

Exercise Evaluation Report

Operation Tornmarck

Location: Regina Creek, Karangarua Valley

Date: 30th Jan – 1st February 2020

Report version: FINAL

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Contents

- Executive Summary 2
- 1. Recommendations 3
- 2. Introduction 4
- 3. Background..... 5
- 4. Evaluation Methodology 7
- 5. Findings 8
- 6. Conclusions.....10
- 7. Appendix11

Executive Summary

The West Coast Police District SAREX 2020, Operation Tornmarck, was developed as a multi-agency cold case search in a remote region of South Westland

All objectives were met to an acceptable level.

Search personnel, Land SAR, Police and FENZ Urban SAR and support agencies were able to test technologies and systems and practise techniques in a remote challenging environment.

Some improvements can be made which require investment of time and resources as detailed in recommendations.

1. Recommendations

All objectives were met other than locating evidence/location of Hans Tornmarck

1. Incident Management Team members across the West Coast SAR region are provided with more opportunities to work with and familiarise with SARTrack
2. Investment and testing of remote communication systems is needed to ensure reliable timely connectivity for emergency response work in the future.
3. Future cold case Search/SAREX operations should be planned and executed sooner after the original search operation was suspended (provides potential for a higher probability of detection in months rather than years)
4. Develop a submission to the New Zealand Geographic Board via (Department of Conservation) to rename a prominent high point 2,240 in the head of Regina Creek to "Tornmarck" in memory of the missing hunter.

2. Introduction

Every year, the New Zealand Police is required to exercise with Partner Agencies in the Search and Rescue (SAR) Environment. This includes Land and Marine environments.

The West Coast Police District SAR Coordinator has the lead for the conduct of matters Search and Rescue on behalf of the West Coast Police District.

This position has the responsibility for the coordination and training of the West Coast Police District SAR Squad.

South Westland and the Karangarua area are a major attraction for hunters and trampers. This region is very remote with serious alpine terrain providing a challenging environment for these recreational pursuits. Incidents involving people with insufficient experience and skills do lead to serious situations and at times fatal outcomes.

Operation Tornmarck being an unresolved missing hunter cold case was designed as a real time exercise in a very remote location to train with multi partner agencies and test systems and trial new technologies.

The selection of the Regina Creek provided a remote recreational hunting location typical to many in South Westland with serious alpine terrain and associated risks to provide a very relevant training environment for the personnel involved.

The SAREX involved several phases:

- Phase 1. Information gathering and review of the original search file
- Phase 2. Field Drone survey and analysis of filmed footage prior to Land Search field operation.
- Phase3. Land Search of high probability terrain
- Phase4. Post operation, scrutiny and review of Drone film footage from Land Search operation.

The primary IMT was located in a forward base at the head of Regina Creek, logistics for the operation was coordinated from Fox Glacier SAR base via a remote communication link.

SARTrack was used during the operation at the forward IMT.

There was broad representation from the District Police SAR Squad, NZ Land SAR volunteers, Fox Alpine Rescue Team, FENZ Urban SAR Drone team, Search Dogs and Helicopter operators.

3. Background

3.1 Background to the Exercise

Hunting wild game is a recreational activity very popular across New Zealand. South Westland is a major attraction for hunting Chamois, Deer and Thar. Over the previous 3 years there have been 3 fatalities in the area, all hunters and a number of search operations.

The selection of the Karangarua area and the unresolved cold case of a missing hunter provided the opportunity to exercise with multi agencies over several days, build relationships across the search sector and partner with regional agencies testing systems and technologies.

3.2 Dates, location, organising agency(s), key people

Date: 30th-31st January - 1st February 2020

Location: Regina Creek, Karangarua Valley, South Westland

Organising Agencies: NZ Police, LandSAR Westcoast, FENZ USAR, Franz/Fox Heli Services, Ngai Tahu Iwi, Department of Conservation, West Coast Regional Council

Key People: Sgt Mark Kirkwood, Sgt Jayne Bretherton, Constable Jim Marsh, Bradley Cummings, Richard Humphreys, Andrew McEwen, Michael Yeates,

3.3 Participating organisations

- New Zealand Police – West Coast SAR Squad
- Land Search and Rescue – Search personnel & Search Dogs
- FENZ Urban SAR – Drone Unit
- Franz/Fox Heli Services
- Ngai Tahu Iwi
- Department of Conservation
- Coroner's Office
- West Coast Regional Council
- Screen Time Media Film Crew

3.4 Exercise aim

To locate and recover missing hunter Hans Christian Tornmarck and increase SAR knowledge of the Karangarua valley area for future searches.

3.5 Exercise objectives

To locate and recover the body of hunter Hans Christian Tornmarck.

To introduce and comprehensively test the use of SAR Track with the West Coast SAR structure for the first time.

To implement and test the use of Drone technology to map, search and provide 3D imagery for a defined search area

To utilise search dogs within a defined search area for a person who has been missing for an extended time period (2.5 years)

To successfully run a multi-agency search in alpine terrain over multiple days.

To create an effective process of information sharing between multi-agencies during the search for GIS purposes.

3.6 Exercise Scenario

A cold case search operation in the Karangarua Valley/Regina Creek area for a missing hunter, a Swedish national visiting New Zealand who became overdue after a 7-day hunting trip late May 2017. His campsite was located at the head of Regina Creek; however, no sign of the missing hunter was located in the area during the original search which was hampered by early winter snow.

Pre exercise drone mapping was completed, and a point of interest was identified, additionally a range of photos were recorded which had been viewed searching for any evidence.

Using subject behaviour for a hunter, search taskings were developed by the planning IMT to cover the high probability areas.

The operation plan was to be in the search area for 4 days, the Cold case SAREX commencing on the afternoon of Thursday 30th January with a full briefing and written taskings assigned to each search team.

4. Evaluation Methodology

4.1 The agreed outcomes of the evaluation activity

A report outlining observations of the cold case SAREX (Operation Tornmarck) in relation to the stated objectives, with particular focus on forward Incident Management Team (IMT) and Urban SAR Drone Team

4.2 Evaluation scope

Observation of the Incident Management Team at the forward ICP to report on performance that included ability to function, manage communications and achieve the objectives set for the exercise.

4.3 Aspects of the exercise observed, what was not observed

Observed

- Exercise management and coordination at forward base.
- Interaction between USAR Drone team and IMT
- Actions of IMT during the full field operation
- Communications between SAR ICP and Field Teams
- Helicopter operations
- SAREX Hot debrief

Not Observed

- SAREX-Team briefing prior to the deployment
- Actions of teams in the field (limited observation)
- Fox IMT operation

4.4 The process followed in preparing and submitting the report

Spoke with Sgt Mark Kirkwood some months prior to the SAREX; he and his team forwarded the relevant documents including the exercise instruction.

There was no interaction with the exercise planners (scenario) prior to the SAREX.

Attended the SAREX from the commencement of field deployment through to the conclusion.

Attended the Team Hot debrief post operation.

4.5 Other information

Not observed the interagency liaison with West Coast Regional Council GIS Team and Canterbury University

5. Findings

Exercise Planning

This cold case SAREX was developed and planning was led by Sgt Mark Kirkwood and colleagues over the months prior. A written Exercise Directive detailed the intent and SAREX objectives.

Background notes were prepared and disseminated prior to the exercise covering the background and previous search effort for the cold case subject.

SAREX plan disseminated, outlining participants and resources, allocating responsibilities, equipment required, safety plan, search areas planned, hazards and management of risks, time frames and other relevant matters.

SARTrack and communications plan and associated equipment preparation completed prior.

Drone overflights of planned search area and photos recorded prior to the SAREX and shared with GIS team at West Coast Regional Council team who reviewed the photos for evidence, one point of interest was identified.

Exercise Conduct

From the commencement of the briefing the SAREX was conducted professionally with emphasis on safety. Full briefing and team taskings were completed at Fox SAR Base and a flight plan established.

There were no accidents or notifiable incidents reported over the three days of the SAREX.

Day 1 – First operational period, all personnel were helicoptered into the head of Regina Creek where camps were established by early evening, forward ICP set up operating SARTrack and VHF communications. Field search operations commenced up to dusk.

Day 2 – Second operational period teams continued field search work on assigned tasks. Greasy conditions existed during the morning after overnight rain requiring special care searching across steep terrain. USAR Drone team airlifted above bluff area to carry out filming flights and assisted team 2 to locate a point of interest.

Later in the afternoon team 4 and the ACR team both requested helicopter relocation, both teams finding terrain too sheer and exposed to cross and the drone team brought back to the forward ICP. Film team recording the operation with on location at the forward ICP.

Fox base relayed mid-afternoon a report from the West Coast District Council GIS team about a further point of interest high up in the midst of a steep drainage ravine. A team was tasked to investigate. In the evening all teams having completed their respective initial tasks received new tasks for day 3

Day 3 – Third operational period, teams commenced early new tasks, several teams were relocated by helicopter to assigned search areas. Mid-morning taking in account the changing weather forecast and evidence of a pending rapid climatic change the incident controller commenced helicopter evacuation of all personnel from the field back to Fox Base.

Forward ICP

The forward ICP was established in a timely manner and SARTrack loaded on a laptop powered supplied by a small generator linked to the VHF communications unit was staffed in shifts by an operations manager. Several were more familiar with the functionality of SARTrack than others, however the software system functioned as planned for the full operation. The automatic tracking function programmed in the Tait radios only worked for team 4. A technical issue to be resolved.

The operation management was sound and liaison with FOX ICP initially not functioning was resolved. Utilising the drone unit to support location of points of interest was conducted efficiently. The Incident Management Team maintained control and reviewed the incident action plan late on the 2nd Operational period and refocused the search effort for the 3rd day.

Mid-morning on the 3rd day the decision to end the SAREX and evacuate personnel back to town proved very timely especially when the huge rain weather system impacted South Westland over the following night and for several days after.

6. Conclusions

The cold case SAREX Operation Tornmarck ran smoothly and field operations were carried out with a significant emphasis on safety.

However, the principal aim was not achieved and that was to locate Hans Tornmarck which was always going to be difficult with the span of time since he originally went missing.

The second principal aim to use SARTrack was achieved successfully in a remote forward ICP location

The compact IMT worked well together and managed the SAREX appropriately and effectively. The nature of the location being so remote prohibited the opportunity to involve less experienced SAR managers to gain operational experience in a controlled environment

All field search teams were tasked effectively and carried out their respective tasks safely, were proactive in requesting helicopter extraction when confronted with unsafe terrain to be transferred past significant vertical bluffs. Deploying Land SAR search dogs was an excellent training opportunity, the dogs managed the terrain well. Several dog handlers found their dog could have benefited from having “pad protection boots”.

Drone operations delivered by the FENZ USAR team enabled efficient searching of bluffs and other steep difficult terrain that would take substantial time for field searchers to access safely. Extensive additional footage was recorded and would be scrutinized post SAREX by both the West Coast Regional Council GIS team using a search filter system looking for colours. This proved to be a positive initiative and deploying a drone to hover above a point of interest assisted ground teams to locate specific items more quickly.

VHF communications worked seamlessly for 3 days; the only glitch was the live tracking function on the radio recording only one team’s location on the SARTrack map. All others had to be manually loaded.

The Motorola Wave software link from the remote site back to town base did not work initially, however with repositioning of a repeater system and re-booting this link achieved effective communications

7. Appendix

Key Performance Indicators

KPI	Achieved?	Comments
SARTrack is used effectively during the operation	Achieved	SARTrack operated for the full operation. The most recent version was used, however only a small team in Westland are proficient users.
Drone mapping is used effectively to search area and assist identifying items of interest	Achieved	Drones were operated safely under the aviation protocol's and extensive steep areas were surveyed and images recorded. Assistance provided twice guiding field searchers to locate items of interest.
Briefings completed using GSMEAC format	Achieved	A full briefing conducted at FOX SAR Base which included a safety briefing. The briefing followed with team task assignments.
Taskings achievable within the timeframe of the operation are supplied to teams with maps of defined search areas	Achieved	Each field team was effectively tasked and fully understood the task assigned. Some terrain was so challenging that during debriefing it was clear that the effective search percentage achieved was low in places. Diagonal bluff areas encountered made searching particularly difficult
Interaction between SAR team and local IWI/Kaumatuia is undertaken	Achieved	A karakia at the start of the operation was delivered at the Fox SAR Base briefing.
Helicopter Deployment into and out of the search area safely	Achieved	The whole SAREX was dependant on helicopter access and this was achieved completely safely during the entire operation
Procedures to debrief teams	Achieved	The teams were debriefed, and GPS tracks and evaluations of search effort was recorded.



