



*Figure 1: Recovery of helicopter wreckage*

**OPERATION WALLIS**  
**SEARCH AND RESCUE OPERATION**  
**21 – 23 JULY 2018**

**PREPARED FOR NZSAR SECRETARIAT BY:**

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**SEPTEMBER 2018**

*Condolences:*

*The condolences of everybody that has been involved with this Operation are extended to the wider Wallis family.*

***Kua hinga te tōtara i te wao nui Tane***

***Moe mai ra***

***The mighty Totara has fallen in the forest of Tane***

***Rest in Peace.***



***Acknowledgement***

I would like to acknowledge the support and valued input received from NZ Police, Royal NZ Navy, Police National Dive Squad, Rescue Coordination Centre NZ, LandSAR, Aspiring Helicopters and the Wanaka SAR volunteers.

Without their support, and that of NZSAR, this review would not be possible.

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## INTRODUCTION

At 12.54 pm on Saturday 21 July 2018, Matt Wallis flew his Robinson R44 helicopter from the Alpine helicopters base, Wanaka airport, across Lake Wanaka and along a stretch of water known as Stevenson's arm, heading for Minaret Station, on the Mt Aspiring National Park.

Just north of Stevenson's Island, an aerial catastrophic event occurred, resulting in the helicopter crashing into the lake at speed. Alpine helicopter company had two helicopters on the scene of the crash, within 30 minutes of the aircraft being identified as overdue.

RCCNZ led a Category II Search and Rescue Operation for the first 8 hours, prior to the operation being transferred to Police as a Category I Search and Recovery operation.

This operation was very well executed over a three-day period, with the body of the pilot recovered and returned to family with dignity. The aircraft was also recovered and delivered to investigators from Transport Accident Investigation Commission for further examination.

This review has been undertaken to take a critical look at the Search and Rescue / Recovery Operation, identifying what was done well, and what lessons can be taken away for those involved in future Search and Rescue Operations.

## RESPONSE (DAY 1)

### INITIAL NOTIFICATIONS

At 12.54 pm on Saturday 21 July 2018, Matt Wallis left Wanaka airfield, the base of Alpine helicopters, on a personal trip to Minaret Station on the Mt Aspiring National Park. Matt was flying **ZK-HTB** a Robinson R44 helicopter and was the only person onboard. At the time the weather had a wind from the north north west of 8 knots gusting 11 knots with visibility of 20 kilometres.

Alpine helicopters track the movement of their helicopters with the use of *Spidertracks*, a satellite-based aircraft tracking system. At 1.03 pm it was noticed that the *Spidertracks* notification had not activated, and in accordance with their policy, at 1.08 pm they commenced their overdue aircraft procedure, with attempted contact to the aircraft. *Spidertracks* were contacted to ascertain if there was a fault with the system, there was not. Minaret Lodge was contacted to ascertain if the pilot had arrived, he had not.

At 1.16 pm, Alpine helicopter **ZK-HDI**, based at Minaret Station commenced a flight reconnaissance, and flew the intended flight path, from Minaret back towards Wanaka airport.

At 1.20 pm Alpine helicopter **ZK-HRM** who was operational with passengers, was diverted to immediately commence a search along the flight path of the missing helicopter. At the same time, Alpine helicopter **ZK-HBN** left from Wanaka base to carry out similar flight path reconnaissance. Once two craft were airborne, **ZK-HRM** was released to complete the passenger transportation.

At 1.23 pm, Alpine helicopters contacted RCCNZ, to alert them of a possible overdue helicopter. Alpine advised that the craft **ZK-HTB** had departed Wanaka with 1 person on board, heading for Minaret Alpine Lodge. The last report from *Spidertracks* was at 1.03 pm and was a good report. The helicopter was shown as flying at 1453 feet above sea level, (approximately 500 ft above the lake

surface), and tracking normally over Lake Wanaka. The weather conditions at the airport were cloudy with light rain. Alpine helicopters advised they had deployed three helicopters to carry out reconnaissance on the overdue aircrafts flight path, attempting to locate the craft.

In accordance with international search and rescue procedures, RCCNZ recorded this as an **Alert notification**, and identified the Search Mission Controller (Incident Controller), and Senior Search and Rescue Officers available to assist with the management of the operation, should it escalate.

At 1.32 pm aircraft **ZK-HDI** confirmed the location of an oil slick in Stevenson’s Arm. The location was marked using GPS and an immediate grid search of the area and nearby shoreline were commenced.

**ZK-HBN** returned to Alpine helicopter base to uplift a buoy to mark the oil slick location, and at 1.35 pm an additional Alpine helicopter, **ZK-HAA** left to assist in the search.

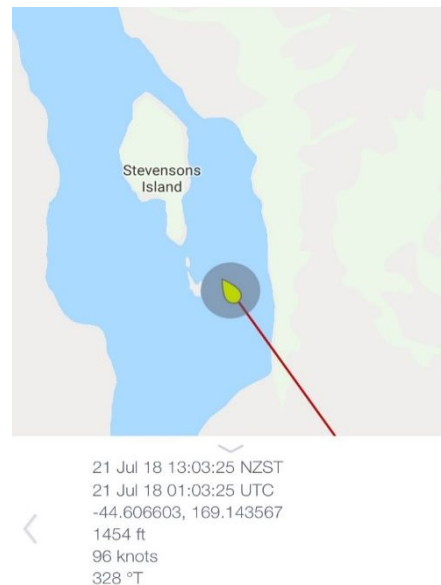


Figure II: Last tracked reference for ZK-HTB

#### CATEGORY II SEARCH AND RESCUE INITIATED

At 1.40 pm Alpine helicopters contacted RCCNZ to advise that the missing helicopter had not been located. RCCNZ immediately went to **Distress Phase** and advanced the operation as a Category II Search and Rescue operation. RCCNZ tasked Alpine helicopters to continue their search role until support craft could be deployed into the area.

At 1.42 pm Alpine helicopters also contacted Police Emergency (111) and spoke with Northern Police Communications. They advised Police of the same information on the missing Robinson R44 helicopter.

At 1.42 pm, RCCNZ contacted Aspiring Helicopters, and tasked their lead pilot to ready their helicopters and a support SAR crew for the craft. The Alpine Cliff Rescue (ACR) squad in Wanaka were activated.

At 1.44 pm, Alpine helicopter **ZK-HDI** landed on Stevenson’s Island.

At 1.48 pm Southern Police Comms contacted RCCNZ to advise of the missing helicopter. RCCNZ confirmed they had been informed and were leading the Operation as a Category II Search and Rescue. At 1.49 pm Southern Police Communications contacted the Police SAR coordinator in Queenstown and advised of the situation and that RCCNZ were leading the operation.

#### INITIAL ACTION

At 1.54 pm RCCNZ contacted Alpine helicopters to ascertain why **ZK-HDI** had landed on Stevenson’s Island. They confirmed sighting of the oil slick and debris in the water, 1 kilometre north of the island. Alpine advised they had another helicopter heading to the search location. RCCNZ advised they did not want any more aircraft in the area.

At 1.56 pm Queenstown Police SAR co-ordinator contacted RCCNZ and was briefed on the situation. At the same time, RCCNZ contacted Otago helicopters and tasked a helicopter with paramedic capability to deploy to the area.

At 1.58 pm RCCNZ deployed two Aspiring helicopters to Wanaka to uplift their specialist crew. They then contacted Wanaka Coastguard and requested an immediate launch and travel to Stevenson's Arm. A second vessel was also requested.

At 2.00 pm the on-duty Wanaka Police officer contacted RCCNZ, to confirm local Police availability. RCCNZ briefed him on the current situation. The on-duty officer then contacted a Wanaka Police SAR Coordinator who was out of district, and who confirmed he would immediately return.

At 2.00 pm RCCNZ contacted Alpine helicopters and requested **ZK-HBN**, to take on-scene coordination of the helicopters and carry out a detailed search pattern over the wreckage area, until Aspiring helicopters arrived with their two craft and SAR crew.

Alpine helicopters were also advised of the pending arrival of Otago helicopter with the paramedic on board, and the deployment of Wanaka Coastguard. A request was made that **ZK-HBN** assess the situation and stand down some of the Alpine company helicopters, once support arrived.

At 2.09 pm the Wanaka SAR Incident Management Team (IMT) were contacted by RCCNZ. At this point, only the on-duty Wanaka Police officer was present. A request was made for a Police officer to go to Alpine Helicopters base as soon as possible. Confirmation was given that Coastguard had been paged and inquiries were underway for a second vessel to deploy.

At 2.19 pm Wanaka IMT were in the process of standing up and requested a briefing from RCCNZ.

At the same time, Aspiring helicopters contacted RCCNZ confirming they were at Wanaka loading Alpine Cliff Rescue (ACR) personnel and their equipment into two helicopters, and were ready to deploy to Stevenson's Arm. The Chief pilot was tasked to establish communication with the pilot of ZK-HBN, and then coordinate search patterns with three aircraft, standing the remaining aircraft down.

At 2.30 pm, the first of two helicopters depart Wanaka with ACR crew on board, to Stevenson's Arm.

At 2.34 pm Wanaka Coastguard departed for Stevenson's Arm.

At 2.36 RCCNZ were advised that the Coastguard communications were being operated from the Wanaka IMT base. There was also a Police presence, along with LandSAR personnel arriving to staff the IMT. Coastguard would operate off Channel 64 and a second vessel '*Oanaka*' (from Eco-Wanaka) was about to launch. RCCNZ requested Coastguard to dual watch on radio channel 16, so that aircraft could communicate directly with them.

At 2.39 pm Aspiring helicopters **ZK-HAH** and **ZK-HMM** confirmed with RCCNZ they were on scene.

RCCNZ then contacted Otago helicopter **ZK-HUP** and advised that **ZK-HAH** Aspiring Helicopter pilot was the appointed On-Scene Air Traffic Controller on behalf of RCCNZ. **ZK-HUP** was also advised there were several helicopter aircraft currently in the area, along with a Coastguard vessel operating off Channel 16.

At 2.44 pm, Coastguard vessel was confirmed on scene.

At 2.45 pm, **ZK-HAH** landed on Stevenson’s island and met with **ZK-HBN**. **ZK-HAH** then contacted RCCNZ and advised that he intended to carry out an expanding search from the identified oil slick. He confirmed there was wreckage on the island and intended to put the ACR crew from the second helicopter (**ZK-HMM**) on the island to search for the missing pilot. He would also task the Coastguard vessels to assist with the water search. **ZK-HAH** confirmed **ZK-HBN** from Alpine Helicopters, would stand all other helicopters down.

At 2.45 pm vessel *Oanaka* confirmed they were on scene.

At 2.53 the Wanaka Police officer contacted RCCNZ confirming he was at the Alpine Helicopter base. He arranged for Alpine helicopters to contact RCCNZ on their return to base. RCCNZ was also advised that a Wanaka Police SAR Coordinator was travelling from Queenstown to the Wanaka IMT base.

At 2.58 the Wanaka Police SAR Coordinator contacted RCCNZ whilst enroute to Wanaka and received a situation report.

At 3.00 pm **ZK-HAH** tasked the two Coastguard vessels to carry out shoreline and lake edge searches and recommended to Wanaka IMT that 12 personnel would be required to complete the initial search of Stevenson’s island.

At 3.06 pm RCCNZ contacted the Coastguard radio communicator. RCCNZ received an update that one coastguard vessel was carrying out a search of the island shoreline, and the other was searching the lake edges under the direction of the helicopter.



*Figure III: Oil slick identified on Lake Wanaka*

At 3.11 pm RCCNZ confirmed Otago helicopter **ZK-HUP** with medivac capability was also operational in Stevenson’s Arm.

At 3.18 pm RCCNZ confirmed all Alpine helicopters had returned to their base and were speaking with Police.

At 3.25 pm the pilot of **ZK-HBN** contacted RCCNZ, advising that the wreckage on the island was at the northern tip and the oil slick was 400 – 500 metres out from that. It was **ZK-HBN**’s belief the pilot and the aircraft were in the lake. He confirmed the pilot was Matthew Wallis.

At 3.25 pm Otago Helicopter **ZK-HUP** contacted the Wanaka IMT and advised they were returning to Wanaka to uplift two air observers.



At 3.30 pm vessel *Oanaka* advised Wanaka IMT that they had completed the shoreline search of the peninsula side and would now commence search of eastern beach side.

At 3.31 pm RCCNZ received an update from **ZK-HAH**. He advised that he had marked the oil slick position on *tracplus*.

He had also communicated with the two Coastguard vessels and they were shoreline searching the island and coast of the lake.

**ZK-HAH** was satisfied that no further searching of the lake was needed. He had dropped one team on the island and was about to deploy a further team. The wind in the area was calm with a very slight westerly drift of the oil / fuel slick.

At 3.35 pm RCCNZ contacted the Wanaka Police SAR coordinator, who advised he was just arriving in Wanaka.

At 3.36 pm **ZK-HAH** uplifted a further three LandSAR search personnel for deployment on Stevenson's Island.

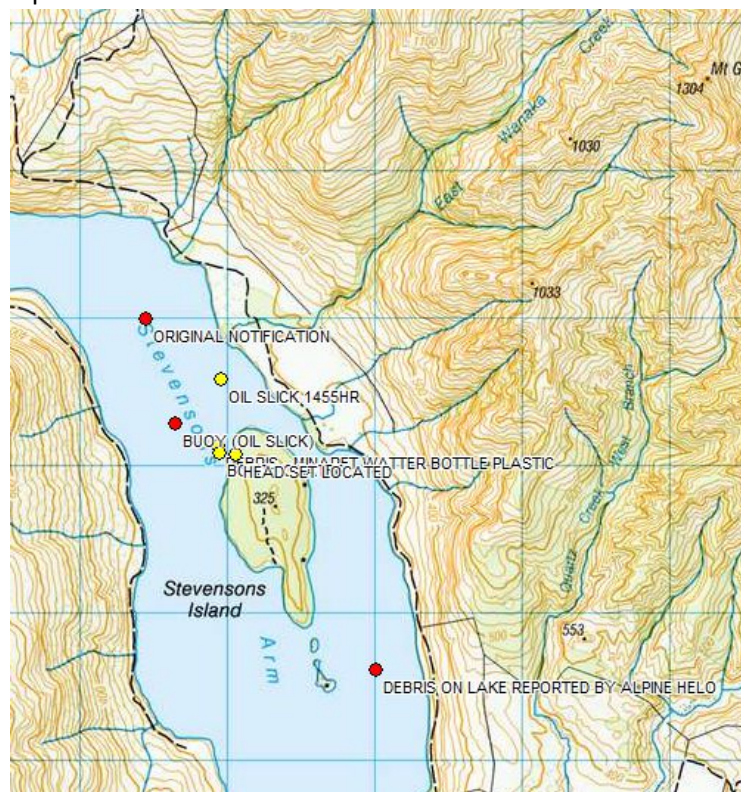
At 3.37 pm Coastguard advised Wanaka IMT that they had found Minaret water bottles and debris and had secured items noting GPS location.

At 3.38 pm Wanaka IMT received an update direct from the island search team, advising they were doing a grid search of the island, and had been told there were more search areas to be completed.

At 3.41 pm RCCNZ contacted coastguard and requested their vessel take spot depth readings at the oil slick position and out 100m from that position. RCCNZ also contacted **ZK-HAH** who confirmed the search was progressing well, indicating they were deploying more searchers to complete the searching of Stevenson's island. The aircraft debris was spread over an area of approximately 400 metres. **ZK-HAH** would search one side of the Island and the lake. **ZK-HUP** would search the other side. Alpine Helicopters had dropped a buoy into the lake to mark where the oil slick was located.

At 3.49 pm **ZK-HAH** uplifted a team of three to assist in the island search. **ZK-HMM** picked up a second team of three and Otago helicopter **ZK-HUP** uplifted a third team of three.

At 3.52 pm Wanaka Coastguard advised RCCNZ they had located a first aid kit and Miranet water bottles. The position was noted by GPS, and the items photographed, retrieved and bagged as exhibits. The Second vessel had located nothing and headed along the eastern shoreline.





At 3.52 pm the Wanaka IMT deployed three SAR personnel in a four-wheel drive to carry out a shoreline search with the vehicle.

At 3.58 pm, the Wanaka IMT identified a second Wanaka Police SAR coordinator who had arrived, as their Incident Controller.

At 4.00 pm, Coastguard confirmed the recovery of a boot and a head set. The GPS position was again noted, and the items secured as exhibits.

At 4.03 pm the Wanaka IMT advised **ZK-HAH** of findings on the western and north western side of island. At 4.04 pm, RCCNZ were also advised of the find by **ZK-HAH**.

At 4.12 pm, **ZK-HAH** contacted Wanaka IMT confirming which staff had been deployed on the ground, and which staff remained air observers in his helicopter.

At 4.15 pm, RCCNZ contacted the Wanaka Police SAR co-ordinator who was still enroute to the IMT Base. He was briefed on the current situation and it was recommended he notify the Police National Dive Squad (PNDS). A telephone discussion was had addressing areas of island still requiring searching, and the need for staff to complete that search.

At 4.20 pm Wanaka IMT tasked two personnel to drive to observation point and deploy a link box to enhance communications between searching staff on Stevenson's Island, and the IMT base at Wanaka.

At 4.22 pm the IMT Coastguard radio communicator contacted the Coastguard vessel and tasked them to ascertain depths of lake at the oil slick location. *Oanaka* was to remain uplifting debris and exhibits located.

At 4.33 pm **ZK-HMM** advised Wanaka IMT they were heading back to their hangar to refuel. Once they had refuelled, **ZK-HAH** would also refuel.

At 4.35 pm the Police National Dive Squad received its initial notification from Queenstown and commenced planning with a view to being on site the following day.

At 4.40 pm Wanaka Coastguard confirmed the depth of the lake at the oil slick marking as 45 – 47 metre.

At 4.43 pm **ZK-HAH** contacted Wanaka IMT indicating Otago helicopter **ZK-HUB** needed to return to their base in near future and sought clarity on what was to be done with air observers on board.

At 4.44pm RCCNZ contacted **ZK-HAH**. They had just completed their third aerial search of the island. **ZK-HAH** advised that the LandSAR teams had completed one search of the western side of the island where most wreckage seemed to be located. RCCNZ advised they were happy for him to collect the LandSAR teams and return to base. RCCNZ requested a message be passed to **ZK-HUP** they could also return to Dunedin.

At 4.44 pm Wanaka IMT Police SAR coordinator contacted RCCNZ, who confirmed they wanted Wanaka LandSAR to demobilise from Stevenson's Island, leaving Coastguard to continue searching. RCCNZ authorised Wanaka IMT to utilise the aircraft to assist in transporting search teams from the island back to Wanaka base.

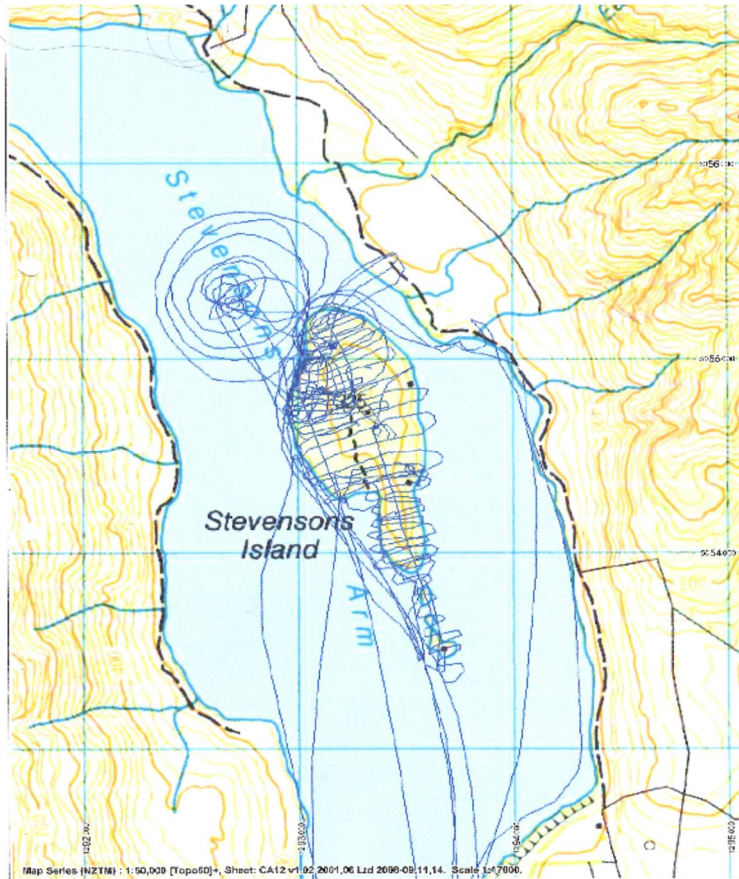


Figure IV: Aspiring helicopters flight track

At 4.47 pm **ZK-HUP** contacted Wanaka IMT, and was tasked by Wanaka IMT that after refuelling, they return to pick up a search team and return them to Wanaka base. At 4.52 pm **ZK-HUP** contacted RCCNZ, seeking approval for the IMT request. Deployment approved.

At 4.48 pm the Police Dive Squad was contacted by the Wanaka Police SAR coordinator and fully briefed on the operation. As part of planning, the dive squad identified that their members could spot dive to a maximum depth of 40 metres, however if between 40 and 55 metres, Police utilised the services of the Royal NZ Navy (RNZN) divers. Logistical requirements on the water were discussed including the need for a barge and support vessels for transportation of

staff and equipment, and platform to operate from. A broad plan of action was agreed, involving an initial dive using sonar equipment to confirm the location of the aircraft wreckage and possibly pilots' body. Once located, decisions would be made on the method of examination and recovery. RNZN staff were in turn contacted by PNDS to confirm availability and give an initial warning of possible deployment requirement.

At 4.56 pm **ZK-HAH** advised they were returning to the landing zone with search staff, **ZK-HMM** advised similar, and both would be returning to uplift other teams.

At 5.00 pm **ZK-HAH** advised RCCNZ that the search teams were standing down for the day and being removed from the island.

At 5.00 pm Otago helicopter **ZK-HUP** completed their transportation and advised Wanaka IMT they were returning to Dunedin.

At 5.00 pm Wanaka IMT were contacted by the link box communications team and advised that the link box had been established, but search teams still could not be contacted. The Comms team were advised the search teams had been stood down and returning to base, and they could also return to base with link box.

At 5.15 pm Wanaka IMT confirmed all searchers had been returned from Stevenson's Island, all helicopters had returned to their bases, and the two vessels were returning to Wanaka.

At 5.28 pm, Wanaka Coastguard and *MV Oanaka* confirmed they were back at Wanaka wharf.

## HOT DEBRIEFS

At 5.27 pm ZK-HAH contacted RCCNZ and a telephone hot debrief of the afternoons search was undertaken.

At 5.45 pm Wanaka IMT carried out a hot debrief of the LandSAR and ACR search teams, in preparation for the next day's operations.

## POLICE NATIONAL DIVE SQUAD

At 6.29 pm the Police Dive Squad notified Royal NZ Navy of the situation and the possible need for naval personnel and equipment. The equipment utilised could not travel on commercial flights, so defence aircraft would also be required for the operational deployment.

At 6.30 pm the Police Dive Squad contacted the Wanaka Police SAR Coordinator to further discuss and plan the proposed water-based search and recovery operation. This included considerations if the pilot was not with the aircraft.

At 9.30 pm an email summarising the situation and formally requesting release was forwarded from Wanaka IMT to Police National Dive Squad, before being forwarded to Police National Headquarters for final deployment approval.

At 10.00 pm approval was received, requiring that an on-scene evaluation be initially undertaken to establish accurately the depth and terrain involved, and confirmed location of aircraft and/or body with dive and sonar prior to any request for additional Defence assets. The on-call dive squad members were then contacted and tasked to be at their base at 6.00 am for briefing and deployment.

## TRANSFER OF COORDINATION

At 5.20 pm RCCNZ contacted the Wanaka Police SAR co-ordinator and a telephone hot debrief of the days search was undertaken, followed by open discussion of the next days planned activities. Discussion also commenced covering the formal handing over of search coordination from RCCNZ to Police, and the associated documentation sign off.

At 8.09 pm, following preparation of documentation, Wanaka Police SAR coordinator confirmed Police had taken over coordination of Operation WALLIS as a Category I incident. The two Wanaka Police SAR coordinators present, then continued planning the next day's search activity and pending personnel arrivals.

## FINDINGS (DAY 1)

1. Alpine helicopters are to be commended for the professionalism in the way they responded, following their own procedures for an overdue aircraft, and then removing themselves from the search. The initial awareness that the aircraft was missing (1.03 pm), immediate internal response and deployment of aircraft to commence reconnaissance flight, through to the

formal notification to RCCNZ (1.23 pm) provided the highest likelihood of successful rescue, should that have been an option.

2. RCCNZ were initially notified at 1.23 pm of an overdue aircraft and treated this as an *Alert phase*. Staff were briefed, and roles and responsibilities identified. At 1.40 pm when the second call was received from Alpine helicopters confirming the aircraft still missing, a Category II Search and Rescue Operation was immediately actioned.

Within 1-hour of RCCNZ activation, Aspiring helicopters were notified, prepared, travelled to Wanaka and uplifted two Alpine Cliff rescue teams for deployment into the lake and were on scene searching.

Similarly, Wanaka Coastguard were activated, and within 45 minutes of notification had launched and were on site at Stevenson's Arm searching.

The notification and response times of the personnel involved are to be commended.

3. Hot telephone debriefs were held between RCCNZ and Alpine helicopters, RCCNZ and Aspiring helicopters, and RCCNZ and the Wanaka Police SAR Coordinator. A hot debrief was also held in Wanaka with the Wanaka LandSAR staff and Wanaka IMT. These hot debriefs ensured all key issues were identified early, and matters needing ongoing attention during the SAROP had focus.
4. The formal handover from a Category II RCCNZ led search and rescue to a Category I Police led search and recovery went without issue. The transition occurred after all search teams (land, water and air) were stood down for the day, so there was no chance of ambiguity as to who was lead agency.
5. Media was well managed throughout day one by RCCNZ, who deferred to the Maritime NZ media team. Regular releases were made including the opportunity for sound bites as required. Although media sought identity of the pilot, this was not released.
6. Family of the deceased pilot was managed by Police. A Wanaka Police officer was initially deployed to the Alpine Helicopter base, and Victim support personnel were also deployed to assist. Two Police Officers were appointed as the primary Police family liaison for the entirety of the operation.
7. Police were notified shortly after RCCNZ at 1.42 pm, however had limited on site response capability. A Queenstown based Police SAR Coordinator was initially advised at 1.49 pm. A Wanaka based Police SAR coordinator who was in Queenstown, was advised at 2.00 pm and immediately travelled to Wanaka.  
At 2.58 pm the Wanaka based coordinator contacted RCCNZ whilst enroute to Wanaka and received a briefing on what had occurred. At 3.35 pm RCCNZ contacted the Wanaka based coordinator. who indicated he was just arriving at Wanaka. At 4.15 pm the coordinator was again provided a briefing update from RCCNZ, with a recommendation that he contact the Police Dive Squad and have them activated, which he did.

Unbeknown to RCCNZ, a second qualified Police SAR coordinator from Wanaka had also arrived at the Wanaka IMT at 3.58 pm, taken charge of the IMT and adopted the role of On-scene coordinator, (as per an existing agreement between RCCNZ and Wanaka LandSAR). RCCNZ communicated with the transiting SAR coordinator, unaware the Wanaka IMT was fully operational or that it was tasking at a local level.

As the afternoon had progressed, LandSAR personnel were deployed onto Stevenson's Island without the knowledge of RCCNZ, until RCCNZ received a sitrep from their appointed Air Traffic Controller. Subsequent LandSAR deployment and later recovery of personnel, were all managed by Wanaka IMT in consultation with the appointed Air Traffic Controller. RCCNZ had no oversight, command or control of this phase of the search. Very little communication occurred between the RCCNZ and the IMT, resulting in RCCNZ deployed assets reporting to two locations – IMT and RCCNZ.

Although Wanaka IMT may have been under the apprehension they were the On-scene Coordinator as per the existing agreement with RCCNZ, it was imperative RCCNZ know when they were fully operational and RCCNZ needed to make the decision to formally appoint. This did not occur.

*(It should however be noted that following this operation at a subsequent SAROP, RCCNZ appoint the Wanaka IMT as the On-Scene Coordinator early, and this operation functioned very smoothly).*

8. The Aspiring helicopter pilot **ZK-HAH** is an experienced SAR pilot and known to RCCNZ personnel. He was deployed as the lead pilot and tasked with taking control of the incident once on-scene. He was formally appointed by RCCNZ as the On-Scene Air Traffic Controller.

This pilot was tasked with managing the aircraft linked to the company of the crash victim, deployment of two Coastguard vessels, management of two other search aircraft operational, flying his own aircraft with search personnel on board, liaising with RCCNZ, liaising with Wanaka IMT base and liaising with LandSAR search teams, later deployed on the island.

Concerns were raised by search personnel that the pilot was overloaded, trying to manage communications along with so many other issues going on around him.

When interviewed, the pilot had no issues with the demands placed upon him. He acknowledged his extensive involvement in SAROPs, and his extensive flying history. He was happy to simply prioritise flying, then communications, then taskings. He did however identify the issue of working to two masters, RCCNZ who were the operational lead, and the Wanaka IMT who grew as the operation progressed. There was no formal transition of command, if Wanaka IMT were to be the On-scene coordinator.

9. In consultation with LandSAR NZ, concern was also raised over the command structure and procedural issues. In performing LandSAR roles, under their national Service Level Agreement, LandSAR teams or resources should only be called out:
  - Directly by a coordinating authority (Police for Cat 1 or RCCNZ for Cat 2)
  - By Police for Cat 2, if Police have been appointed as the On-Scene Coordinator by RCCNZ

- By a local LandSAR IMT, if the IMT has been authorised/tasked to perform the OSC role (or parts of it) by a coordinating authority (there should be clarity if any local arrangements have been made on an ongoing basis)
- LandSAR teams or resources should never be called out by another SAR resource or contractor (that is not a coordinating authority or formally appointed OSC).

During this operation, the appointed Air Traffic Controller was assessing, and tasking the deployment of ground search teams. This resulted in people with specific skills being under-utilised i.e. trained air observers undertaking ground searches, and trained ground searchers being deployed as air observers. These assignments should have been tasked by either the On-scene coordinator (Police) or Incident Controller (RCCNZ).

10. Once Aspiring helicopters was contacted by RCCNZ, Aspiring helicopters contacted a coordinator of the Alpine Cliff Rescue (ACR) team to activate a skilled rescue crew. The ACR were supported by two river rescue personnel and equipped with dry suits and flotation equipment including flotation helmets, on the possibility that a crew member may have to jump from the helicopter into the lake to advance a rescue in the water.

The ACR team and River Rescue team, although equipped for the task, have not trained or undergone any form of certification for jumping from a helicopter into the lake to affect a lake rescue.

11. Harbour Master - during the operational debrief, it was identified that the harbour master was not notified of the accident in the lake and found out through the media that evening. His involvement enabled the crash site area to be closed to all vessels other than those involved in the operation.
12. No sample was taken of oil slick at earliest opportunity – this sample may assist TAIC to identify source, and possible contributing factors for air accident.
13. Although the Police National Dive Squad were activated, and RNZN were advised, Navy personnel and equipment could not arrive any earlier than Monday due to transportation issues. The equipment could not travel on commercial airlines. To travel by road from Auckland would take at least 24 hours. The first scheduled defence flight available was Monday morning. As there was little risk of the pilot's body or wreckage being compromised by conditions, a special transportation flight was not justified or requested. During the assessment stage, PNDS saw this as a recovery operation, looking to gather best evidence through video and minimal disturbance to wreckage, not an urgent rescue operation.



## SEARCH AND RECOVERY (DAY 2)

### PLANNING AND DEPLOYMENT

At 6.00 am, the Wellington based Police National Dive Squad arrived at their base to prepare their equipment pending a 9.30am flight from Wellington to Queenstown.



At 8.00 am the Wanaka SAR Incident Management Team (IMT) reviewed their planning from the previous night and prepared to brief LandSAR personnel who were to be deployed onto Stevenson's Island to complete a full search of the island.

Following the transfer of SAR co-ordination from RCCNZ to Police, the local Senior Sergeant was appointed overall operation command and media liaison, the Wanaka SAR Co-ordinator took up Incident Controller, and the second Wanaka Police SAR Co-ordinator took responsibility for liaison with arriving subject matter experts, assisting in the planning for the recovery of the pilot and aircraft, and on behalf of the Coroner, responsibility for custody and control of the pilot's body, once recovered.

By 8.38 am, Coastguard launched, and the first LandSAR team was ferried to Stevenson's Island for deployment.

At 8.49 am the Wanaka Harbourmaster was also on the water, monitoring the controlled area, and assisting with searching the peninsula shoreline by boat.

At 9.00 am, Aspiring Helicopter **ZK-HMM** arrived at the Wanaka base, was briefed, then deployed with a LandSAR team to establish link box communication support, before returning to base.

At 9.18 am Police National Headquarters (PNHQ) Operations Support made an advisory notification to Headquarters of NZ Defence Forces (HQNZDF) that the PNDS had deployed to Wanaka and that RNZN resources may be required with the search and recovery operation. Full details as known were provided to HQNZDF to enable preliminary planning to be commenced.

By 10.46 am four LandSAR teams were deployed onto Stevenson's Island to undertake pre-determined taskings. At the same time Coastguard and the Harbourmaster undertook water-based searches.

At 11.21 am, following an IMT meeting, the harbourmaster and Coastguard indicated they had completed their water-based searches and found nothing of interest. Initial island taskings had progressed well, and further taskings were prepared with two teams completing island searches and two teams completing mainland shoreline searches. Upon their arrival, the police dive team would be deployed at the northern end of the island and commence a search out from the island. A Police Investigation team was also established.



The Wallis family were also looking to head to Stevenson's Arm in their own boats to observe activities. Weather had wind gusting 30 knots in the area.

At 12.20 pm the Police dive squad arrived at the Wanaka SAR base and received a full briefing from the Incident Controller. The plan was to conduct a reconnaissance of the area, then dive completing a sonar search around the identified oil slick site. The Sonar equipment and dive gear was loaded onto the vessel *Dual Image*.



At 1.50 pm Coastguard vessel and *Oanaka*, departed Wanaka with the dive team on board, to complete an initial familiarisation and assessment of the area and surrounding environs.

At 2.00 pm the Police Dive Squad arrived on scene, with strong wind gusting 30 knots from the North north west creating approximately half a metre surface trough. A search line was placed from the shoreline out in a northerly direction toward an already deployed orange marker buoy. The plan was for divers to search from the island in a clockwise direction to a depth of 30 metres.

At 3.09 pm the Police dive squad deployed their first divers into the water to commence their search and assessment. Visibility was limited to 3 metres. The lake bed was defined as a fine silt with a low matted weed covering. The lake had a gradual slope from the island before flattening out. Several small parts of black and white fibreglass were located.

At 3.29 pm, the first dive was completed. The reconnaissance confirmed the wreckage sitting in around 47 metres of water, and the need for specialist divers from the Navy was required. This included seeking specialist equipment such as the Remotely Operated Vehicle (ROV) and the Autonomous Underwater Vehicle (AUV) fitted with side scan sonar which enabled high accuracy images of the area, if the pilot's body was not with the aircraft wreckage.



Figure V: Sonar Equipment stowed on board *Dual Image*

At 4.16 pm three of the four island teams completed their search tasks on Stevenson's Island and returned to Wanaka. Coastguard was released by the Dive Squad, and they remove the final search team from the island back to Wanaka. Vessel *Oanaka* was released to transport a lot of the dive squad equipment back to Wanaka marina, and *Dual Image* remained on site with the dive quad.

At 4.30 pm the Police dive squad sonar equipment on board *Dual Image* was prepared and a sonar examination of the suspected wreckage site was carried out by divers.

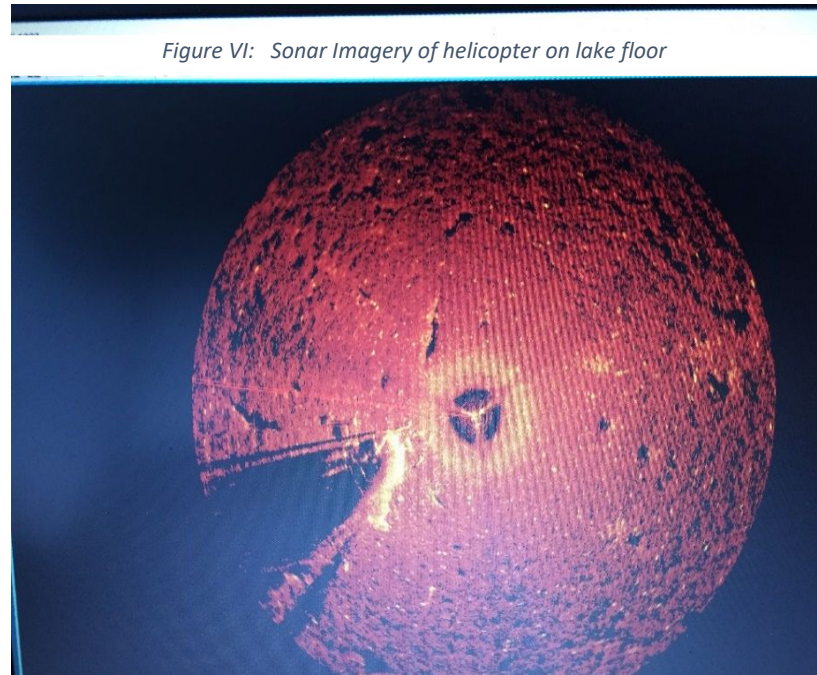
Almost immediately the wreckage was identified on the lake floor as an object which had sharp features and measured 7 metres in length, 2 metres in height and 2 metres wide.

The object identified appeared to have rotors, made of metal and small metal objects around it on the lake floor.

At 4.40 pm PNHQ Operations Support made a formal request to HQNZDF for the deployment of RNZN resources.

At 6.30 pm the sonar dive was completed, and *Dual Image* together with the dive team return to Wanaka.

At 8.21 pm HQNZDF informed PNHQ (Operations Support) that NZDF planning had been completed and RNZN resources were approved to be deployed to Wanaka. Details of the resources to be deployed were provided, and that personnel would depart at 9.00 am from Auckland onboard a RNZAF C-130.



At the end of day IMT debrief, the dive squad confirmed advancing the request for Naval personnel and equipment support. RNZN advised that they were unable to provide their deep diving capability and that the current NZ based naval resources were only certified to dive to 30 metres. As a result, they would deploy a ROV and AUV to assist in the recovery. Defence confirmed 8 staff would travel with equipment, and would fly to Wanaka, however if that was not possible they would fly to Dunedin or Christchurch.

Wanaka IMT together with a Wanaka SAR salvage expert and the dive squad then planned and arranged transportation for the Naval team to get to Wanaka. The Wanaka SAR salvage expert was identified because of his salvage vocation history and that he had a personal liaison with the Wallis family. Together with the Police liaison, arrangements were made through the Wallis family for their barge and suitable lifting equipment to be available as part of the recovery.

As part of the planning, Day 3 would also see the Police dive squad remain on *Dual Image* and continue searching the wreckage environment with their sonar equipment for possibly the pilots' body if separate from the aircraft wreckage, or other relevant items of interest until the navy resource arrived on scene.

## FINDINGS (DAY 2)

14. Following reassignment as a NZ Police led Category I Search and Recovery Operation, a formal IMT was established, with a Command structure that followed the Co-ordinated Incident Management System (CIMS) modelling. Police members were appointed Operation Commander and Media Liaison, Incident Controller, and a liaison officer to visiting subject

matter experts managing the recovery operation. This member also took responsibility for recovery of the body in accordance with the Coroners Act.

A clear briefing to LandSAR staff was undertaken at the commencement of the day, and staff were deployed to complete a thorough search of Stephenson's Island, and surrounding waters.

Clear lines of Communications, Command and Control were established, although the liaison officer should have been appointed the *On-scene coordinator* for the recovery phase, with clearly defined expectations and role responsibilities.

15. The Police dive squad were quick to deploy and rapid in their response. Approval for deployment was received at 10.00 pm and they were on site with all their equipment by 2.00 pm the following day.

Although all indications suggested the aircraft was in 47 metres of water, a depth beyond Police dive capability, formal support from NZ Defence Forces would not be requested until a reconnaissance had been completed. This reconnaissance included a dive which enabled Police dive squad to confirm the presence of aircraft debris on the lake floor, and using sonar equipment, confirmed the location of the aircraft wreckage and its depth. This reconnaissance also provided the opportunity to locate the pilots body, had it been separated from the aircraft wreckage.

16. During the search of Stevenson's Island by LandSAR personnel, two members were injured, one slipping causing a wrist injury, and the second having a branch hit their face, causing a dental injury. Both matters were addressed on the island by onsite operational medical personnel who were part of the Wanaka LandSAR team.

## RECOVERY (DAY 3)

### PLANNING AND ASSESSMENT

On Monday 23 July 2018, a small IMT was established in preparation for what was largely a recovery day.

At 8.00 am the Police dive squad loaded their equipment on board *Dual Image* and returned to the crash location to continue a sonar reconnaissance of the area. At the same time, the logistics officer ensured transportation of naval personnel and equipment from Dunedin airport to Wanaka. This was provided by Alpine helicopters. The logistics officer also finalised the barge and propulsion vessel, along with lifting equipment to be placed on the barge, for the recovery of the pilot and aircraft wreckage.

At 9.30 am a Wanaka SAR member accompanied the Traffic Accident Investigators to Stevenson's Island, where they were shown all the previously identified exhibits from the aircraft, that were left *ensitu* by the search teams. These exhibits were then photographed, recorded and seized by TAIC.

At 1.00 pm the TAIC investigators travelled to where the Police dive team were operating and discussed recovery of the Pilot's body and aircraft. It was the intention of the Dive Squad to have Navy deploy their ROV down to the aircraft and secure a hook and recovery line to the aircraft. TAIC



were invited to be on board the barge during this phase and assist with identifying suitable locations to secure recovery lines.

At 2.00 pm the Navy arrived in Wanaka, and at 4.00 pm were flown by helicopter directly to the awaiting barge secured at Burdon's Beach, Mt Burke Station. Once loaded, at 4.30 pm the barge made its way to the crash site location, whilst the naval personnel prepared their equipment.

At 4.42 pm the barge arrived at the site with several persons on board, including the skipper and family members of the deceased, TAIC Investigators, Naval personnel, Wanaka SAR Salvage expert and Police SAR liaison and officer responsible for custody of the body.

The barge operator was tasked to hold the position of the barge adjacent to the datum buoy without the need to anchor due to the very light wind conditions. The vessel *Dual Image* along with a second aluminium support vessel proved by Minaret Station were rafted alongside the barge.

The ROV was immediately deployed to inspect the object on the lake floor, and the live video feed confirmed it was the crashed Alpine helicopter. The aircraft was on its port side with extensive damage to the cockpit area. The aircraft was resting in 45 metres of water.

At 5.40 pm the body of pilot Matthew Wallis was located within the aircraft, with his upper portion of body protruding outside the aircraft. On locating the body, a discussion took place between the Police dive squad and SAR Salvage expert on continuing the recovery of the body and aircraft into the night. The decision was made to proceed based on the very favourable weather conditions, support vessels and assets immediately available and on site.

The plan was to be executed in two stages. Stage one saw the aircraft lifted to a depth of 20 metres, whereupon the pilot's body would be recovered by divers from the aircraft. Once recovered, the aircraft recovery would then be continued, with the wreckage secured on the barge deck.

In consultation with Navy personnel and TAIC investigators, the chassis section of the aircraft was to be used as the anchor point for the recovery. The recovery plan was then discussed with remaining barge personnel, so everybody understood what was to happen.

At 6.40 pm Navy personnel set up the ROV with the related recovery line. It was at this point that the Police dive squad identified that the recovery line to be used, was a normal abseiling rope and not steel cable. The previously discussed capstan mechanical winch setup was instead a pulley system. The digger on the barge enhanced the pulley capability, to allow reach over and above the side, and reaching out clear from the barge, enabling lifting of the wreckage onto the deck of the barge.

At 7.10 pm the ROV was deployed with the recovery line. Attempts were then made to secure the recovery line to the aircraft, and at 9.00 pm it was established that on seating the hook to the wreckage and the weight coming on to the lifting line, the ROV managed to go around the lifting line and become entangled.

In consultation with Naval personnel, Police dive team and salvage expert, the collective decision was made to attempt the recovery of the aircraft using the entangled recovery line and ROV umbilical cord. The plan remained lifting the aircraft to 20 metres, then securing two additional lines to the aircraft using dive personnel, before attempting to recover the pilot's body.

At 9.31 pm the ROV data indicated the ROV was at a depth of 15 metres, however was floating above the recovered aircraft. Divers were deployed to secure the two additional safety lines, before recovering the body of the pilot. All divers were briefed not to enter the wreckage, place limbs inside the wreckage or travel under the wreckage.

At 9.40 pm the additional safety lines were secured to the aircraft, and at 9.24 pm the body of Matt Wallis was successfully removed from the aircraft.

At 9.50 pm the divers surfaced with the body of Matt Wallis, and moved away from the barge and family members, to the awaiting recovery vessel from Minaret Station. The Police officer responsible for custody of the body then took possession and control of the body. The vessel was brought alongside *Dual Image*, and all dive personnel were debriefed. It was revealed that Matt Wallis was secured to the aircraft by a lap belt, which had to be cut before he could be removed. The body was recovered at a depth of 28.5 metres.

At 10.21 pm following the recovery of Matt Wallis' body, the recovery of the helicopter continued. Once the aircraft was at a depth of 5 metres, a Police dive squad member secured a third support line to the aircraft. Once the aircraft was at the surface, the decision was made to support one of three lines that had become compromised, and in consultation with TAIC investigators, a strop was secured around the rotor head.

At 11.19 pm the load was placed on the strop and compromised line to lift the aircraft from the water, resulting in the compromised line severing. No divers were in the water at this time, as this had been identified as a potential risk. The aircraft made a sudden short drop but remained secured to the barge by the support lines.



Figure VII: Recovered wreckage loaded aboard barge

At midnight, a diver was deployed to secure a very short chain to the strop, and the bucket of the digger on the barge. Once secured, the aircraft was carefully lifted and at 00.17 am the aircraft was successfully lifted onto the barge and handed into the custody of TAIC.

Throughout the aircraft recovery phase, the barge had been allowed to slowly drift toward the shore and into shallower water, should the recovery have proved unsuccessful.

This drift path had also been tracked.

At 1.00 am the body of Matthew Wallis was transferred from the support vessel to the barge and at 1.30 am the Police Dive Squad and Navy personnel returned to Wanaka on *Dual Image*.

Due to the high profile the deceased and his family had in the community, there was extensive media interest. The Officer in charge of the body, in consultation with the family liaison officers and Iwi liaison officers, had arranged for the family and local funeral director, along with local Iwi, to meet the barge at a private location.



At 2.20 am the barge arrived at that location, where it was met by family and Iwi, before being removed to the local mortuary. The aircraft remained in the custody of TAIC and was off-loaded and delivered to a nearby secure storage.

## SPECIALIST RECOVERY

Navy resources were requested to assist, after the wreckage was identified at a depth beyond a safe dive zone for the Police National Dive Squad. Navy divers with the capability to dive to those depths were unavailable, and a Remotely Operated Vessel (ROV) and Autonomous Underwater Vehicle (AUV) with Sonar Searching equipment were brought in.

During the deployment of the ROV, it became entangled in the wreckage, rendering the ROV inoperable. The entangled recovery line and umbilical cord were used to lift the wreckage to a height, where additional lines could be secured. Although a challenging operation in any situation, concern was raised at the experience displayed by the ROV operator, and the additional pressure for success placed on the operator by having family of the missing pilot present.

The ROV used by Navy is predominantly a search asset with limited recovery options (simple manipulator). The recovery is effected by using a removable rod with a hook attached to the rod with a breakable connection. This requires the ROV operator to approach the wreckage, locate the hook in the aircraft and then pull back to break the link.

In this case there was a shot line marking the helicopter location, a lifting line, a ROV umbilical and some stray line coming from the wreckage for the ROV operator to avoid getting tangled in when seating the hook. On examination of the facts, Navy and Police Dive Squad were very satisfied with the operation of the ROV and operator's skill and capability in securing the aircraft.

RNZN continues to work with Police on training exercises to further develop ROV and AUV experience and capability. Since this operation Navy has reinstated its domestic 50m diving capability. (Note this is due to the recent replacement of a portable Recompression Chamber in Navy's inventory).

The AUV team were not used during Operation WALLIS. After the recovery of the aircraft being completed, Navy have been tasked by the TAIC to resurvey the area and locate some missing items from the aircraft.

An AUV mission for this type of job would have taken about 4 hours and would have provided the investigators the information at the time of the initial search. It is recommended that for similar jobs where there is a debris field the AUVs are used to map the area to provide additional information to Accident Investigators in the post recovery phase.

Navy will continue to hold a ROV capability and is proud to assist other Government agencies where possible. Navy hold the ROV capability at 6 hours' notice to move specifically to achieve a whole of Government response to short notice taskings.

## FINDINGS (DAY 3)

17. Although a very successful recovery operation achieved through open consultation, the barge operation lacked any clear command and control. The operation needed to identify an On-scene coordinator who had ultimate responsibility for the decisions being made.
18. Concern was raised at the lateness of the operation and the increased risk of fatigue and mistake. This was mitigated by the perfect weather conditions that existed at the time, the support vessels rafted alongside the barge which enabled food and rest, and the assets that were immediately available and committed for the recovery operation.
19. No inspection was made of equipment prior to the barge being deployed. The primary recovery line was an abseiling rope, was initially frayed once under load, and ultimately severed. Industrial cable and mechanical winch such as a crane should have been planned for and parked on the barge and utilised for this type of recovery.
20. Throughout the recovery phase of this operation, the family of the deceased were very supportive making available whatever assets they had, to assist the operation. Throughout the recovery phase they remained engaged but did not interfere in the decision-making process.

## MEDIA

Due to the high-profile nature of the pilot and his family in the Wanaka region, there was extensive media interest in this incident. On day one of the incident, media was managed by Maritime NZ media sections whilst the operation was run from RCCNZ operations centre. Media releases were regular, enabling the initial response and search to progress.

From day two, the Police Operation Commander took the lead role at Wanaka with the media, keeping them informed of operational progress, supported by Police media section at Police Headquarters.

No concerns were raised in relation to media.

## FAMILY / IWI

The Wallis family are very well known within the community, and heavily involved in the aviation industry, especially helicopters. The family operated professionally from the outset, reporting the incident to both RCCNZ and Police, and immediately commenced their own overdue aircraft response procedures.

It was family members that located the oil slick and debris on Stevenson's Island, and although anticipating the worst, continued to operate with professionalism, allowing the Search and rescue

response to arrive and take over, whilst they stood down and returned to their helicopter base to meet with Police.

Throughout the recovery phase, they remained actively involved, providing helicopter assets to fly in naval experts from Dunedin, and water-based assets in the form of large operating barge and aluminium boat to assist in the recovery of aircraft and body.

On recovery of Matthew Wallis, and mindful of the extensive media attention, the officer in charge of the body, in consultation with the family liaison arranged for the body to be taken to a private location, where it was met in the early hours of the morning by Iwi and family along with the local funeral director. This provided family the opportunity to receive and mourn the loss of Matt Wallis in private, before the body was removed to the mortuary.

## OPERATIONAL DE BRIEFS

In addition to the hot debriefs run during the operation, two formal debriefs were hosted in Wanaka on 15 August 2018.

### INTERAGENCY DEBRIEF

An inter-agency debrief was hosted by Police, with representatives from RCCNZ, Police and NZSAR present.

The various phases of the operation were discussed, and it was felt that overall the operation was very well executed. During day one of the operation, the interagency cooperation, understanding and Command and Control were practical, pragmatic and probably the best fit for purpose in the circumstances.

It was felt there was generally a reduced level of knowledge, familiarity and confidence among non-SAR Police staff who found themselves in the very initial stages of a SAR incident. This was paralleled by the LandSAR volunteer members of the IMT who were used to operating under the direction of a trained Police SAR Incident Controller.

During the early phase of an operation, the IMT component can be set up before the arrival of Police personnel, and there can be a period of uncertainty about what volunteers can and should be doing.

As either Police or RCCNZ will be managing incurred costs, an opportunity still exists for experienced civilian IMT staff to work with non-SAR sworn Police personnel to make recommendations and advance early operational decisions, all be it that the untrained Police member may consult a wider Police audience, before endorsing that decision.

Considering the technical expertise that was required for the recovery of Matt Wallis and the aircraft wreckage, and the lateness of hour the recovery operation went to, it was concluded that there was a need to ensure that members of the CIMS structure understood the full range of functions and responsibilities assigned to their role, and, where the technical advisors fitted within that model. The ultimate responsibility for safety remained with the lead agency and the Incident Controller.

Recommendations generated from this debrief included:

- Wanaka IMT training specifically covers actions, delegations and limitations in the event of a situation whereby the IMT is set up in advance of a Police member arriving to take the role of Incident Controller
- Non-SAR trained Wanaka Police staff are trained in the basic initial action required for incidents requiring an urgent SAR response such as air crashes, avalanches, river and lake incidents
- That Police SAR staff undergo a refresher training focussed on the basic CIMS modelling and associated positions and responsibilities, including reference to technical rescue and recoveries.
- Police, Dive Squad and Salvage expert meet to discuss the operation and identify other lessons learnt from the recovery phase.

Post debrief local actions undertaken:

- During the week of 12 September 2018, Police Dive Squad, Salvage expert and Wanaka Police SAR Coordinators met to discuss the operation and lessons learnt. Police Dive Squad looked to continue their close working relationship with Navy and enhance training opportunities with technology such as the ROV or any other similar type equipment. From the discussion, the teams looked to ensure a more formalised Command and Control with delegated roles set prior to the commencement of any operation. Out sourcing of specialist capability was also discussed with recommendation to exercise caution, ensuring all personnel safety remains paramount, and cost for private contractors need to be a factored in.
- The two Wanaka Police SAR Co-ordinators have developed a short training package for the Wanaka Police staff who are non-SAR. The need for this was identified earlier in the year with the number of new staff and the environment of avalanche prone alps, tourist destination bush walks and lake rescues. The training overview covers initial actions for a SAR response until a SAR co-ordinator is on site.

## OPERATIONAL DEBRIEF

The Operational debrief was hosted by Police and included representation from the SAR Salvage expert (and Wallis family representative), LandSAR, Coastguard, Lake Hawea Marine, Alpine Cliff Rescue, River Rescue, Harbour master, RCCNZ and NZSAR. Apologies were tabled for Aspiring helicopters, Police Dive Squad and Navy support team who were unavailable.

Concern was raised at the demands placed on the Aspiring helicopter operator, with communications going through RCCNZ and not the IMT at Wanaka. RCCNZ acknowledged that no formal communication plan had been established as it was the early stages of the operation and what took place was driven by the needs of the operation.

*File note: It should be noted that RCCNZ tasked Aspiring helicopters to fulfil a role, and communications between the two were limited based on the known capability, trust and knowledge each party had of the other. Most communication occurred between the aircraft and vessels, searchers, other aircraft and IMT (once established), as the search phase progressed.*

Coastguard raised concern around communications especially with LandSAR personnel, although acknowledged good communications with the air assets and messages could be relayed through the

air assets. Coastguard also recognised the need to taking surface oil slick samples early and would look to work with maritime NZ to secure suitable kits for this purpose.

The harbourmaster raised that he was not notified until 5.00 pm on the day of the incident. It was agreed the harbourmaster should be notified early, and this should be an early consideration for the IMT or RCCNZ. The harbourmaster once notified, was able to affect a large exclusion zone around the incident area.

The Alpine Cliff Rescue representative indicated he had a swift water rescue background and was one of the crew deployed in a dry suit for this operation. It was identified during discussion that there were no recognised 'rescue swimmers' in the area and recognised trained resource would be desirable. It was also identified that there did not appear to be any formalised national standards for this role.

The Incident Management Team identified an initial communications confusion between RCCNZ and the IMT, when RCCNZ thought they were a member of the media. A discussion followed that there was a need for all IMT members to have their details recorded on the RCCNZ SAR data base. It was also identified that the presence of RCCNZ at the debrief was a valuable networking opportunity.

LandSAR also voiced their concerns at what they believed to be an unacceptable workload placed on Aspiring helicopter. Concern was also raised that staff trained for specific roles were deployed in other roles, and their backgrounds weren't recognised. In this case it was trained air observers deployed in ground search roles. The IMT would have made this distinction. Recognition was given to the Wallis family for the systems they had in place, and this was endorsed by RCCNZ.

The recovery phase was discussed in general terms, including the entanglement of the ROV, and the chair resolved to host a meeting in September between the Dive team, Salvage expert and Police SAR to identify lessons learnt. It was acknowledged that the use of the vessel *Dual Image* for feeding, sheltering and rest and recreation was a very good move.

Recommendations generated from this debrief included:

- The Coastguard, Harbourmaster, Marine Rescue Group and LandSAR meet to assess what needs to be done to improve on-water radio coverage
- Police make initial inquiries to establish a 'Rescue Swimmer' capability for Queenstown and Otago Lakes and then evaluate the options and what organisation can best progress this
- Wanaka Police, Police Dive Squad, and Wanaka Salvage expert meet in September to review the lessons learnt.

The debrief concluded with RCCNZ providing a detailed presentation to the audience on their roles and responsibilities, and some of the operations they have been involved with.

Post debrief local actions undertaken:

- The week following Operation Wallis, another Cat II SAROP occurred on Mt Aspiring. RCCNZ appointed the Wanaka Police SAR Coordinator as the On-Scene Coordinator from the outset. This appointment was made with clear delegation and demarcation. It is now felt there are clear and open lines of communication, with early On-scene coordination appointment and established command and control understanding for Cat II searches going forward.

- The Police Sub-Area Commander and Police SAR Coordinators discussed the development of training for water rescues from helicopters. Research with neighbouring SAR coordinators will be undertaken to look at what training and certification is available nationally.

## REVIEW RECOMMENDATIONS

### CIMS REFRESHER TRAINING

*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 Authorities may designate an On-Scene Coordinator (OSC) with a clear delegation of tasks, who may be the person in charge of a ship, or aircraft participating in a search, or be someone at another nearby facility able to handle OSC duties.*

*The OSC should be the most capable person available, taking into consideration SAR training, communication capabilities, the incident management support available to the OSC to achieve the delegated tasks, and the length of time the OSC can stay in the search area.*

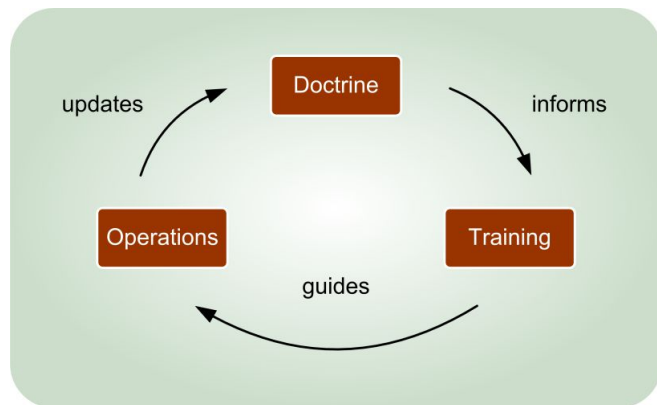
*(Para 6.6 Operational framework for the NZ Search and Rescue Region – March 2017)*

With that appointment, comes the opportunity for a written delegated authority to act on behalf of the Incident Controller, on the approved NZSAR / NZ Police / RCCNZ Search and Rescue *On-scene Coordinators Search Action Plan (Appendix IV)*.

Overall operational Command and Control must always be maintained, irrelevant of informal association and communication networks at a local level.

#### It is recommended that:

- CIMS model “train the trainer” programmes are developed to enable local level refresher training, and subsequent assessments of operational understanding can be undertaken during SAREX training opportunities.
- IMT’s nationally are reminded of the *On-Scene Coordinator Action Plan* and processes around such delegation, without which, command and control of taskings and deployments remain with the Operation Incident Controller.
- A review be carried out of the *On-Scene Coordinator Action Plan* to ensure it is fit for purpose, and then include form within NZSAR inventory of forms.
- RCCNZ review early assessment and appointment of locally based on-scene coordination, to reduce over committing support roles, (like on-scene Air traffic controller), with multiple roles and maintain a better control of resource deployment and taskings.
- In situations of Rescue and Recovery involving subject matter expertise, IMTs and Police SAR coordinators undertake refresher training to clearly identify their roles and responsibilities





as an Incident controller or On-scene coordinator, especially around command, control and coordination of expertise deployment and associated risk mitigation and staff safety.

- One off local level agreements (Appendix III) should be resisted as they can create confusion with lines of communication and unrealistic expectations during emergency response. Instead, national best practice should be adopted.

## COLD WATER RESCUE

Training certification exists for Alpine Cliff Rescue personnel, in the forms of Pre-Hospital Emergency Care (PHEC), Avalanche, and Strop and Winch training. During this operation, ACR personnel were deployed in dry suits, with the intention they jump from the helicopter at low level into the water, and swim to and support any injured victim, before being recovered by strop from the water.

Currently no formalised training or certification has been developed for this type of Search and Rescue deployment.

It is recommended that:

- A review be undertaken of the various Specialist Search and Rescue roles, and a pre-requisite skills criteria, training and certification programme established, utilising appropriate subject matter expertise, to mitigate the risk associated with such high-risk deployment.
- Consideration be given to drawing on the expertise of the Police National Dive Squad who have procedures and training standards developed with RNZAF for this procedure referred to as "*Helio Cast*", and the associated "*wet decks*".



## APPENDIX I TERMS OF REFERENCE – OPERATION WALLIS

1. To gain an understanding of the sequence, times of events and key decisions relating to the Search and Rescue Operation (SAROP) Wallis conducted at Lake Wanaka during 21 July 2018 to 23 July 2018 inclusive.
2. Ascertain the appropriateness for an operation of this nature of the search and rescue arrangements, capabilities, documentation and procedures utilised for this SAROP, its Incident Management Team (IMT) and SAR teams. Identify areas of excellence, sufficiency, lack, relevance, appropriateness and those that may need improvement.
3. Review and consider the appropriateness and/or utility of the following specific aspects of the SAROP with a view to confirming, improving and/or refining SAR documentation, systems, processes, skills, equipment and technology:
  - a The IMT tools and arrangements including search tools, planning, investigation, intelligence, information flow and information analysis used and applied during this SAROP.
  - b 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 management of search assets.
  - d The ability to scale, resource and support the search with appropriately trained personnel throughout the SAROP.
  - e Search conclusion and transition to the recovery phase (exclude the conduct of the recovery phase itself).
  - f Family and Iwi liaison and support arrangements.
  - g The management of family and other spontaneous search volunteers.
  - h The SAR capabilities, skills and equipment of SAR personnel involved.
  - i Media relations.
  - j Handover of coordination responsibilities.
  - k The operational debrief.
4. Identify any skill, equipment, technology, document, process or procedure that may contribute to a significant information and / or performance improvement for this SAROP or a SAROP of this nature.
5. Make recommendations as appropriate to the New Zealand Search and Rescue Council relevant to improving New Zealand's SAR system, its people, equipment, documentation, skills, processes and procedures.

## APPENDIX II SUMMARY OF FINDINGS

1. Alpine helicopters are to be commended for the professionalism in the way they responded, following their own procedures for an overdue aircraft, and then removing themselves from the search. The initial awareness that the aircraft was missing (1.03 pm), immediate internal response and deployment of aircraft to commence reconnaissance flight, through to the formal notification to RCCNZ (1.23 pm) provided the highest likelihood of successful rescue, should that have been an option.
2. RCCNZ were initially notified at 1.23 pm of an overdue aircraft and treated this as an *Alert phase*. Staff were briefed, and roles and responsibilities identified. At 1.40 pm when the second call was received from Alpine helicopters confirming the aircraft still missing, a Category II Search and Rescue Operation was immediately actioned.

Within 1-hour of RCCNZ activation, Aspiring helicopters were notified, prepared, travelled to Wanaka and uplifted two Alpine Cliff rescue teams for deployment into the lake and were on scene searching.

Similarly, Wanaka Coastguard were activated, and within 45 minutes of notification had launched and were on site at Stevenson's Arm searching.

The notification and response times of the personnel involved are to be commended.

3. Hot telephone debriefs were held between RCCNZ and Alpine helicopters, RCCNZ and Aspiring helicopters, and RCCNZ and the Wanaka Police SAR Coordinator. A hot debrief was also held in Wanaka with the Wanaka LandSAR staff and Wanaka IMT. These hot debriefs ensured all key issues were identified early, and matters needing ongoing attention during the SAROP had focus.
4. The formal handover from a Category II RCCNZ led search and rescue to a Category I Police led search and recovery went without issue. The transition occurred after all search teams (land, water and air) were stood down for the day, so there was no chance of ambiguity as to who was lead agency.
5. Media was well managed throughout day one by RCCNZ, who deferred to the Maritime NZ media team. Regular releases were made including the opportunity for sound bites as required. Although media sought identity of the pilot, this was not released.
6. Family of the deceased pilot was managed by Police. A Wanaka Police officer was initially deployed to the Alpine Helicopter base, and Victim support personnel were also deployed to assist. Two Police Officers were appointed as the primary Police family liaison for the entirety of the operation.
7. Police were notified shortly after RCCNZ at 1.42 pm, however had limited on site response capability. A Queenstown based Police SAR Coordinator was initially advised at 1.49 pm. A Wanaka based Police SAR coordinator who was in Queenstown, was advised at 2.00 pm and immediately travelled to Wanaka.

At 2.58 pm the Wanaka based coordinator contacted RCCNZ whilst enroute to Wanaka and received a briefing on what had occurred. At 3.35 pm RCCNZ contacted the Wanaka based coordinator, who indicated he was just arriving at Wanaka. At 4.15 pm the coordinator was again provided a briefing update from RCCNZ, with a recommendation that he contact the Police Dive Squad and have them activated, which he did.

Unbeknown to RCCNZ, a second qualified Police SAR coordinator from Wanaka had also arrived at the Wanaka IMT at 3.58 pm, taken charge of the IMT and adopted the role of On-scene coordinator, (as per an existing agreement between RCCNZ and Wanaka LandSAR). RCCNZ communicated with the transiting SAR coordinator, unaware the Wanaka IMT was fully operational or that it was tasking at a local level.

As the afternoon had progressed, LandSAR personnel were deployed onto Stevenson's Island without the knowledge of RCCNZ, until RCCNZ received a sitrep from their appointed Air Traffic Controller. Subsequent LandSAR deployment and later recovery of personnel, were all managed by Wanaka IMT in consultation with the appointed Air Traffic Controller. RCCNZ had no oversight, command or control of this phase of the search. Very little communication occurred between the RCCNZ and the IMT, resulting in RCCNZ deployed assets reporting to two locations – IMT and RCCNZ.

Although Wanaka IMT may have been under the apprehension they were the On-scene Coordinator as per the existing agreement with RCCNZ, it was imperative RCCNZ know when they were fully operational and RCCNZ needed to make the decision to formally appoint. This did not occur.

*(It should however be noted that following this operation at a subsequent SAROP, RCCNZ appoint the Wanaka IMT as the On-Scene Coordinator early, and this operation functioned very smoothly).*

8. The Aspiring helicopter pilot **ZK-HAH** is an experienced SAR pilot and known to RCCNZ personnel. He was deployed as the lead pilot and tasked with taking control of the incident once on-scene. He was formally appointed by RCCNZ as the On-Scene Air Traffic Controller.

This pilot was tasked with managing the aircraft linked to the company of the crash victim, deployment of two Coastguard vessels, management of two other search aircraft operational, flying his own aircraft with search personnel on board, liaising with RCCNZ, liaising with Wanaka IMT base and liaising with LandSAR search teams, later deployed on the island.

Concerns were raised by search personnel that the pilot was overloaded, trying to manage communications along with so many other issues going on around him.

When interviewed, the pilot had no issues with the demands placed upon him. He acknowledged his extensive involvement in SAROPs, and his extensive flying history. He was happy to simply prioritise flying, then communications, then taskings. He did however identify the issue of working to two masters, RCCNZ who were the operational lead, and the Wanaka IMT who grew as the operation progressed. There was no formal transition of command, if Wanaka IMT were to be the On-scene coordinator.

9. In consultation with LandSAR NZ, concern was also raised over the command structure and procedural issues. In performing LandSAR roles, under their national Service Level Agreement, LandSAR teams or resources should only be called out:

- Directly by a coordinating authority (Police for Cat 1 or RCCNZ for Cat 2)
- By Police for Cat 2, if Police have been appointed as the On-Scene Coordinator by RCCNZ
- By a local LandSAR IMT, if the IMT has been authorised/tasked to perform the OSC role (or parts of it) by a coordinating authority (there should be clarity if any local arrangements have been made on an ongoing basis)
- LandSAR teams or resources should never be called out by another SAR resource or contractor (that is not a coordinating authority or formally appointed OSC).

During this operation, the appointed Air Traffic Controller was assessing, and tasking the deployment of ground search teams. This resulted in people with specific skills being under-utilised i.e. trained air observers undertaking ground searches, and trained ground searchers being deployed as air observers. These assignments should have been tasked by either the On-scene coordinator (Police) or Incident Controller (RCCNZ).

10. Once Aspiring helicopters was contacted by RCCNZ, Aspiring helicopters contacted a coordinator of the Alpine Cliff Rescue (ACR) team to activate a skilled rescue crew. The ACR were supported by two river rescue personnel and equipped with dry suits and flotation equipment including flotation helmets, on the possibility that a crew member may have to jump from the helicopter into the lake to advance a rescue in the water.

The ACR team and River Rescue team, although equipped for the task, have not trained or undergone any form of certification for jumping from a helicopter into the lake to affect a lake rescue.

11. Harbour Master - during the operational debrief, it was identified that the harbour master was not notified of the accident in the lake and found out through the media that evening. His involvement enabled the crash site area to be closed to all vessels other than those involved in the operation.
12. No sample was taken of oil slick at earliest opportunity – this sample may assist TAIC to identify source, and possible contributing factors for air accident.
13. Although the Police National Dive Squad were activated, and RNZN were advised, Navy personnel and equipment could not arrive any earlier than Monday due to transportation issues. The equipment could not travel on commercial airlines. To travel by road from Auckland would take at least 24 hours. The first scheduled defence flight available was Monday morning. As there was little risk of the pilot's body or wreckage being compromised by conditions, a special transportation flight was not justified or requested. During the assessment stage, PNDS saw this as a recovery operation, looking to gather best evidence through video and minimal disturbance to wreckage, not an urgent rescue operation.
14. Following reassignment as a NZ Police led Category I Search and Recovery Operation, a formal IMT was established, with a Command structure that followed the CIMS modelling. Police members were appointed Operation Commander and Media Liaison, Incident Controller, and a liaison officer to visiting subject matter experts managing the recovery

operation. This member also took responsibility for recovery of the body in accordance with the Coroners Act.

A clear briefing to SAR staff was undertaken at the commencement of the day, and staff were deployed to complete a thorough search of Stephenson's Island, and surrounding waters. Clear lines of Communications, Command and Control were established.

15. The Police dive squad were quick to deploy and rapid in their response. Approval for deployment was received at 10.00 pm and they were on site with all their equipment by 2.00 pm the following day.

Although all indications suggested the aircraft was in 47 metres of water, a depth beyond Police dive capability, formal support from NZ Defence Forces would not be requested until a reconnaissance had been completed. This reconnaissance included a dive which enabled Police dive squad to confirm the presence of aircraft debris on the lake floor, and using sonar equipment, confirmed the location of the aircraft wreckage and its depth. This reconnaissance also provided the opportunity to locate the pilots body, had it been separated from the aircraft wreckage.

16. During the search of Stevenson's Island by LandSAR personnel, two members were injured, one slipping causing a wrist injury, and the second having a branch hit their face, causing a dental injury. Both matters were addressed on the island by onsite operational medical personnel.
17. Although a very successful recovery operation achieved through open consultation, the barge operation lacked any clear command and control. The operation needed to identify an On-scene coordinator who had ultimate responsibility for the decisions being made.
18. Concern was raised at the lateness of the operation and the increased risk of fatigue and mistake. This was mitigated by the perfect weather conditions that existed at the time, the support vessels rafted alongside the barge which enabled food and rest, and the assets that were immediately available and committed for the recovery operation.
19. No inspection was made of equipment prior to the barge being deployed. The primary recovery line was an abseiling rope, was initially frayed once under load, and ultimately severed. Industrial cable and mechanical winch such as a crane should have been planned for and parked on the barge and utilised for this type of recovery.
20. Throughout the recovery phase of this operation, the family of the deceased were very supportive making available whatever assets they had, to assist the operation. Throughout the recovery phase they remained engaged but did not interfere in the decision-making process.

**EMERGENCY BEACON RESPONSE PLAN**

Updated: 12.1.2018

**Introduction:**

These SOPs relate specifically to beacon activation responses from the Wanaka SAR group. The Wanaka SAR group consists of NZ Land SAR volunteers, marine and aviation resources, including the Police SAR Squad members.

The Group operate out of a purpose-built building next to the Police station accommodating a high tech IMT room and operational deployment and equipment facility.

This building is used for all Wanaka SAR operations and has a Heli pad directly adjacent to the building.

**Background:**

As a result of beacon activations, a Category II SAROP is initiated and is the responsibility of RCCNZ. This acknowledges that RCCNZ will normally carry out the responsibilities of the Incident Controller, but they may from time to time elect to formally pass the incident over to Police as per the MOU between the Coordinating Authorities.

The Wanaka Police SAR coordinator essentially take up the role of On Scene Coordinator or Operations Manager to manage local Police and LSAR resources on behalf of RCCNZ and deploy them to assist RCCNZ in respect of beacon responses. Police involvement early on ensures that no duplication occurs via other reporting activity.

Obviously, unless beacons are registered, and emergency contact people can be contacted then limited information about the cause and extent of the operation can be ascertained prior to locating the beacon and assessing the incident.

This means first-response teams could be attending a variety of different situations, requiring a broad range of skill sets and capabilities.

**RCCNZ Action:**

Once RCCNZ have a location for an activated beacon the appropriate aviation resource will be notified for searching.

For registered beacons, RCCNZ staff will initiate enquiries to ascertain the user of the beacon and their intentions.

Police Comms will be notified, and the On-Call SAR Coordinator tasked to liaison with RCCNZ regarding the location and circumstances.

Locally for the Mt Aspiring area, **Aspiring Helicopters** domiciled in the Matukituki Valley, Wanaka is the primary Wanaka Police SAR helicopter for all SAR operations and has the requisite DF gear, local knowledge, strop capability and mountain flying skill set.

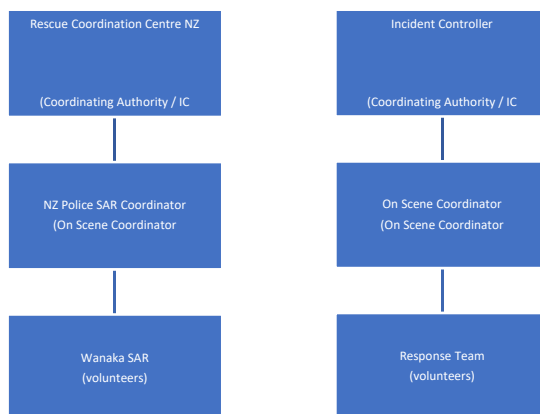
### Police Action:

Police have the responsibility to manage the Wanaka SAR groups activity for all Category 1 SAR operations.

For Cat 2 beacon activations Wanaka Police will continue to manage the group's activities and provide face to face briefings, contingency planning, health and safety management and resources to these operations on behalf of RCCNZ.

This will ensure that all hazards for each operation relating to staff, environment and equipment is appropriately considered and mitigated.

### Command and Control



**A 24/7 on call Police SAR Coordinator is now available for the Wanaka, Queenstown, Alexandra Police Areas on 03 4714821.**

### Rationale:

Due to the demanding and variable operational environment in the Southern Alps and surrounding area, best practice for Wanaka SAR dictates that any search helicopter going into the back country will have rescue capable personnel on it with the ability to operate on the ground remotely from the helicopter.

This ensures:

- There is no undue delay in commencing the rescue phase of the operation.



- The rescue team can search and or operate on the ground remotely of the helicopter if close flying is limited by poor visibility, weather or mechanical issue etc.
- In the event of an unexpectedly complex rescue, the first response team can stabilise the situation, plan and recommend the appropriate response required given their intimate knowledge of all local resources and respective SAR skill sets.

### **Wanaka Beacon Response SOP:**

A ground-capable Search and Rescue team accompanying the searching helicopter is vital to managing contingencies, safety standards and continuity of the search and or rescue response.

A two-man Search and Rescue team is the minimum required to be sent into the field for safety reasons.

A two-man team will respond and be available at the Wanaka SAR Heli pad for uplifting by the local operator or other operator assigned to a search in our area by RCCNZ.

The team will also be available if needed for deployment to other areas as and when required.

#### **SAR Heli Pad Topo 50, CB 12**

GR: E 943 / N437  
Lat/Long: S 44 41'40.6" E 169 08'34.4"

Police, on receipt of a call from RCCNZ in relation to a beacon activation in our area, will ensure that two members of the Wanaka SAR group are available to man any Search and Rescue helicopter tasked by RCCNZ.

#### **The benefits of this response protocol are:**

##### **Management:**

1. Reduced duplication as Police will be aware of the operation should other calls for service come through for the same incident.
2. Police can provide professional management at a local level as On Scene Coordinator / Operations Manager to RCCNZ
3. An Incident Management Team will be established at the Wanaka SAR base to supplement Incident Control at RCCNZ as per the CIMS model.
4. Health and Safety obligations can be complied with for all staff involved.
5. There will be formal SMEAC briefings and debriefing to all staff.
6. Ongoing health and safety management and monitoring.
7. Knowledge of local conditions, topography and hazards can be utilized to assist with the search.

8. Contingencies, stand by staffing and planning can be initiated locally.
9. Direct liaison and communication with RCCNZ by Police OSC via reliable land line.
10. A fully equipped, terrain specific and briefed team will be able to respond within approx. 30-40 mins of Police receiving notification.

The benefits of utilising the Wanaka SAR team is:

**The Team:**

1. At least one member will be Pre-Hospital Emergency Care first aid trained. They also carry and are signed off by local Doctors to administering pain relief drugs and carry outdoor specialist patient immobilization equipment.
2. The team can be selected specific to the terrain and environment for each individual activation ensuring that capability and experience is maintained through out the team and the team selected is fit for purpose.
3. The Team available will have sufficient experience and skills to operate safely on the any ground indicated by the activation i.e.
  - a. Mountain / Alpine
  - b. Snow and Ice
  - c. Avalanche Terrain
  - d. Steep technical rock
  - e. Swift Water
  - f. Canyon's
  - g. Bush or sub Alpine
4. They will be capable of surviving for several days or walking out of any area in the event of the helicopter not being able to uplift them.
5. Human sling trained / winch trained.
6. Air Observer experience.
7. Capable of utilising our Ground DF gear to track beacons in circumstances that prevent Helicopters from flying.
8. Utilise their own stand-alone Night Vision goggles for night operations.
9. Capable of assessing the complete situation and making critical decisions relating to crew safety, environmental and terrain hazards, patient care, helicopter safety and injured party group dynamics.
10. Familiar with specific and appropriate specialist team resources (advanced life support / ACR teams / Police (coronial responsibilities) / Disaster Victim Identification / search dogs etc).
11. Have good local knowledge of tramping, climbing routes, VHF radio networks etc.

The response team will be configured and deployed by the Police SAR Coordinator subject to all known circumstances at the time.

A standard response kit will be established for the team to take into the field from the SAR store subject to beacon location.

**Equipment:**

- Human Sling - Strop
- Bauman bag, nappy and KED (patient immobilization and transport)
- First Aid: Vacuum packs / PHEC capable (O2, pain relief etc)
- Personal climbing gear (including crampons and axes)
- Snow, ice and rock anchor capability
- Small alpine and rock rigging gear
- Standard Comms gear (SAT ph / VHF /PLB)
- Survival equipment (including transponders/probe/shovel as appropriate)
- Complete selection of lower South Island maps.

**Helicopter Response:**

Wanaka SAR First Response team needs a helicopter fitted with the following as a minimum requirement of the searching helicopter:

- Gear pod
- Human sling hook or winch
- SAR VHF Comms.
- Pilot with local knowledge

**Update**

This SOP is a live document that can and will be amended and updated as required.

Authored by Sergeant Aaron Nicholson

Adopted by Land SAR Wanaka on the

Updated 19.10.2010

Updated 12.01.2018 a



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## APPENDIX IV SAR ON-SCENE COORDINATORS SEARCH ACTION PLAN



## SEARCH AND RESCUE ON SCENE COORDINATORS SEARCH ACTION PLAN

Please read the roles and responsibilities (see attached)

TO:

FROM: COORDINATING AUTHORITY RCCNZ/NZ POLICE

DATE:

Incident | Event Number:

Coordinating Authority Details			
Phone:		Fax	
Email:			
On Scene Coordinator Contact Details			
OSC Name			
Organisation			
Location of On Scene Base			
Phone		Fax	
Email		Other	

NOTE: Check all details above are correct and notify the Coordinating Authority of changes ASA

Date/Time (Local)

SMC / Incident Controller

Signature

**EMERGENCY PHASE: DISTRESS**

**Incident Summary**

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**Description of Primary Search Objects**

Type of aircraft/vessel or object					
Name:		Callsign:			
Number of people on board:		Endurance:		Registration:	

Full Description: (colour, markings, type, superstructure, characteristics, tonnage)

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**Description of Secondary Search Objects**

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**Weather Forecast**

(Attach forecast)

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**On Scene Weather**

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<b>Assigned Search Areas</b>	
Point A	Point B
Point C	Point D
Attach Grid/Lat Long Conversions	
<b>Instructions</b>	
No Assets are to be tasked without an Asset Number being obtained from the Coordinating Authority	
<b>Secondary Information</b>	
Preferred Communications (if there are any changes to below comms please notify the Coordinating Authority)	
Radio	
Cell phone	
SAT Phone	
Marine	Channel 16 to be used wherever possible. Alternate Channels to be used;
Air	Channels to be used;
Land	Channels to be used;
<b>Assets Tasked/ Assets Assigned (Asset Numbers must be obtained from the Coordinating authority)</b>	

Situation Reports to	Coordinating Authority at maximum of	hr/s intervals
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#### Duties and responsibilities of the OSC

- a) To assume operational coordination of the SAR facilities on scene on behalf of the SMC / Incident Controller, within the delegated authority.
- b) Provide local knowledge of SAR expertise and resources available in the area.
- c) Receive and implement the search action plan from the SMC / Incident Controller
- d) Modify the search plan if required to suit prevailing conditions, ability of the SAR units, new information and developments on scene.
- e) Keep the SMC / Incident Controller advised of any changes to the search plan.
- f) Establish and maintain communications with the search units.
- g) Obtain approval from the SMC / Incident Controller before any additional assets are tasked.
- h) Obtain Asset numbers for each search unit from the SMC / Incident Controller.
- i) Prepare and provide a written task briefing sheet to each search unit.
- j) Record all Departure, arrival on scene, take-off and landing times, and total times on task for all search units.
- k) Monitor the performance of the search units.
- l) Evaluate information such as sightings from search units.
- m) Develop a rescue plan in conjunction with the SMC / Incident Controller
- n) Monitor safety issues.
- o) Provide regular Sitreps to the SMC / Incident Controller
- p) Advise the SMC / Incident Controller of any additional assistance / assets required
- q) Debrief all assets on completion of task to assist with POD calculations.
- r) Provide to the SMC I Incident Controller a list of the SRU's tasked during the incident including the Task Numbers, On and Off Task Times and Total Time on Task.

**APPENDIX IV OPERATION WALLIS – TIME LINE**

<b>Time</b>	<b>Description</b>	<b>Action</b>	<b>Comment</b>
<b>1254</b>	Matt Wallis lifted off from Wanaka Airport in <b>Robinson R44 ZK-HTB</b> on a private flight to Minaret Station with personal items and supplies to spend the evening with guests at the Lodge. * The weather at time was north-north west with an approaching front.	Alpine Helicopters	Bill Day
<b>1303</b>	Alpine helicopters noticed that aircraft spidertracks ping had not activated	Alpine Helicopters	Bill Day
<b>1308</b>	Overdue aircraft procedure is started. Radio contact attempted	Alpine Helicopters	Bill Day
<b>1313</b>	Further radio attempts made	Alpine Helicopters	Bill Day
<b>1316</b>	Nick Wallis rung and informed of situation. Jonathon Wallis who was based at the Minaret Station Homestead had become aware of the situation and began to activate a flight reconnaissance using <b>ZK-HDI</b> from the station along the intended flight path.	Alpine Helicopters	Bill Day
<b>1318</b>	Lodge contacted to see if Matt had reached destination. Further radio contact attempts made	Alpine Helicopters	Bill Day
<b>1319</b>	Spidertracks contacted to see if there is a system fault.	Alpine Helicopters	Bill Day

<b>1320</b>	ZK-HRM approaching Glendhu Bay – diverted towards flight Path for further radio attempts	Alpine Helicopters	Bill Day
<b>1320</b>	Nick Wallis and Doug Beech lift from base in <b>ZK-HBN</b> to do flight path reconnaissance	Alpine Helicopters	Bill Day
<b>1323</b>	<p>Call received from Jessica – Alpine helicopters to advise that one of their helicopters <b>ZK-HTB</b> is 15 minutes overdue. HTB departed Wanaka with 1 POB heading to Minaret Alpine Lodge. Last report from Spidertracks was at 1303 hrs. Good report. Helicopter at 1453 ft tracking normally over Lake Wanaka.</p> <p>Aircraft is a Robinson R44.</p> <p>Weather conditions currently cloudy with light rain at the airport. Full cloud.</p> <p>Helicopter <b>HRM</b> is currently enroute to the lodge checking the flight path. Good tracking (Spidertracks) on this machine. Neil Wallis currently on his way to the office.</p>	RCCNZ in ALERT PHASE.	<p><b>Chris Henshaw</b> Search Mission Coordinator / Incident Controller</p> <p><b>Keith Allen</b> Senior Search and Rescue Officer</p> <p><b>Ramon Davis</b> Senior Search and Rescue Officer</p>
<b>1330</b>	Back up administration contacted. ZK-HRM diverted to Lodge with clients	Alpine Helicopters	Bill Day
<b>1332</b>	ZK-HDI confirm the finding of an oil slick in Stevenson’s Arm. Marked it on GPS and commenced a grid and shore search Around the location	Alpine Helicopters	Bill Day

1332	ZK-HBN returned to base to collect equipment to mark oil Slick location	Alpine Helicopters	Bill Day
1335	ZK-HAA Dougal lifts to assist with search	Alpine Helicopters	Bill Day
1340	Call received from Alpine Helicopters. Helicopter has not been located yet. They currently have three (3) helicopter flying with Nick the pilot of H??, Mark in HRM and Joe in HEI.	Request made that the helicopters Fly across the lake towards Minaret Lodge. Once completed helicopters return To base so Nick and Mark can be Spoken to (Company Owners).	Call taken by Keith Allen
1340		Spidertracks on Google Earth shows Last reported position Stevenson's Arm, just south of Stevenson's Island: <b>44 36.390S 169 08.605E</b>	Chris Henshaw
1342	Alpine Helicopters advise Police Emergency of missing Aircraft in Wanaka – One POB – nil further known. Flying over Stevenson's Arm – last known location towards Alpine Lodge In a Robinson R44		Police North Communications
1342		Escalation to <b>DISTRESS PHASE</b>	Chris Henshaw
1342	Activate Aspiring helicopters for SAR	Speak with James – requested to have himself and another pilot ready with squirrels fully crewed with Alpine Cliff Rescue (ACR) teams.	Keith Allen

<b>1344</b>	<b>VMQ5 advised – contacting SAR coordinator</b>		South Comms
<b>1344</b>	<b>ZK-HDI</b> lands on Stevenson’s Island at North Western corner.	Identified from Spidertracks.	Bill Day
<b>1345</b>	Jessica from Alpine helicopters manning radios. Has no further info till she hears from the aircraft out looking. The original caller is flying an aircraft. He just advised they were missing an aircraft in Wanaka		North Comms
<b>1348</b>	Southern Police Comms contact to advise of missing helicopter.	Advised Comms RCCNZ running as Cat II SAROP. Request that Wanaka SAR Coordinator contact RCCNZ with some urgency.	Keith Allen
<b>1349</b>	SCB4 – Julian – (SAR) contacted. RCCNZ are running the operation from there – 3 aircraft from company currently searching. SAR coordinator to contact RCCNZ.		South Comms
<b>1350</b>	Oil slick marked with buoy	Alpine Helicopters	Bill Day
<b>1350</b>	Jessica – Alpine helicopters. Machine is down. Debris in Water R44 – Stevenson’s Arm 1 km north of Stev Isld. 44 60578 169 14339. 1POB. 2 machines searching – ZK-HRM and ZK-HDI	Subject: Matthew WALLIS Alpine Helicopters	Wanaka IMT log
<b>1354</b>	VMQ5 – Debris located in the water – awaiting further.		South Comms

<b>1354</b>	Contact Alpine Helicopters and ascertain why HDI is on Stevenson's Island. Advised they have spotted an oil slick and debris in the water 1 kilometre north of the island. They also have another helicopter enroute to the area.	Advised we do not want any more helicopters in the area.	Keith Allen
<b>1355</b>	Contact RCCNZ. Ramon spoken to.		Wanaka IMT log
<b>1356</b>	Call from Julian Cahill – Police SAR Coordinator – Queenstown. Passed information of crash site location.	He will arrange for Constable Bruce McLean of Wanaka to call RCCNZ.	Ramon Davis
<b>1356</b>	SCB4 – RCCNZ phoned – they are aware and are organising Helicopter response with emergency personnel		South Comms
<b>1356</b>	Contact Otago Helicopters. Helicopter tasked to Wanaka.	Contacted Graham Gale – Wanaka. He will call and task machine.	Chris Henshaw
<b>1358</b>	Aspiring helicopters tasked to head to Wanaka and pick up observers.	Will contact RCCNZ from Wanaka	Keith Allen
<b>1400</b>	Call to Wanaka Coastguard. Request to immediately launch and travel to Stevenson's Arm.	Spoke to Jim. H will have John contact RCCNZ.	Chris Henshaw
<b>1400</b>	Speak with Allan Lee – Police SAR coordinator. He will return to Wanaka		Wanaka IMT log
<b>1400</b>	Constable Bruce McLean contacts RCCNZ. He is standing by At Wanaka Police Station.	RCCNZ will contact him with update as it becomes available.	Ramon Davis

<b>1400</b>	<p>Contact Alpine Helicopters. Advise them to contact Nick who is on scene, and advise on RCCNZ behalf to take coordination of the helicopters on scene – carry out set search pattern over the wreckage and update them that Aspiring Helicopters have two aircraft enroute with SAR crews to carry out more searching, and that Helicopter Otago is enroute with Paramedics.</p> <p>Wanaka Coastguard have also been tasked.</p> <p>Request Nick assess if he can stand some of the helicopters Down out of the search area.</p>	Initial tasking of Alpine Helicopters	Keith Allen
<b>1401</b>		SCB4 – DCC advised – they will Advise Area Commander	South Comms
<b>1402</b>	Police Search and Rescue take over search site co-ordination	Alpine Helicopters	Bill Day
<b>1403</b>	<p>Call to CAA Duty Investigator (Lou Childs). Briefed with information known to date.</p>	<p>She will contact Alpine helicopters To better understand nature of the flight. Decision will then be made whether accident investigated by TAIC or CAA.</p>	Chris Henshaw
<b>1404</b>	<p>Call received from Wanaka Coastguard. Initial briefing.</p>	<p>Jonathon Walmsley will page his crew and call back for further instructions.</p>	Ramon Davis
<b>1405</b>	SCC4 – Wanaka Coastguard advised – Coastguard put through to RCCNZ		South Comms



<b>1407</b>		Contact RCCNZ duty Manager – Appraised of situation	Keith Allen
<b>1408</b>	Weather – Steady rain – Wind 5 km/h		Wanaka IMT
<b>1409</b>	Otago Helicopters enroute		Chris Henshaw
<b>1409</b>	Louise Child – CAA contacted Alpine Helicopters	Alpine Helicopters	Wanaka IMT
<b>1409</b>	Receive call from RCCNZ – Keith Allen. Request to get Someone to Alpine helicopters base to control flight Movements. Coastguard paged and looking for 1 other boat. Non-Alpine staff to assist in search preferably. Heli Otago 40 minutes out. Cat 2 SAROP. Arrange SAR IMT then Police to Alpine helicopters.		Wanaka IMT log
<b>1411</b>	Maritime NZ media provided update on situation. Will be Briefed once more information known.		Ramon Davis
<b>1413</b>	Contacted Wanaka SAR. Advised he is currently on his own.	Request when he can, to get the comms manned for Aspiring Helicopters. Requested to also call and get someone to Alpine helicopters base to assist with control of uncoordinated assets.	Keith Allen

<b>1414</b>	Coastguard advise crew have all been paged – vessel will be departing shortly.	He will go to the Wanaka SAR base and be in Comms with vessel. Weather not good. He will contact police regards tasking another two vessels that they work with.	Ramon Davis
<b>1415</b>	Coastguard arrive and Page Hawea Marine and 2 x Landland Adventures		Wanaka IMT Log
<b>1415</b>	Wanaka Lakes Rescue launched		Wanaka IMT Log
<b>1416</b>	QNJS – Enroute to Wanaka		South Comms
<b>1419</b>	Robin at Wanaka SAR – Part of the IMT team looking to be briefed on incident.	Provided a brief description of the Event	Chris Henshaw
<b>1419</b>	James – Aspiring Helicopters called. Briefed on going to scene and establishing comms with Nick Wallis in HAA. With Nick assume a three craft search pattern over wreckage area. Request all other helicopters to stand down.	James confirms he will have Satellite and cell phone comms available.	Keith Allen
<b>1421</b>	Julian from Queenstown SAR sending at least one staff member to Wanaka to assist.		Keith Allen
<b>1422</b>	Helicopters currently on scene are: <b>ZK-HBN, ZK-HAA, ZK-HDI</b>	Info recovered from Spidertracks	Chris Henshaw
<b>1423</b>	Aspiring helicopters at helipad x 2. Jonathon called Eco-Wanaka to go		Wanaka IMT Log

<b>1423</b>	VMQ5 has liaised with Wanaka SAR at SAR shed – briefed SAR and to go to Alpine Helicopters		South Comms
<b>1424</b>	RCCNZ contacts Alpine Helicopters – Tracy to obtain update.	Remind them RCCNZ is coordinating Search operation. She advises Nick Wallis has landed where he wants James from Aspiring Helicopters to go to. Provide Alpine Helicopters with update on other assets deployed.	Keith Allen
<b>1430</b>	James at Aspiring Helicopters called – first team leaving		Wanaka IMT Log
<b>1430</b>	Alpine seeking frequency Coastguard operating on.	Advised will probably be operating off VHF16. Will confirm. Nick has advised will stand other Helicopters down once James is on Scene. Confirmed helicopter pilot is from Wanaka and is part of Alpine staff.	Keith Allen
<b>1431</b>	PLO informed (Nick)	Will ascertain Police event number	Chris Henshaw
<b>1434</b>	Wanaka Coastguard departed – enroute to search location.		Ramon Davis
<b>1435</b>	Coastguard at Bull Island		Wanaka IMT Log

<b>1436</b>	Coastguard comms now at Wanaka base. Police also there along with LandSAR arriving for IMT. Advised second vessel leaving shortly.	Advised Coastguard is operating on Channel 64. Asked to dual watch on Channel 16 so Aspiring helicopter can talk to them.	Ramon Davis
<b>1437</b>	Aspiring helicopters departed		Chris Henshaw
<b>1438</b>	<b>Eco-Wanaka on their way</b>		<b>Wanaka IMT Log</b>
<b>1439</b>	Aspiring helicopters on scene		Keith Allen
<b>1440</b>	Contact CAA Duty Investigator.	Advised that TAIC is lead agency With Ian McLellan as the Investigator. All updates to him on 0275589800.	Keith Allen
<b>1443</b>	Contact TAIC	No response from number provided	Keith Allen
<b>1443</b>	Call cell phone for ZK-HUP. Call went to Graham Gale.	Passed on that On Scene Air Traffic Controller is James in Aspiring Helicopter ZK-HAH. There is a number of helicopters in the Vicinity. Coastguard will be Operating off Channel 16.	Chris Henshaw
<b>1444</b>	<b>2<sup>nd</sup> Aspiring Helicopter gone with second team</b>		<b>Wanaka IMT log</b>
<b>1444</b>	Coastguard on scene		Ramon Davis
<b>1445</b>	<b>Jonathon advises Coastguard at scene north of Stevenson's Island</b>		<b>Wanaka IMT Log</b>

<b>1445</b>	Contact from James – Aspiring. He is on ground Stevenson’s Island.	He plans to carry out expand search From the oil slick. There is wreckage on the island so he intends to put the crew from the second helicopter on the island to search that. He will talk to Coastguard on Ch 16. Nick from Alpine Helicopters will stand all other helicopters down.	Keith Allen
<b>1445</b>	Call from Police Southern District Command (Darryl)	Checking progress of Search and if further assistance required. All good and in contact with Bruce in Wanaka.	Ramon Davis
<b>1445</b>	Second Coastguard vessel ‘Oanaka’ on scene.		Chris Henshaw
<b>1445</b>	From Lionel to Otago Helicopter – have they got a swimmer? ETA 15 minutes out – they are going direct to site		Wanaka IMT Log
<b>1447</b>	ASP and SAR take full control of search coordination	Alpine Helicopters	Bill Day
<b>1450</b>	Jonathon puts 2 x Hawea Marina vessels on standby		Wanaka IMT Log
<b>1452</b>	Call from TV3	Passed to Media – Maritime NZ	Ramon Davis

<b>1453</b>	Call from Bruce – Wanaka Police He is at Alpine Helicopters.	He will arrange for Alpine to contact RCCNZ on their return to base. Bruce provided with update on Situation – he will pass to his IMT group. Alan Lee from Qtwn will be at the base soon – SAR Coordinator. Contact 0211908231	Keith Allen
<b>1454</b>	Aspiring Helicopters – Want to get two observers into helicopter – will call James when they are ready		Wanaka IMT Log
<b>1455</b>	Call to TAIC	Ian briefed and updated with latest information. TAIC sending two investigators to Wanaka tomorrow morning. Provided Police (Bruce) contact number for on the ground liaison.	Chris Henshaw
<b>1455</b>	Coastguard advise Oil slick located <b>44 35.267 160 07.883</b>		Wanaka IMT Log
<b>1457</b>	Call to Wanaka Coastguard to ascertain boats tasked	Call to voicemail	Chris Henshaw
<b>1457</b>	Aspiring Helicopters (second helicopter) on scene		Ramon Davis
<b>1458</b>	Contact recorded with Alan Lee (Wanaka Police/SAR)		Keith Allen
<b>1500</b>	Tracplus position of oil slick from ZK-HAH <b>44 35.397S 169 07.743E</b>		Chris Henshaw

<b>1500</b>		Roy advises Rachel on SB	Wanaka IMT Log
<b>1500</b>	Jonathon advises Coastguard tasked to do shoreline search		Wanaka IMT Log
<b>1500</b>	James from Aspiring helicopters recommends 12 people for search of Stevenson's Island		Wanaka IMT Log
<b>1505</b>	Maritime media provided update		Keith Allen
<b>1506</b>	Contact Jonathon Walmsley (CG Wanaka).	He advises Coastguard and OANAKA Are on scene. One is currently Shoreline searching the island and the other is searching lake edges under direction of the helicopters.	Chris Henshaw
<b>1507</b>	Otago Helicopter going to Stevenson's Island		Wanaka IMT Log
<b>1511</b>	Otago Helicopter with medivac capability on scene		Ramon Davis
<b>1512</b>		From Aspiring Helicopters to HO – nothing heard	Wanaka IMT Log
<b>1518</b>	Contact Alpine Helicopters. Update provided.	All Alpine helicopters back at base. Pilots family at Alpine base speaking With Police.	Keith Allen
<b>1520</b>	Aspiring Helicopters – 2 passengers on Western side of island		Wanaka IMT Log



1525	Call from Nick Wallis – Alpine Helicopters	Nick advises that the wreckage on The island is at the northern tip of The land. The oil slick is 400 – 500m Out from that. He can send down The track system – just send an Email and he will return the tracks. He believes the pilot and aircraft Are in the Lake. The pilot is his younger brother <b>Matthew Wallis</b> .	Keith Allen
1525	Otago Helicopter returning to uplift air observers		Wanaka IMT Log
1528	Call from Otago Press	Requested to contact Maritime NZ	Chris Henshaw
1530	Coast guard / ECO advise search of peninsula side complete – Nothing seen now going to shoreline eastern beach		Wanaka IMT log
1530	Media Release from Maritime NZ reviewed and returned		Ramon Davis
1530	Otago helicopters picking up air observers		Wanaka IMT Log
1531	Email sent to Nick Wallis – with message of condolence.		Keith Allen

<b>1531</b>	Call received from James – Aspiring Helicopters	<p>Has marked position of oil slick on triples.</p> <p>He is in communication with the Two Coastguard vessels – they are shoreline searching the island and the coast of the lake. James is satisfied no further searching of the lake is needed. He has dropped one team on the land – will be getting a further team shortly.</p> <p>Wind direction is area Calm with a Very slight westerly drift of the oil / fuel slick.</p>	Ramon Davis
<b>1532</b>		VMS has contacted Victim Support	South Comms
<b>1533</b>	Roy texting SAT phones – team still searching western side of island		Wanaka IMT Log
<b>1535</b>	Contact Allan Lee – SAR Coordinator. Just arriving in Wanaka		Keith Allen
<b>1536</b>	To Aspiring helicopters – Allan, Anthea, Rachel going to island In 5 – advise Aspiring Helicopters.		Wanaka IMT Log
<b>1536</b>	Maritime NZ media. Update provided.	Chris Henshaw available for quotes. Latest release will be reviewed.	Ramon Davis

<b>1537</b>	Coastguard advise have found Minaret water bottles and Debris – <b>44 35.466 169 07.905</b>		Wanaka IMT Log
<b>1538</b>	John Burke advises – grid searching island – have told there are more people coming and driving		Wanaka IMT log
<b>1538</b>	Otago Helicopters to swap air observers – Glenn and Rich to Observe - others to go on island		Wanaka IMT log
<b>1541</b>	Contact Jonathon – Coastguard.	Request CG vessel takes spot dept Readings at the oil slick position and at position marked by ZK-HAH and out 100m from position.	Chris Henshaw
<b>1542</b>	Sitrep from James – Aspiring Helicopters	They are searching things pretty well. May require more people to search the land just to check things. Debris spread about 400m. He will now search one side of the Island and the lake. ZK-HUP will Search the other side, Alpine Helicopters has dropped a Buoy into the lake where the oil Slick was located.	Keith Allen
<b>1545</b>	Media statement reviewed and released by MNZ		Ramon Davis
<b>1548</b>	Text sent to TAIC advising name of Pilot	Message acknowledged	Chris Henshaw

1549	QNJS – Taking Victim Support to Alpine Helicopters		South Comms
1549	Aspiring helicopters – Callum, Dan, MJ in Aspiring helicopter. ZK-HMM has Brent, John C and John Burke. RCCNZ told to Research island – we are operating under RCCNZ instructions Otago Helicopter picking up Allan, Anthea and Rachel		Wanaka IMT Log
1552	From Wanaka Coastguard – located a first aid kit and a Minaret Lodge water bottle in position: <b>44 35.466S 169 07.905E.</b> Second vessel has located nothing and about to head along the east shoreline. The marker buoy has moved and asap the will retrieve and attempt to put on oil slick and obtain depths.	Exhibits retrieved, photographed and bagged.	Keith Allen
1552	Simon C and David Brent are here to go driving with Tim Burdon along Eastern shore line		Wanaka IMT Log
1553		Marine briefing forms sent to Jonathon for both CG and OANAKA	Chris Henshaw
1558	Phil Vink now Incident Coordinator at IMT		Wanaka IMT Log
1600	Items located: <b>BOOT – 44 35.538 169 07.922</b> <b>HEAD SET – 44 35.521 169 07.963</b>		Wanaka IMT log
1601		Base calls Island search team – no response	Wanaka IMT Log

<b>1601</b>		Base calls James – Aspiring Heli – no response on MS17 or Marine 16	Wanaka IMT Log
<b>1603</b>	James Aspiring Heli calls IMT. Advised HAH that Western / North-western side of Island debris is being found – boot, Water bottles etc. Coastguard and GPS location and retrieving items.		Wanaka IMT Log
<b>1604</b>	Coastguard advise they had located a boot and a head set.	Advised CG that Nick Wallis – Alpine advises that the buoy has quite a lot of rope on it – the weight will not move. CG can simply shorten up the rope	Keith Allen
<b>1605</b>		Alan, Anthea and Rachel currently on island	Wanaka IMT Log
<b>1607</b>		Cruikshank, Brent Arthur on ground.	Wanaka IMT Log
<b>1609</b>		Media interview with Newstalk ZB	Chris Henshaw
<b>1611</b>		TV3 seeking clarity of helicopter – Robinson R44	Chris Henshaw
<b>1612</b>	Aspiring Helicopter HAH calls IMT – Callum and Dan on HAH. MJ on the ground northern end of island		Wanaka IMT log

<b>1615</b>	Contact Allan Lee – Wanaka SAR. Briefed on what is currently happening. Discuss need to contact Police Dive Squad. Also discussed need for more land SAR staff to do Walk up the island tomorrow	Allan Lee to contact Police Dive Squad	Keith Allen
<b>1616</b>	HMM contact IMT – MJ is working under HAH on Northern end of island in close location with Brent Arthur and Cruikshank		Wanaka IMT log
<b>1620</b>	IMT Tasking – Roy and Lionel driving to put link box at observation point at outlet – will let teams know to use ESX07 To contact base (on MS17). To call in when on site		Wanaka IMT log
<b>1622</b>	IMT Coastguard calls CG ECO – Wanaka Lakes re-tasked to Ascertain depth at oil slick location – <b>44 35.397 169 07.743</b> OANAKA remaining picking up debris		Wanaka IMT log
<b>1630</b>	HMM advise Alan. Anthea, Rachel in similar search area to Other land teams – North western part of island		Wanaka IMT log
<b>1633</b>	HMM advises heading back to hangar to refuel. Will return to position. HAH will refuel once HMM is back on task		Wanaka IMT Log
<b>1635</b>	Julian contacts Police Dive squad and briefed. Dive squad will Commence planning		Wanaka IMT log
<b>1636</b>	SCA3 – On call Dive Squad given cell number for QNJS. They Will call him.		South Comms

<b>1639</b>	IMT standing down Dual Image and standing down Lake Hawea Marine		Wanaka IMT log
<b>1640</b>	WLR advise IMT Buoy rope shortened at location <b>44 35.398 169 07.701</b> Depth 45 – 47m		Wanaka IMT Log
<b>1641</b>	Bruce Adams – Police National Dive Squad receives a call from Julian Cahill of Queenstown SAR advising they have one helicopter and a missing pilot in Lake Wanaka approx. 1 kilometre north of Stevenson’s Island. Coastguard checking depth believed to be 45 – 50 metres	Bruce Adams statement	Police National Dive Squad
<b>1642</b>		Briefing sheets sent to the three Deployed helicopters	Keith Allen
<b>1643</b>	Aspiring helicopter HAH advise Otago Helicopter needs to Return to base soon. What do you want done with searchers on board – Rich and Glen		Wanaka IMT log
<b>1643</b>		Bill Day contacts John Burke (HMM) – Otago helicopters have been Searching	Wanaka IMT Log
<b>1644</b>	Call back from James – he has just completed a third aerial Search of the island. He advised the LandSAR team have Completed one search of the western side of the island where the wreckage seems to be located. He will soon have to return to base for fuel.	Advised him RCCNZ is happy for him to collect the LandSAR teams and head back to base. Requested to pass message to HUP They can return to base as well. He will have HUP contact RCCNZ.	Chris Henshaw

1644	Phil Vink contacts RCCNZ – RCCNZ want Wanaka SAR to Demobilise from area – other than Coastguard		Wanaka IMT Log
1646	HMM refuelled and returning to Stevenson’s Island		Wanaka IMT log
1647	Contact from Clayton – HUP. Heading for Wanaka to refuel. Confirmed they have completed their sector of the search.	Advised to return to Dunedin and thanked for assistance. Acknowledged.	Chris Henshaw
1647	Contact from Philip Vink (Police) – Wanaka SAR. The Otago helicopter wants to stand down - Yes. Discuss further search of Island and will discuss handover of SAROP later	Authorised Wanaka SAR to use Helicopters as required to uplift the LandSAR people from the island Along with Coastguard.	Keith Allen
1647	Otago Helicopter contacts IMT – will refuel. Phil Vink asks them to pick up team after refuel and return them to base		Wanaka IMT log
1648	<p>Alan Lee Wanaka SAR contacts Bruce and briefs as per above. Discussion re search options based on water depth. If under 40m Police members can dive. If between 40 and 55 metres, can arrange for defence to dive. If depths were found to be greater than 55 metres, then arrange for defence to utilise remote operated vessel.</p> <p>Local support would be required which would include a large barge and vessels to transport staff and provide platform to conduct search from.</p> <p>Recommended plan of action: first conduct sonar of area to locate wreckage located will dictate dive or deployment of ROV.</p>	Bruce Adams statement	Police National Dive Squad



<b>1651</b>		Call from Police Comms confirming CAA informed – Yes	Chris Henshaw
<b>1652</b>	Call from Clayton – HUP – request from Wanaka SAR base to Uplift personnel from island.	Agreed.	Chris Henshaw
<b>1653</b>	Roy Bailey advises SAR teams setting up radio link box		Wanaka IMT log
<b>1655</b>	Call from Jonathon – Coastguard. Rope shortened. Depth of water 45 – 47 metres at position <b>44 35.398S 169 07.701E</b>	Coastguard will look at uplifting persons from island as well. They are available tomorrow.	Keith Allen
<b>1656</b>	VMY – 3 helicopters have been searching lake and shoreline. Debris and oil slick found. Search is coming to an end. Likely There will be a 1S. Dive Squad hopefully arriving tomorrow.		South Comms
<b>1656</b>	HAH advise return to landing zone with Callum and Dan. Requested vehicle to landing zone for pick up. Kerrie heading Up		Wanaka IMT log
<b>1659</b>	HMM advise returning to Landing Zone with Al Uren, Anthea Rachel. Karen has headed to LZ to pick up team. Will return to the island to pick up another team afterwards.		Wanaka IMT log
<b>1700</b>		Update Alpine helicopters that teams standing down for day.	Keith Allen
<b>1700</b>	Otago Helicopters advise return home		Wanaka IMT log

<b>1700</b>	Roy Bailey advises link box on site – cannot contact teams on Island. Base advised that teams returning to base. Roy and Lionel returning to base with Link box		Wanaka IMT Log
<b>1703</b>	HMM returning to island to pick up remaining team Al, MJ, John Burke, Glenn Shearson are still on island		Wanaka IMT Log
<b>1709</b>		Aspiring helicopters back at base	Chris Henshaw
<b>1711</b>	HMM returning to Landing Zone with all remaining persons on board		Wanaka IMT log
<b>1712</b>		Otago helicopter off scene	Keith Allen
<b>1712</b>	IMT contacts OANAKA Eco adventures – returning home		Wanaka IMT Log
<b>1712</b>	IMT contacts Wanaka Lake Rescues – returning home		Wanaka IMT Log
<b>1715</b>	HMM advise have dropped off passengers – returning to Cattle Flat		Wanaka IMT Log
<b>1717</b>	IMT contacts 4WD – no response from 4WD (Simon Chisholm, David Brent) on MS17. Robyn to text them. Robyn attempted to phone Tim Burton – could not get through.		Wanaka IMT log
<b>1718</b>		Photos received from Aspiring Helicopter	Keith Allen

1720	Call from Allen Lee (Police SAR). Discuss next stages of Operation. He and Phil Vink will be at IMT for next couple of hours. Requested that RCCNZ call when transfer of coordination forms being sent.	Talked through finishing up tonight. Getting everybody back off the Island and tomorrow when TAIC on scene and looking at everything.	Chris Henshaw
1727	Call from James – Aspiring helicopters. Check receipt of Photos taken looking south down the helicopter track toward Wanaka. He will send the tracplus data tomorrow. Hot debrief.	Thanked him and team for efforts.	Chris Henshaw
1728	Confirm LandSAR field teams have returned to base except 4WD – Simon Chisholm and David Brent		Wanaka IMT log
1728		Wanaka Coastguard back at base	Chris Henshaw
1728		OANAKA back at base	Chris Henshaw
1730	OANAKA advises has returned to wharf. OANAKA advised to bring recovered exhibits to SAR base		Wanaka IMT log
1731	Field team advised they have heard from 4WD – returning to Base		Wanaka IMT log
1740		Wanaka LandSAR back at base	Chris Henshaw
1744	Media update sent to Maritime NZ media		Chris Henshaw
1745	Wanaka Lake Rescue advise have returned to wharf. WLR advised to bring recovered exhibits to SAR base		Wanaka IMT Log

<p>1745</p>	<p>Hot debrief of Wanaka SAR teams by Wanaka SAR Police Incident Controller Phil Vink</p>	<p>Refer debrief notes. Key findings:</p> <ul style="list-style-type: none"> <li>• Due to poor comms ZK-HAH overworked – would have been good to deploy link box earlier</li> <li>• Police came to party late – Robyn and Lionel did great job of deploying teams. If Matt had been on shoreline or on water he would have been found. Once operational comms was the main problem.</li> <li>• James – ZK-HAH acted as OSC – Did grid search hasty but adequate. Hasty search done around areas of debris. Evident that most items had fallen from height at northern end of Island. Nearly all on shoreline or water. Pelican box with Sat phone was With back seats – had fallen Directly down.</li> <li>• James was trying to run search as had contact with land teams and IMT.</li> <li>• James overloaded with comms – would have been good to have</li> </ul>	<p>Wanaka IMT</p>
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		<p>link box deployed earlier</p> <ul style="list-style-type: none"> <li>• Police dive squad planning to be on site tomorrow – Coastguard will assist dive squad and assist in recovery of debris</li> <li>• Probability is helicopter broke Up over northern end of island and is in water not far offshore. Catastrophic break up has occurred in air. Was at 1500 ft above sea level at last ping – so was only 4 – 500 ft above lake level – pings at 3 min intervals</li> <li>• Debris found on northern end of island, some identifiable from Minaret – linen bag, back seat of helicopter, section of damage rotor blade, rifle, synthetic stock rifle bag.</li> </ul>	
1746		Otago Helicopters back at base	Chris Henshaw
1806	Screen shots of tracplus tracks from <b>Otago helicopters (HUP), Aspiring Helicopters (HAH, HMM), and Coastguard Wanaka Vessel</b> obtained.	Attached to file	Chris Henshaw
1829	Bruce Adams contact defence – Danial Wairanga – early heads up. Confirms naval team available. Could possibly undertake defence flight to Chch or Dn then drive. If flights	Bruce Adams statement	Police National Dive Squad

	not available will have to drive to Wanaka as cannot transport their equipment of commercial flight. Formal request to defence still to be processed.		
<b>1830</b>	Contact Alan Lee to update PNDP position and search options. Discuss logistical support requirements. Discuss possibility of pilot not being with aircraft. Discussed the need to GPS and mark the position of oil slick with a float at the very tip of the slick.	Bruce Adams statement	Police National Dive Squad
	Contact Metservice who advise wind of north north west on Sunday dropping from 17 knots to 7 knots with occasional rain. Monday's forecast believed to be strong south east winds with clearing rain as is Tuesday. Wednesday fine with light winds.	Bruce Adams statement	Police National Dive Squad
	Air New Zealand advise flights available Wellington to Queenstown 0915 arriving 1035. There were also later flights.	Bruce Adams statement	Police National Dive Squad
<b>1848</b>	Call from Phil VINK (Police) regards transfer of coordination.	Advised the form was just being peer reviewed in the office before being emailed to him shortly.	Chris Henshaw
<b>1855</b>	Transfer of SAR Coordination emailed to Phil Vink		Chris Henshaw
<b>1915</b>		Call to OSD0 – no reply message left	Ramon Davis
<b>1918</b>	Call received from OSD0. Updated.	They are interested in Marine spills but thanked heads up	Ramon Davis

<b>2000</b>	Hand-over received from outgoing watch. Transferred to police as Cat 1 search. TAIC leading investigation and will have 2 staff on scene In morning.	Agreed that thorough search achieved today and that most likely helicopter with pilot is in lake. Transfer of coordination forms emailed – haven't had verbal confirmation yet. RCCNZ to call Phil VINK (Wanaka Police SAR)	Greg Johnston
<b>2006</b>	Contact Phil VINK – answerphone no message left		Greg Johnston
<b>2009</b>	Contact Allan Lee (Wanaka Police SAR) to discuss incident. He gave verbal confirmation that police have taken over Coordination as Cat 1 incident. Himself and Phil Vink are Co-OSC. Still at SAR base planning tomorrows search. They haven't heard from TAIC investigators but will give Search personnel instructions to mark – don't disturb debris Found – TAIC can conduct their own investigation.	RCCNZ will forward change of Coordination form to AI to check Sign and return.	Greg Johnston
<b>2023</b>	Email sent to Alan Lee and Phil Vink with transfer of Coordination form attached.		Greg Johnston
<b>2028</b>	Phoned Ian McLellan (TAIC) updated. He will contact Wanaka Police to discuss tomorrows search and investigation	Confirmed Police have taken over Coordination. Contact number for Alan Lee and Phil Vink provided.	Greg Johnston

<b>2051</b>	Phoned Maritime NZ media – confirmed coordination has been transferred to police and TAIC undertaking investigation.	Media has noted on Twitter and Facebook that police coordinating and advised some journalists of same. Thanked RCCNZ for updates.	Greg Johnston
<b>2108</b>	Call received from Newstalk ZB	Given brief update. Advised coordination transferred to Police for ongoing search and TAIC leading investigation. Asked about pilot details – not released.	Greg Johnston
<b>2111</b>	Signed transfer documents returned from Alan Lee		Chris Wilson
<b>2130</b>	Receive email from Alan Lee Wanaka SAR confirming information to hand. Email forwarded to Inspector Geoff Jago with a revised plan.	Bruce Adams statement	Police National Dive Squad
<b>2200</b>	Insp Geoff Jago approves deployment requesting Police National Dive Squad first dive the site and provide an update prior to request to Defence for their assistance. Request defence be advised as there are possible defence flights Monday from Akld to South Island and they could be placed on standby.	Bruce Adams statement	Police National Dive Squad
	Contact duty dive team and arrange for them to be at base at 0600 to prepare equipment and load.	Bruce Adams statement	Police National Dive Squad



2346		Debrief form received from HUP – Otago Helicopters	Geoff Lunt

## Operation WALLIS

### Time line 22 July 2018

Time	Description	Action	Comment
0600	Arrive at Police Dive base, and prepare and load equipment	Bruce Adams statement	Police National Dive Squad
0800	Arrive Wellington airport and liaise with Alan Lee Wanaka SAR for any update.	Bruce Adams statement	Police National Dive Squad
<b>0800</b>	IMT on site. Team tasking underway. Ground trams on liaison channel. John Burke will be on island as comms, will also have Sat phone	Wanaka IMT	Wanaka IMT Log
<b>0826</b>	Phil Vink Police SAR Coordinator – Incident Controller for Cat I Search and recovery operation.	Wanaka IMT	Wanaka IMT log
<b>0838</b>	Wanaka Lakes Rescue (Coastguard) have launched, completed safety assessments and tasking briefing and are waiting at Wanaka Marina. Will return to pick up second team from Wanaka Marina	Wanaka IMT	Wanaka IMT log
<b>0849</b>	Harbour Master searching peninsula shoreline	Wanaka IMT	Wanaka IMT log
<b>0849</b>	Coastguard tasked with shore-line search and retrieve an oil sample	Ppt	Wanaka IMT
<b>0851</b>	Wanaka Lakes Rescue on Marine 66	Wanaka IMT	Wanaka IMT log
<b>0853</b>	Aspiring helicopters HMM 4 minutes out. Will shut down and come in form briefing	Wanaka IMT	Wanaka IMT log
<b>0855</b>	Harbourmaster advises that WALLIS boats are welcome to enter the exclusion zone	Wanaka IMT	Wanaka IMT log

<b>0900</b>	HMM (Tim) arrives in Wanaka Base – team briefing commences. Group and staff meeting to discuss previous day and actions moving forward – 4 LandSAR teams deployed to Stevenson’s Island to complete search area. Marine safety briefing given to field teams during briefing. WALLIS family will be on scene in boats.	Wanaka IMT	Wanaka IMT log
<b>0900</b>	Police National Dive Squad ETA on site 1300 – will be operating around buoy	Wanaka IMT	Wanaka IMT log
<b>0900</b>	Part of controls has been found, so there may be body parts on site (rotor blade may have entered cockpit). Damaged rifle has been found, was in pod and unloaded, but ammo may be on site	Wanaka IMT	Wanaka IMT log
<b>0920</b>	Team Leader briefing started	Wanaka IMT	Wanaka IMT log
<b>0920</b>	Harbourmaster is on site monitoring exclusion zone. Has already turned people back.	Wanaka IMT	Wanaka IMT log
<b>0926</b>	Team Leader briefings concluded, and teams deployed.	Wanaka IMT	Wanaka IMT log
<b>0930</b>	Police National Dive Squad depart Wellington for Queenstown	Bruce Adams statement	Police National Dive Squad
<b>0942</b>	HMM tasked to deploy link box and team to Stevenson’s island. Next sitrep will be when returning to Cattle Flat (base).	Wanaka IMT	Wanaka IMT log
<b>0945</b>	Wanaka Lakes Rescue departs wharf with 2 x LandSAR teams	Wanaka IMT	Wanaka IMT log

<b>1000</b>	Link box set up to assist radio comms on island with search teams	Ppt	Wanaka IMT
<b>1000</b>	Meeting held with coordinators to develop recovery plans	Alpine Helicopters	Bill Day
<b>1002</b>	Wanaka Lakes rescue arrives Stevenson's Island with 2 x LandSAR teams	Wanaka IMT	Wanaka IMT log
<b>1002</b>	Link box deployed. Comms 5 x 5	Wanaka IMT	Wanaka IMT log
<b>1006</b>	Peninsula shoreline has been searched by harbourmaster – nothing located	Wanaka IMT	Wanaka IMT log
<b>1020</b>	Wanaka Lakes rescue uplifting team 4 at wharf	Wanaka IMT	Wanaka IMT log
<b>1023</b>	HMM back at base (Cattle Flat) having completed tasking	Wanaka IMT	Wanaka IMT log
<b>1045</b>	Arrive Queenstown and uplift vehicles – then drive to Wanaka SAR base	Bruce Adams statement	Police National Dive Squad
<b>1046</b>	Wanaka Lake Rescue deploys final teams to Stevenson's Island. Tasked to take sample of oil in water and search water area. No oil located.	Wanaka IMT	Wanaka IMT log
<b>1100</b>	Wanaka Lakes rescue advise wind 20 knots down through valley – too had to hold creeping line – will do parallel line	Wanaka IMT	Wanaka IMT log
<b>1111</b>	First of Police dive Squad arrive at Wanaka base – from Timaru. Other members on road from Queenstown. Bill Day briefing Phil from Dive Squad.	Wanaka IMT	Wanaka IMT log
<b>1121</b>	Harbourmaster has completed search of shoreline Eastern side of Stevenson's Arm	Wanaka IMT	Wanaka IMT log

<p><b>1121</b></p>	<p><b>Update from meeting:</b>  Coastguard and Harbourmaster have found not items  Dive team to search from north end of island outwards  Police Investigation team being set up  Taskings for rest of Island being written – 2 teams for balance of island, 2 x teams for mainland shores  Now gusting 30 knots out there  Family heading up soon in boats  Police will officially list Matt as missing soon  North of Island known as area of turbulence for pilots  With drift pattern, unlikely to find anything east of island</p>	<p>Wanaka IMT</p>	<p>Wanaka IMT log</p>
<p><b>1152</b></p>	<p>Team 1 update – round northern tip of island, almost completed tasking. No significant findings by any team at this stage.</p>	<p>Wanaka IMT</p>	<p>Wanaka IMT log</p>
<p><b>1200</b></p>	<p>Team 1 – 2<sup>nd</sup> tasking to search lower peninsula of island (south of SW beach) – shoreline then purposeful wandering search inland of southern peninsula. All teams to rendezvous at SW beach once completed tasking or at 1400 if loose comms (N beach is now too affected by wind to land boats or helicopter's). Food will be delivered to SW beach at 1300 for teams</p>	<p>Wanaka IMT</p>	<p>Wanaka IMT log</p>
<p><b>1202</b></p>	<p>Lake Hawea boat (C20) has Kevin as Captain, currently launched at marina awaiting tasking. Tasked to take food to SW beach.</p>	<p>Wanaka IMT</p>	<p>Wanaka IMT log</p>

<b>1217</b>	On completion of next leg, Wanaka Lakes rescue to return to marina for a break then receive briefing from Police Dive Squad	Wanaka IMT	Wanaka IMT log
<b>1220</b>	Police National Dive Squad arrive at Wanaka SAR base	Wanaka IMT	Wanaka IMT log
<b>1225</b>	<p>Arrive Wanaka SAR base and receive a briefing from Phil VINK – Wanaka SAR Incident Controller.</p> <p>Operation O/c Derek Shaw. Victim liaison Linda Stevens</p> <p>Plan – team to conduct a quick recce and dive then update PNHQ regarding defence request. Following initial dive, complete sonar search around the area where oil slick located.</p> <p>Sonar equipment to be loaded onto vessel Dual Image operated by Tim Cuthbertson.</p>	Bruce Adams statement	Police National Dive Squad
<b>1300</b>	Dual Image mobilised		
<b>1350</b>	Coastguard and Eco Wanaka (Oanaka) depart with dive squad to recce crash scene. Dual Image will load up sonar equipment.	Wanaka IMT	Wanaka IMT log
<b>1400</b>	<p>Arrive on scene. Weather conditions strong north north west wind producing surface trough of approx. half a metre. Debris is visible on shoreline. Search line placed from shoreline in northerly direction toward orange marker buoy. Team, crew of vessels briefed to plan. Hazards, actions on location and casualty evac.</p> <p>Plan to search out from island in clockwise direction to 30m.</p>	Bruce Adams statement	Police National Dive Squad

<b>1409</b>	Dual Image en route to crash scene with PNDS sonar equipment	Wanaka IMT	Wanaka IMT log
<b>1419</b>	Wanaka IMT advise Vessel C20 they are primary vessel for extraction of LandSAR search teams from Stevenson's Island	Wanaka IMT	Wanaka IMT log
<b>1430</b>	Nick Wallis contacts CAA by email	Alpine Helicopters	Bill Day
<b>1430</b>	TAIC arrive in Wanaka and commence investigation	Alpine Helicopters	Bill Day
<b>1431</b>	Fiona – LandSAR has had small slip on ridge and has slight wrist injury slipping on rock. GP onsite to attend. Will wait on beach and be brought out with rest of team. Requires no further med care at this stage. I with Vessel C20	Wanaka IMT	Wanaka IMT log
<b>1445</b>	Olaf briefed at SAR base	Wanaka IMT	Wanaka IMT log
<b>1455</b>	TAIC arrive at Wanaka SAR base	Wanaka IMT	Wanaka IMT log
<b>1508</b>	Diver in water.	Wanaka IMT	Wanaka IMT log
<b>1509</b>	Commence dive. Visibility 3 metres. Lake bed covered with fine silt and low matted weed. Gradual slope away from island then flattening out. Locate several small parts of black and white fibreglass	Bruce Adams statement	Police National Dive Squad
<b>1527</b>	Location of divers 44 35.550S 169 07.895E. Weather 30 knots. Dual image is on location with sonar equipment onboard awaiting instructions from divers.	Wanaka IMT	Wanaka IMT log
<b>1529</b>	Dive completed. Advise SAR base and Inspector Jago confirm request for assistance from Defence for sonar and dive capability. Recce around datum buoy – depth 47 metres.	Bruce Adams statement	Police National Dive Squad

<b>1552</b>	Teams are getting tired. Recommendation of IMT to extract teams	Wanaka IMT	Wanaka IMT log
<b>1556</b>	Dual Image, Oanaka and Wanaka Lakes rescue at together. Bruce Adams is making decision on what dive team to do next. All boats have a large amount of gear onboard – all divers on Dual Image.	Wanaka IMT	Wanaka IMT log
<b>1616</b>	Teams 1,2 and 4 boarding Hawea Marine to demobilise	Wanaka IMT	Wanaka IMT log
<b>1617</b>	Oanaka to return to marina, offload at jetty and Coastguard rep will stay with equipment. Wanaka Lake Rescue will stay at Stevenson’s Island to extract final LandSAR team. Dual Image is staying out on scene with divers and sonar equipment.	Wanaka IMT	Wanaka IMT log
<b>1630</b>	<p>Assemble sonar equipment and proceed to conduct search of lake floor around datum buoy location.</p> <p>Complete several sonar searches out to a 40 radius from location.</p> <p>Update Wanaka SAR and Inspector Jago.</p>	<p>Almost immediately locate an object on the sea bed which has sharp features and measures 7 metres long, 2 metres high and 2 metres wide.</p> <p>The object identified appears to include rotors, made of metal and small metals objects around it on the sea bed.</p>	
<b>1636</b>	WALLIS boats just leaving island	Wanaka IMT	Wanaka IMT log
<b>1637</b>	C20 with 12 pax nearing marina	Wanaka IMT	Wanaka IMT log
<b>1638</b>	Harbourmaster off water	Wanaka IMT	Wanaka IMT log



<b>1643</b>	Harbourmaster updated	Wanaka IMT	Wanaka IMT log
<b>1649</b>	Oanaka at jetty and finished for the night	Wanaka IMT	Wanaka IMT log
<b>1655</b>	Wanaka Med Centre advise Fiona is on way with suspected sprain to wrist – Dr Jonathon Willis (Team1) had requested that she has x-ray at med centre	Wanaka IMT	Wanaka IMT log
<b>1658</b>	All remaining LandSAR teams on beach and boarding Wanaka Lakes Rescue	Wanaka IMT	Wanaka IMT log
<b>1724</b>	Wanaka Lakes Rescue at jetty. Will be off water in 15 mins.	Wanaka IMT	Wanaka IMT log
<b>1740</b>	ODSAR6 updates – ground search Stevenson’s Island. Coastguard searching Lake area. National dive squad on Scene. Leave job open.	ODSAR6 still on duty – until approx. 2000hrs.	South Comms
<b>1802</b>	Site of helicopter wreckage confirmed with police dive squad sonar. Dual Image returning to marina.	Wanaka IMT	Wanaka IMT log
<b>1830</b>	Complete sonar search, recover and stow equipment. Return to Wanaka township	Bruce Adams statement	Police National Dive Squad

	Wanaka SAR planning and briefing	<p>Continue request for Defence sonar equipment should pilot not be inside aircraft wreckage.</p> <p>Navy advise they cannot dive beyond 30m with current onshore resource and will deploy ROV.</p> <p>Defence confirm up to 8 staff will be deployed and will attempt to fly to Wanaka, if not Dn, and worst-case scenario Chch.</p> <p>Advise Wanaka SAR and Mr Bill Day who had planned to transport navy staff and equipment from where they land to Wanaka.</p> <p>Bill Day will also arrange barge and suitable lifting equipment, indicated to be a deck mounted capstan winch.</p> <p>Police Dive Squad will continue sonar searching around wreckage Monday and remain on vessel Dual Image.</p> <p>Discussed with family liaison and all agreed family to be shown sonar imagery.</p>	
<b>1830</b>	Dual Image and dive team at marina	Wanaka IMT	Wanaka IMT log

<b>1929</b>	All teams returned to Wanaka SAR base – communications left in situ	Ppt	Wanaka IMT
<b>1945</b>	Update Inspector Jago and duty officer Joint Forces – defence.	Bruce Adams statement	Police National Dive Squad
<b>2125</b>	Search to recovery to commence again in morning		South Comms
<b>2156</b>		Debriefing form received from HAH	Geoff Hunt
<b>2157</b>		Debriefing form received from HMM	Geoff Hunt

## Operation WALLIS

### Time line 23 July 2018

Time	Description	Action	Comment
0800	Police divers on-site with Alan Lee and Bill Day	Ppt	Wanaka IMT
0800	Police dive squad arrives at vessel Dual Image – load it with sonar equipment for continued soar searching.	Complete safety briefing on vessel.	Police National Dive Squad
0800	Equipment coordination and recovery plan formatted	Alpine Helicopters	Bill Day
0850	Depart Wanaka township for scene	Bruce Adams statement	Police National Dive Squad
0930	Wanaka SAR member escorts TAIC to Stevenson’s Island with Coastguard	Ppt	Wanaka IMT
0930	Commence sonar searching around wreckage. Assemble and place accurate datum on wreckage. Receive update from NZ Defence that Airforce can only transport staff to Chch.	Update SAR base and make arrangements to uplift Defence personnel. Liaise with Mr Bill Day to ensure transport is arranged from Chch for the ROV and naval sonar (REMUS) and staff	Police National Dive Squad
1000	Coastguard and TAIC travel to Stevenson’s Island to collect exhibits and survey area	Ppt	Wanaka IMT

<b>1100</b>	Navy break down in Wellington. Eventually flown to Dunedin. All resources flown by Otago helicopters and Alpine helicopters to Burdon's beach – barge readied at Burdon's Beach	Ppt	Wanaka IMT
<b>1300</b>	Met on scene by TAIC Investigator – Ian McClelland. Discuss with TAIC staff that they will be present on barge and be in a position to watch the ROV work and provide advice to the operator of the ROV. Advise will try to inspect small debris items scattered about the main wreckage before recovery is possible.	Bruce Adams statement	Police National Dive Squad
<b>1400</b>	Navy dive squad arrive in Wanaka	Alpine Helicopters	Bill Day
<b>1520</b>	Complete 30 radial sonar drops around wreckage and in a southerly direction back towards Wanaka which is believed to be flight path of aircraft. 15 of the sonar drops were to the south of the wreckage on the transit line with no items of interest located.	Bruce Adams statement	Police National Dive Squad
<b>1530</b>	Recover sonar equipment along with WALLIS datum marker Receive update regarding arrival of staff and equipment which is anticipated to be loading for the barge at 1600	Bruce Adams statement	Police National Dive Squad
<b>1555</b>	Navy staff with Remotely Operated Vessel (ROV) arrive	Ppt	Wanaka IMT
<b>1600</b>	Navy personnel and gear loaded onto barge	Ppt	Wanaka IMT
<b>1630</b>	Barge leaves with recovery equipment to accident site	Alpine Helicopters	Bill Day

1640	<p>Visited on scene by Naval Petty Officer - diver Trevor Strickland. Brief him on search area completed and discuss plan for the ROV inspection and recovery.</p>	Bruce Adams statement	Police National Dive Squad
1642	<p>Barge arrives on site with a large number of personnel including Naval staff, Search and rescue staff, family members and friends.</p> <p>Also present is a second aluminium vessel to be utilised for diver operations from Minaret Station.</p> <p>Vessel Dual Image is rafted alongside the barge to provide accommodation shelter.</p> <p>Arrange barge operator to hold position adjacent to datum buoy due to little wind, no anchoring required but vessel propulsion to be stopped while diving.</p>	<p>Complete briefing with barge crew and Mr Bill Day.</p> <p>Complete an onsite visit to each area of operations and liaise with staff present including naval personnel for the ROV search, SAR staff with rigging equipment, crane operator, barge skipper and operator.</p>	Police National Dive Squad
	<p>ROV already assembled and tested enroute to scene on barge and is deployed to inspect the object located on lake bed.</p> <p>Live video footage shows the wreckage of the Alpine Helicopter aircraft on its port side with expensive damage to cockpit area, but main rotors are intact along with tail section.</p> <p>Depth at the upper most portion of aircraft 43 metres and the deepest 45 metres.</p> <p>Video recording are made of the inspection.</p>	Bruce Adams statement	Police National Dive Squad

<p><b>1740</b></p>	<p>Locate pilot Matthew Wallis with his upper body outside of the aircraft wreckage.</p>	<p>SAR base advised of finding. Together with Mr Bill Day, decide that we will continue with the search and recovery operation due to the assets on the scene and weather conditions at the time being ideal with very little wind or surface trough.</p> <p>Together with Navy personnel identify chassis area on which to place a recovery line.</p> <p>Discuss plan of recovery with RNZN staff, Mr Bill Day, dive team and vessel staff.</p> <p>Arrange for Mr Day to obtain and set up a second recovery line that would be secured to the wreckage by divers prior to recovery of the deceased from the wreckage, and after the wreckage has been raised to a shallower depth.</p>	<p>Police National Dive Squad</p>
<p><b>1840</b></p>	<p>RNZN staff commence setting up ROV and related recovery equipment.</p> <p>Plan for recovery consisted of ROV being utilised to place a recovery line to the aircraft and then recover wreckage with Matthew Wallis body inside until it gets to 20 metres, whereupon PNDS divers would be deployed to secure a second recovery / safety line to the craft and recover Mr Wallis from the wreckage.</p>	<p>This involves a recovery line and a large hook that could be placed onto the aircraft chassis or other suitable strong such structure.</p> <p>It became apparent that SAR staff had decided to utilise normal abseiling rope and equipment normally utilised for personnel not</p>	<p>Police National Dive Squad</p>

	Once that had been effected, the wreckage would then be recovered onto the barge.	<p>for size and weight of aircraft structure.</p> <p>They had also decided to effect the recovery to the surface using a pulley system as opposed to a mechanical recovery device. N This was different to discussions and images the Mr Bill Day had discussed the previous night which included a powered capstan winch.</p> <p>A digger present on the barge would provide a pulley and reach out from the side of the barge and allow lifting the wreckage clear and place it onto the deck of the barge.</p>	
<b>1910</b>	The ROV is deployed with recovery line.	Divers briefed. Divers to be deployed from the Minaret Aluminium vessel. This is setup with underwater communications, a back-up diver recall system, medical oxygen and first aid.	Police National Dive Squad
<b>1930</b>	Wreckage located	Alpine Helicopters	Bill Day
<b>2028</b>	ODSAR6 advises body has been located in the fuselage. They are being removed now, and a media release will be prepared shortly.		South Comms



<p><b>2100</b></p>	<p>Established that the recovery line being taken by the ROV had become entangled with the wreckage, along with the ROV. ROV is now not in a position to return to the surface of manoeuvre at depth.</p>	<p>Discuss with naval personnel and Mr Day that our only option is to attempt to recover using the recovery line and hopefully the wreckage will be lifted from the sea bed or the ROV will become free and continue its work.</p> <p>At this stage the actual recovery hook has not been attached to the aircraft and could tell from the video footage that approx. six turns of entanglement had taken place.</p> <p>All staff on the barge briefed on attempted recovery and were briefed on plan, signals and communication.</p>	
<p><b>2131</b></p>	<p>Advised that the ROV although entangled, was floating in a depth of 15 metres. This did not give an accurate depth of the wreckage floating below the ROV.</p>	<p>Divers deployed to secure additional safety / recovery lines to the wreckage before recovering Mr Wallis body from the aircraft.</p> <p>All divers briefed not to enter the wreckage, place limbs inside wreckage or travel under wreckage.</p>	<p>Police National Dive Squad</p>
<p><b>2140</b></p>	<p>Confirmation additional recovery line secured to aircraft and attempting to recover Mr Wallis body.</p>	<p>Advised staff on barge to make additional recovery line tight and secure.</p>	<p>Police National Dive Squad</p>

2142	Confirmation from divers' body had been recovered from wreckage and being brought to the surface.	Bruce Adams statement	Police National Dive Squad
2150	Divers and deceased Mr Wallis arrive at surface	<p>Divers move away from the barge and those present with the body to complete the recovery process onto the Minaret Station vessel.</p> <p>Minaret vessel then rafts alongside dual image and all personnel updated on successful recovery.</p> <p>Alan LEE present throughout recovery to manage O/c Body role.</p> <p>Divers debriefed. Advise Mr Wallis was trapped in aircraft wreckage by lap belt across his upper thigh area. This had to be cut by divers to effect recovery.</p> <p>Body recovered at a depth of 28.9 metres.</p> <p>Divers first came across ROV floating above wreckage but tangled by it umbilical with the lines that were attached.</p>	
2221	<p>Once Mr Wallis body recovered, continue with recovery of aircraft wreckage.</p> <p>Diver deployed to secure an additional recovery line to the wreckage at a maximum depth of 5 metres.</p> <p>Aircraft now has three lines attached.</p>	Bruce Adams statement	Police National Dive Squad

<b>2230</b>	Matt Wallis' body recovered	Alpine Helicopters	Wanaka IMT
<b>2235</b>	ALJS advise body has been removed and 1S procedure being done.	Police event closed	South Comms
<b>2311</b>	Diver deployed to secure a strop around the rotor head of aircraft and to remove one of the three recovery lines that had become compromised – original line had begun to fray causing outer sheath to part.	At this stage the aircraft was at the surface and it appeared that the chassis where the lines had been attached by both the ROV and previous dives were insufficient to lift the aircraft from the water.  This was confirmed by discussion with TAIC.	
<b>2319</b>	Strop secured, and weight now placed on recovery line and strop.  Whilst the aircraft was being recovered at the water surface, it was obvious the tail section of the aircraft had been all but severed and appeared to be about to break free.  The original recovery line which was under load severs from the wreckage. Once severed, the wreckage makes a short but sudden drop. It is noticed by the skipper of Dual Image the severed line is still secured to the aircraft, and this is then secured to the digger on the barge. Upon successfully securing this line, a second line under weight severed. This resulted in the entire aircraft seeking out of sight below the water's surface. The aircraft remained secured by two lines.  The barge was allowed to drift in the direction of the shoreline, floating the aircraft into shallow waters. The path was tracked by the navigation package on Dual Image.	At 2327 this process was repeated, and at 2330 was completed.  Rear tail section secured by divers Mr Day and Bruce Adams independent of aircraft.  It is believed the main recovery line is cut. This was not discussed or agreed with Mr Day or Bruce Adams  Staff were briefed on the barge that we would continue towards the shallows and utilise the boom on the digger to lift the wreckage out of the water and onto the barge.	Police National Dive Squad

		Decision was made to utilise a short chain to effect one lift out of the water and onto the barge.  Divers were briefed to place as short a chain as possible through the strop around the aircraft rotor head.	
<b>0001</b>	Diver deployed, and chain secured around strop of aircraft.	Bruce Adams statements	Police National Dive Squad
<b>0004</b>	Task completed, and all divers exited water	Bruce Adams statements	Police National Dive Squad
<b>0017</b>	Wreckage fully recovered onto deck of barge and handed to TAIC Investigator Ian McClelland.	Bruce Adams statements	Police National Dive Squad
<b>0030</b>	Wreckage recovered	Alpine Helicopters	Wanaka IMT
<b>0100</b>	The body of Matthew WALLIS was transferred from the Minaret vessel onto the barge, in the custody of Alan LEE.	Soon after, and Police dive squad departed the barge on Dual Image and returned to Wanaka.	
<b>0130</b>	Police Dive Squad arrives back at Wanaka	Bruce Adams statement	Police National Dive Squad
<b>0200</b>	Update Inspector Jago on operation outcome.	Bruce Adams statements	Police National Dive Squad
<b>0220</b>	Barge returns with body of Matthew Wallis and recovered helicopter wreckage	Ppt	Wanaka IMT
<b>0310</b>	St Johns confirm life extinct	Ppt	Wanaka IMT