication of photographs of Ms Smith taken during the investigation into her death. I am satisfied that such interests outweigh the public interest (if any) in the publication of that evidence.

Condolences

[71] I extend my sincere condolences to the family and friends of Ms Smith for their loss. In particular, I acknowledge her son who acted bravely to assist her in tragic and extremely distressing circumstances.

Coroner Duggal