Maelstrom Consulting

Centralised SAR Aviation Coordination

Trial Evaluation Report

Prepared for:

New Zealand Search and Rescue Council

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Contents

Executive Summary

Search and Rescue (SAR) aviation coordination in Aotearoa New Zealand is currently distributed across Police (Category I (Cat I)) and Maritime New Zealand's Rescue Coordination Centre New Zealand (RCCNZ) (Category II (Cat II)), with Hato Hone St John's (HHStJ) National Air Desk tasking urgent near-shore water rescues on behalf of Police[1]. Air assets are drawn from Health NZ Commissioned aeromedical providers (Tier 1 Air Ambulance Helicopters, AAH), commercial non-AAH providers (Tier 2), Police Eagle, and the New Zealand Defence Force. In practice, this distributed model has created fragmentation: inconsistent protocols, duplicated or conflicting tasking, variable deconfliction, avoidable delays, and limited single-point accountability. It also contributes to blurred cost ownership and payment risk for operators when tasking errors occur. These issues have been previously identified through multiple Transport Accident Investigation Commission (TAIC) inquiries and sector reviews, which have highlighted the need for improvement in SAR aviation coordination arrangements[2].

To test whether centralising SAR aviation coordination would improve timeliness, asset utilisation, and role clarity, a live operational trial was undertaken in October 2025. The trial used survey data from live incidents alongside historic SARdonyx and National Air Desk CAD data, to inform indicative trend and scaling analysis.

The trial demonstrated that centralised SAR aviation coordination is feasible under trial conditions, and can deliver operational value. Key benefits observed under trial conditions included:

- **Clearer tasking and improved decision support:** Earlier interagency consultation strengthened shared situational appreciation, and enabled more deliberate matching of assets to operational need.
- **Reduced friction and stronger stakeholder confidence:** Participants reported the process was easier to use, better aligned across agencies, and more operationally effective compared with business-as-usual.
- **Better cost visibility and traceability:** Centralising tasking authority improved the auditability of aviation decisions and cost attribution at an incident level, even where total system cost did not reduce.
- **Opportunity for more selective asset use:** The model creates a pathway for more fit-for-purpose use of Tier 2 assets in appropriate contexts, preserving scarce Tier 1 capability for high-acuity needs.

Collectively, these changes reduce coordination-related risk and support safer operational outcomes, particularly in time-critical or multi-agency incidents.

However, these benefits were subject to current operational and technological conditions, and will not consistently hold at a national scale, unless supporting systems are improved and risks are managed appropriately. The structural constraints and risks exposed by the trial were:

- **Fragility under scale and concurrency:** Low operational tempo during the trial, limited concurrency, experienced and capable staff masked vulnerabilities. Manual workarounds, phone-based communications, and parallel tools substituted for system design.
- **System and technology limitations:** Current tooling does not provide a true common operating picture, real-time shared asset visibility, or integrated tasking/record-keeping. These gaps shift cognitive load onto SAROs, increase the requirement for manual input and administration, limit capacity for forward planning and problem solving, and reduce scalability of operations.
- **Boundary and authority ambiguities:** Unresolved questions across Cat I / Cat II / health-led interfaces, including advisory versus decision authority, escalation practices, and category definitions that do not consistently map to operational reality.

[1] The National Air Desk will only initiate immediate rescue tasking where ambulance services are the first receiving agency, while simultaneously notifying Police and transferring coordination as required.

[2] TAIC inquiry MO-2022-206 (iCatcher); TAIC inquiry MO-2022-201 (Enchanter); NZSAR Volunteer Air Observer Training Review (Fogden, 2014).

- **Workload risk is qualitative, not just quantitative:** The trial showed the model can be sustained under low-to-moderate concurrency, but it does not demonstrate safety under sustained high concurrency. Scaling projections imply a shift toward routine overlap, more handovers, and higher decision density unless handling time per job is reduced through system design.

Centralised SAR aviation coordination is a system change, not a minor procedural tweak. It concentrates operational, cognitive, reputational, and system risk into a single coordination function and therefore requires deliberate design so that risks are visible and actively managed. If implemented as an overlay on current arrangements, the model is unlikely to remain safe or sustainable. If implemented as a designed national capability, with integrated systems, formalised authority boundaries, escalation rules, and workload-scalable tools, it has the potential to improve safety, efficiency, payment certainty, and outcomes across the SAR sector.

Summary of Recommendations

The recommendations in this report are presented as enabling conditions required for safe national implementation:

1. Adopt centralised SAR aviation coordination under Maritime New Zealand's Rescue Coordination Centre, subject to enabling upgrades and safeguards.
2. Formalise decision authority, advisory roles, and referral pathways across Cat I, Cat II, and mixed-mode operations, including dispute resolution and training/exercising.
3. Establish a standing SAR Aviation Governance Group led by Maritime New Zealand with key agency and operator representation.
4. Treat SAR aviation coordination as a real-time dispatch function and fund a purpose-built CAD-style coordination platform to replace IMS as the primary system of record, with inter-CAD connectivity to Police and National Air Desk, and tasking capability to airframe operators.
5. Build a national shared asset visibility capability for Tier 1 and Tier 2 status, location, readiness, and specialist capability.
6. Commission an operational technology and systems review to define a staged path to the required capability, including resilience and disaster recovery.
7. Introduce a national payment certainty rule so operators are paid for valid taskings regardless of inter-agency boundary disputes.
8. Adopt a national cross-agency lessons management system using LandSAR's OILLS framework, resourced end-to-end from frontline capture to strategic analysis, training integration, and procedural refinement.

Implementation should also address: alignment to SAR aviation standards; strengthened audit and assurance mechanisms; operator training and capacity development (including CAD adoption); strategic governance and improvement of SARdonyx; systematic tracking of tasking refusals/unavailability; robust continuity/failover arrangements; and a targeted review of SAR category definitions to better align authority, funding, and coordination under a centralised model.

The evidence supports progression toward a national centralised model, provided governance, systems, and safeguards are treated as foundational enablers rather than optional enhancements.

Overview

Background

In Aotearoa New Zealand, SAR coordination is led by New Zealand Police (Cat I), and by RCCNZ, operated by Maritime New Zealand (Cat II). The tasking and instructing[3] of air assets for SAR is spread between the two coordinating authorities, along with HHStJ National Air Desk when responding to a health-led incident. Airframe operations for SAR are undertaken by a mix of commercial aeromedical operators, Police's 'Eagle' helicopter, and the New Zealand Defence Force. This distributed model has led to fragmentation: duplicated or conflicting tasking, inconsistent protocols between agencies and regions, avoidable delays, variable deconfliction, and unclear single-point accountability.

For the purposes of SAR aviation coordination, commercial helicopter assets are classified into two operational groups. Tier 1 assets, or Air Ambulance Helicopters (AAH), are configured and crewed to provide pre-hospital medical care and may have additional specialist capabilities such as night vision operations, winching[4], or the ability to deploy with rescue swimmers. Tier 2 assets, or non-AAH helicopters, are commercial aircraft not configured as air ambulances, typically operating with a single pilot and with variable capacity and specialist capabilities depending on the provider. All National Air Desk aeromedical taskings are undertaken using Tier 1 assets, while SAR aviation taskings by Police or RCCNZ may use either Tier 1 or Tier 2 assets depending on the operational need, risk profile, and search location. Tier 1 assets are billed at significantly higher hourly rates than Tier 2 assets, reflecting their configuration, crewing, airframe capacity and endurance, and clinical capability.

A complex funding model, with various public-interest and commercial contexts establishes cost ownership. The attribution of costs differs depending on variable factors such as the nature of the incident, injury, misadventure or citizenship/residency of affected individuals. Tasking agencies only pay for services pertaining to their responsibilities. When tasking errors occur, commercial operators may bear the cost directly for operations conducted in good faith.

With an understanding of the current operational model's fragmented risks, a solution has been proposed of centralising SAR aviation coordination under the RCCNZ. In this adjusted model, all SAR aviation support requirements from Police would be sent to RCCNZ either directly from the SAR incident controller, or from Police's Emergency Communications and Dispatch (ECD). In addition, National Air Desk would refer jobs to the RCCNZ where access to [high-acuity / less-severely injured] patients is the predominant factor in the assessment of their situation.

Purpose

To test whether a centralised SAR aviation coordination model would improve timeliness, asset utilisation, and role clarity, a live operational trial was undertaken in the South Island in October 2025. This timing was deliberately chosen as a shoulder-season period. SAR activity across New Zealand and its wider Search and Rescue Region (SRR) is highly seasonal, with significant variation in incident type, frequency, and concurrency across the year. This has implications for workload, staffing, and system design, which are explored later in this report.

The trial was conducted using real SAR incidents, allowing the proposed model to be examined under genuine operational conditions rather than simulated or tabletop scenarios. Surveys from these live events have been analysed alongside historic operational data to inform projections about how the model might perform if implemented at a national scale. These data sources, together with trial planning and debriefs, form the basis of the assessments, findings, and recommendations presented in this report. It is intended to support the two

[3] See Appendix A for definitions of Tasking and Instructing.
[4] Non-technical winching is NZ Health contracted requirement. Technical- and wet-winching capability is variable.

Coordinating Authorities in developing advice to the NZSAR Council on the future direction of SAR aviation coordination in New Zealand.

Where this report comments on operational successes, errors, disagreements, or divergent professional views observed during the trial, the intent is not to attribute fault or evaluate individual performance. Rather, these observations are used to surface systemic design issues, boundary conditions, and opportunities for structural improvement that would not be visible through policy review alone.

The level of detail in this report reflects the complexity of the system under examination, where governance, tasking authority, operational practice, technology, funding, and human workload are tightly interwoven. Many of the examples and findings span multiple assessment areas, and some observations are relevant to more than one line of analysis. While the report is structured by discrete themes, the underlying issues are not neatly compartmentalised, and this interdependence is intentionally preserved in the narrative.

Objectives

The objectives of the trial were to:

- Test RCCNZ's ability to coordinate all SAR aviation assets within the trial area.
- Assess interoperability between Maritime New Zealand, Police, National Air Desk, and Operators.
- Measure efficiency in tasking and asset allocation.
- Capture partner perspectives, lessons, and system-level implications.
- Identify legal, financial, and technical issues arising from centralisation.
- Provide an evidence base for SAR Council decisions on future system design.
- Identify technical systems gaps or enhancements.

Scope

The trial focused on the feasibility and effectiveness of the RCCNZ coordinating all air assets for SAROPs. The assessment criteria of the trial focused on appropriateness, efficacy, costs, and outcomes of air asset deployments and coordination. In particular the trial tested a draft process and procedures for requests, notification, referrals and taskings between Police, National Air Desk, RCCNZ and operators. This covered any SAR aviation asset request received via:

- Police SAR incident controllers
- Police ECD
- National Air Desk
- COSPAS SARSAT beacon activations
- Satellite emergency notifications (SEND devices)
- Maritime New Zealand Ops centre (Maritime New Zealand Radio)

Processes to be Tested

The trial tested a draft set of processes and procedures in a live environment, dove-tailed with business-as-usual processes. Normal command and control frameworks for SAROPs remained in place for the duration of the trial. The draft procedures included:

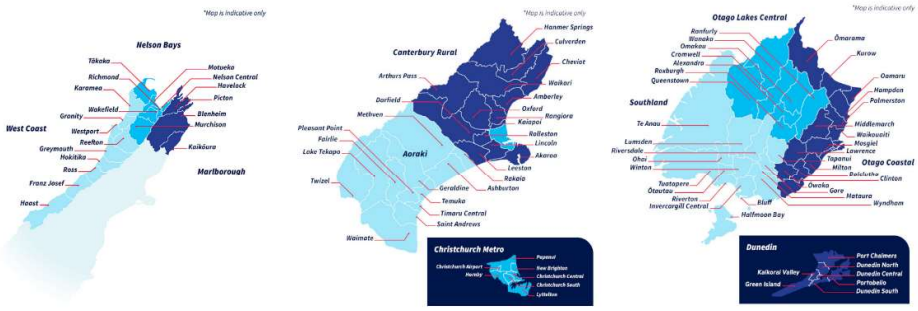
- Determination if request is within the geographic scope of the trial.
- Assessment if the request relates to:
- Person(s) in need of search and/or rescue; or
- Patients in need of medical treatment (and urgency); or
- Both.
- Notifications of incidents between RCCNZ and National Air Desk

- Referrals between RCCNZ and National Air Desk
- Requests for air assets from Police
- Interoperability between RCCNZ, Police, National Air Desk, and operators.
- Resumption/link into business-as-usual processes.

Geographic Area and Timing

The trial itself was limited to SAROPs in South Island police districts only. This area was chosen to minimise errors and confusion, due to the smaller number of districts, and relatively small numbers of aviation operators.

The trial ran from 1 Oct 2025 (07:30) to 5 Nov 2025 (19:30). This period was seen as ideal as October is known to have significant numbers of SAR incidents, but lies before the busy summer months, where SAR agencies would likely not have capacity to engage with additional trial-related administration.



Participants

The primary agencies participating in the trial were:

- Maritime New Zealand
- Police
- National Air Desk

All SAR aviation taskings within trial area, including civil, aeromedical, and NZDF[5] assets were included in assessments.

Out of Scope

The following were not in scope of the trial:

- Permanent policy/legislative changes;
- Broader aviation tasking outside SAR (policing, tactical, non-SAR medical); and
- SAR operations conducted within the North Island, Chatham Island; and wider SRR.

Trial Methodology

Draft Procedures

During the trial, agencies operated under draft Standard Operating Procedures (SOPs) that defined their role in requesting, triaging, referring, notifying and coordinating air support for SAROPs. These SOPs were tailored for each participating function to ensure consistency and clarity across the system:

- **South Island Police District SAR IC**: request helicopter support for SAR incidents in their districts to the RCCNZ; and provide instruction for helicopter crew(s) once on scene (unless agreed otherwise with the RCCNZ).

[5] No NZDF assets were engaged during the trial.

- **Police ECD:** Notify RCCNZ of each immediate (risk to life) SAR helicopter tasking by ECD on behalf of any South Island police district. Request helicopter support for SAR incidents on behalf of South Island SAR IC, if required.
- **National Air Desk**: manage aeromedical requests as per business-as-usual; refer all SAR-related requests to RCCNZ.
- **RCCNZ:** Coordinate all SAR aviation taskings within the trial area, including manage requests, asset allocation, and communications.

Trial Operational Costs

Under the current operating model, distribution of aircraft costs are split between Health NZ, ACC, NZ Police, and Maritime New Zealand. Where the costs fall depends on the type of operation, and can vary between outbound and inbound flights dependant on the nature of the incident discovered on arrival.

For the trial period only, Maritime New Zealand carried the operational costs of deployed SAR helicopters that would normally be charged to Police. Specifically, these are:

- Outbound legs for SAROPs reported through 111 and coordinated by Police SAR which use a Tier 1 asset and results in a patient. This includes any response which sees SAR resources being used on AAH; and
- Outbound *and* inbound legs for SAROPs reported through 111 and coordinated by Police which use a Tier 1 or Tier 2 helicopter and does not result in a health patient.

Note: Any aviation asset tasked for the sole purpose of body recovery is a Police expense. Where aviation assets are tasked in response to a SAROP and a deceased person is located, Maritime New Zealand covers the cost of the SAROP portion of the response and Police are responsible for any costs associated to the specific tasking of an aviation asset to recover the deceased person (i.e. body recovery).

All other operating costs sit where they normally fall. A complete schedule of trial operating cost is tabled in the Appendices.

Data Collection

The evaluation of the trial was primarily intended to be via the collection of surveys from participants following relevant SAROPS, along with selected operational log data from participating agencies.

- After-SAROP surveys: from Police SAR, RCCNZ SAROs, and operators
- End of week/shift pattern survey: from Police ECD, National Air Desk, RCCNZ Watch Leaders.
- Weekly check-in meeting: with RCCNZ Watch Leaders.
- Pre- and post-trial surveys: from all participants.

Operational Data

Some operational data from existing systems was used to assist with interpretation and analysis of the surveys:

- RCCNZ Incident Management System (IMS)
- SARdonyx
- National Air Desk Computer Aided Dispatch (CAD)
- Trial team meeting and debriefs

Historic Data

During the trial period, successive inclement weather events across the South Island reduced recreational activity and, consequently, the observed volume of SAR incidents. To address this impact on the trial, three years of historic SARdonyx and National Air Desk CAD data were used to supplement in-trial survey findings. This approach allowed the surveys to primarily inform user experience of the trialled SOPs, while the historic datasets were used to inform indicative trends in demand, workload, and cost for any future implementation of the model.

Each of the datasets proved useful, but they are not directly comparable. Differences in data structures, filtering methods, and classification conventions mean that slightly different results can be produced depending on the dataset and the user's analytical approach. In addition, the available date ranges varied between sources. As a result, the figures and extrapolations in this report should be interpreted as *indicative* rather than predictive.

Assessment Criteria

The following areas were assessed using the data collected and historic records. Each assessment area is discussed in detail in the Findings section.

Area	Criteria
Initial Assessment Process	- Appreciation process considers all required variables adequately - Appropriateness of request (based on initial information) - Assessment process is effective when determining asset allocation - Requests for aviation support are appropriate to the needs of the operation - SAR categories and health tasking boundaries are applied consistently
Notifications and Referrals	- Air assets are selected and tasked appropriately - Appropriateness of request (based on initial information) - Referrals to RCCNZ are timely and appropriate - Requests followed draft SOPs - Requests for support or referrals are acknowledged in a timely and consistent manner
Tasking	- Air assets are selected and tasked appropriately - Assets selected for operation are appropriate and achieve the outcome - No failed or duplicated taskings - Task briefings are consistent and adequate
Common Operating Picture	- Real-time monitoring and communications are maintained throughout the SAROP - Situational awareness is maintained throughout the operation
Draft Procedures	- Draft SOP is fit for purpose
Systems / Tools / IT	- Systems adequate to sustain coordination responsibilities
Timing and Costs	- Aviation costs are visible and attributed correctly - Response times are appropriate / realistic
Workload	- Fatigue levels are managed appropriately - How much staff time was required per SAROP? - No operational impact outside trial area - SAROs are not overwhelmed by the volume of calls - SARO task volumes do not significantly exceed baseline - Trial process does not add significant time or wasted effort to current process - Volume of requests remains within averages
Improvements Process	- Lessons are captured consistently across SAROPs
Stakeholder Confidence	- Clarity of process - Confidence baseline - Ease of use - Expectations - Key challenges - Observed improvements - Operational effectiveness - Perceived change - Perceived efficiency - Remaining issues - Stakeholders have confidence in RCCNZ to lead process (confidence comparison)

Summary of Trial

Incidents

A total of **30 operations** were considered during the trial period.

In-scope operations (28)

- Cat I (Police-led): 10
- Cat II (RCCNZ-led): 8
- Health-led (National Air Desk): 6
- Other (4):
    - Cat II transfer to National Air Desk
    - Cat II transfer to Cat I
    - Cat I with a Cat II operation running in parallel
    - Cat I transfer to Cat II

Out-of-scope operations (2)

Two North Island incidents were out of the geographic scope. While specific lessons from these incidents informed aspects of the findings where relevant, the quantitative details of these events were not included in the statistical analysis.

Pathways Used to Request Aviation Support

Of the four pathways within the SOP for Police to request aviation support (see Appendix E), the following were used in the trial:

- Pathway A: 15
- Pathway B: 0
- Pathway C: 4
- Pathway D: 0

Ambulance Referrals and Interactions

There were 11 ambulance referrals or interactions between RCCNZ and National Air Desk during the trial.

Assets Used

Across all trial-related events:

- Tier I taskings: 9
- Tier II taskings: 13
- Nil tasking / cancellation / National Air Desk involvement: 8

Operators Engaged

A total of 11 air operators were engaged across trial events.

Trial Aviation Costs

Airframe costs to RCCNZ during the trial period:

- In-scope South Island operations: $82,515.80
- Including the two North Island operations referenced: $93,831.80.

Flying Hours

Flying hours by area and asset tier

Area	Operations*	Total hours	Tier I	Tier II
South Island (in scope)	28	20.4	11.3	9.1
North Island (out of scope)	2	1.38	1.38	0
Total	30	21.78	12.68	9.1

* Includes operations involving zero-flying hours

Survey Responses

The following surveys were returned during and following the trial:

- Pre-trial surveys: 57
- Post-trial surveys: 32

Role-specific survey responses:

- Police SAR: 12
- Police ECD: 2
- RCCNZ SAROs: 28
- RCCNZ Watch Leaders: 9
- HHStJ National Air Desk: 7
- Operators: 10

Weather Related Limitations

The dominant sentiment among participants was that the trial period experienced fewer SAROPs than expected for the time of year. October was selected deliberately as a transitional month, anticipated to produce a moderate but manageable level of SAR activity, given spring temperatures, school holidays, and a long weekend. However, unsettled weather conditions across parts of the South Island appear to have suppressed the level of outdoor recreational activity that typically contributes to SAR demand, while also constraining aviation operations. This likely reduced the number of potential incidents entering the system during the trial window.

As a result, the trial relied more heavily on historic SARdonyx and National Air Desk CAD data to contextualise observed patterns and to support indicative forward-looking modelling. Interestingly, analysis of historic trends showed that despite the perception of a quiet trial period, rotary-wing flying hours for the South Island during the trial exceeded the historic median for October, while North Island activity was significantly lower.

The trial methodology uses flying hours as a limited proxy for workload. But these do not accurately represent operational complexity, concurrency, or cognitive demand on SAROs. This distinction is explored further in later sections of the report. The weather effects observed during the trial therefore do not undermine the structural findings of this evaluation, but they do limit the extent to which raw activity volumes can be treated as representative of national or peak-season conditions.

Findings

Initial Assessment Process

Focus

This assessment area examines the effectiveness and consistency of the initial triage and appreciation process used to determine whether aviation support is required, and if so, what type of asset is most appropriate. It focuses on how requests are formed, interpreted, and evaluated at the point of first contact, and whether the information available at that stage is sufficient to support sound decision-making.

This area considers whether the appreciation process consistently accounts for the key variables relevant to SAR aviation taskings. It also assesses whether the process distinguishes between the boundaries of Cat I SAR, Cat II SAR, and health tasks in a consistent and operationally meaningful way. The intent of this assessment is to evaluate whether the initial assessment process itself is robust enough to support appropriate asset selection and clarity for downstream coordination, cost attribution, and inter-agency handover.

Results

Across the trial period, initial requests and referrals into RCCNZ originated primarily from National Air Desk and Police SAR, with smaller volumes from Police ECD. National Air Desk reported actively considering a number of cases for referral to RCCNZ that were ultimately determined to be health-led rather than SAR. RCCNZ reported that the majority requests and referrals were clear and complete.

The Ambulance-to-RCCNZ handover criteria provided a structured framework for assessing if reported health-incidents warranted escalation to SAROP. The principal factors informing referrals from National Air Desk to RCCNZ related to *access* complexity. In all cases these included remote locations. Search and rescue needs arose in most cases; and less frequently, patient medical condition, time of day, and relative travel times of assets.

Application of SAR categories and health tasking boundaries was not fully consistent. There is some ambiguity around referral thresholds, particularly where time pressure was the dominant factor, rather than access complexity. Some health-related tasks were taken on by RCCNZ as test cases during the trial, and others were accepted pragmatically due to Tier 1 unavailability.

Two operations did not initially trigger RCCNZ involvement. In one case, the initial decision was appropriate based on the information available at the time, with referral occurring once additional information became available. One ship medevac was initiated by National Air Desk but later referred to RCCNZ. This was initially tasked by National Air Desk before being referred to RCCNZ when access complexities emerged.

A couple of Police requests were regarded as borderline by the RCCNZ, as they were assumed likely to result in body recovery operations However, these were still considered SAR operations until a death was confirmed or the subject was located, and were therefore treated as SAR at the time of request.

Most requests for aviation support were considered appropriate. A small number of borderline or exceptional cases were accepted deliberately to test aspects of the trial. Two tasks were accepted by RCCNZ primarily on the basis of *time* rather than access constraints. These were not strictly SAR operations. RCCNZ noted that it does not wish to become a default substitute for health system capacity shortfalls.

During the trial, RCCNZ made several referrals to National Air Desk for air ambulance tasking and sought clinical input from National Air Desk on multiple occasions to support planning and patient handover. Feedback from both agencies noted that the increased frequency of early consultation improved the quality of assessments and supported better-informed decisions.

Interpretation

The trial demonstrated that the initial assessment process was usually effective in identifying access-driven SAR aviation needs and distinguishing them from predominantly health-led tasks. The high proportion of requests

reported as clear and complete, along with the low number of late or inappropriate referrals, suggests that the appreciation process was functioning under operational conditions.

The data indicates that National Air Desk was largely successful in identifying access-related complexities and initiating timely engagement with RCCNZ. The fact that multiple potential referrals were considered but not escalated also suggests that the referral threshold was not indiscriminately low. This supports the view that the triage process was selective rather than reactive. For delayed involvement of RCCNZ, debriefs indicate that this reflected genuine information emergence, on one occasion; and a failure to follow the trial SOP on others, rather than systemic failure in the procedure itself. Regardless of these issues, the process was adaptive and continued to deliver successful outcomes.

The increase in consultation between RCCNZ and National Air Desk appears to have improved the quality of assessments. This implies that the structure of the trial itself, rather than any specific procedural rule, was responsible for better decision-making. This reinforces the value of a shared early appreciation phase in operations, as well as regular and ongoing inter-agency collaborations.

The cases involving contested classifications highlight the need for clearer shared thresholds for when an operation should be treated as SAR versus body recovery, and the limits of how much aviation coordination could, or should, be pre-allocated. When aviation coordination remains with RCCNZ, the operational records need to clearly state any changes in the nature of event, to ensure that costs can be attributed to the appropriate agency. Without agreed parameters, these decisions remain highly subjective and risk inconsistency.

The National Air Desk-to-RCCNZ SAROP escalation criteria is sound, however the trial showed that “access” alone is not always the driver of referrals. Time pressure, asset scarcity, and system capacity constraints can also push cases across organisational boundaries. In particular, the acceptance of non-SAR health tasks on the basis of time rather than access. Without clear guardrails, RCCNZ may become an informal overflow mechanism for health system constraints. Whilst the capability for inter-agency support is essential, RCCNZ should not be a default stop-gap for health system deficiencies.

The initial assessment process was largely effective and improved through structured inter-agency engagement. The trial did not reveal systemic flaws in triage or appreciation process. However, it did surface unresolved questions around tasking boundaries, escalation thresholds, and the circumstances under which RCCNZ should decline, accept, or assume control of borderline tasks. These issues will need to be addressed before any national implementation at technical, governance and policy level.

Notifications, Referrals, and Tasking

Focus

The effectiveness of notification, referral, and tasking processes between agencies was assessed to determine whether the trial model enabled the right requests to reach the right agency, at the right time, with sufficient clarity to support effective coordination, and whether any patterns of misrouting, delay, duplication, or ambiguity were evident. This assessment does not evaluate the clinical or tactical quality of decisions made in isolation. It considers how well information moved between organisations, and how clearly responsibility transferred.

Results

Across the trial period, the majority of participants reported that air assets were selected and tasked at appropriate points in the process. More than 80 percent of RCCNZ SAROs and National Air Desk Clinical Services Officers (CSOs) indicated that tasking or referral decisions were made at the right stage, based on the information available at the time.

Participants across agencies consistently reported that the trial generated a higher volume of advisory and consultative interactions between RCCNZ and National Air Desk. This increase in early engagement improved decision quality, particularly where the distinction between health-led and access-driven needs was not immediately clear.

Requests were generally considered appropriate based on the initial information provided. Referrals to RCCNZ were mostly timely and appropriate. A small number of exceptions were noted, including cases where the draft SOP was not followed, or where an initiating agency retained control of an operation longer than was optimal.

Trial debriefs indicated that inter-agency communications improved over the course of the trial. All Police SAR reported that RCCNZ provided regular updates. National Air Desk respondents similarly indicated that RCCNZ acknowledged requests and referrals promptly. In contrast, approximately two-thirds of Police ECD respondents reported slower acknowledgements and weaker feedback loops.

Interpretation

The trial indicates that the notification, referral, and tasking processes were largely effective in routing the right requests to the right agency at the right time. The high proportion of participants reporting appropriate timing of decisions, and the low number of misroutes, suggests that the core mechanics of the model functioned as intended.

The increase in consultative interactions between RCCNZ and National Air Desk appears to be a key strength of the model. More frequent engagement fostered an environment that led to improved quality of decisions and reduced the likelihood of inappropriate tasking. This behaviour aligns with the intent of the centralised coordination concept, even though it is not explicitly stated in procedures.

The mixed feedback from Police ECD is notable. While the SAR and National Air Desk interfaces functioned relatively well, the ECD appears to have been less well integrated into the shared operational picture. If ECD is to remain a potential entry point for urgent aviation taskings, then responsiveness and messaging will to be more clearly programmed.

The trial suggests that the model is directionally sound, but relies heavily on experience, good decision-making, and manual communication. That is acceptable in a trial environment. It is not sufficient for a permanent, scaled-up system. If centralised SAR aviation coordination is adopted, the notification and referral model will need to evolve from being relationship-dependent to being system-supported. This includes:

- Clearer thresholds for classification and escalation;
- Stronger procedural enforcement;
- Defined ownership of edge cases;
- Integrated communications with ECD and National Air Desk; and
- Technology support to reduce reliance on memory and manual compliance.

In its current form, the process works because experienced people are compensating for system gaps. That is a strength of the workforce, not a property of the system.

Tasking

Focus

This assessment area examines the effectiveness of the tasking assets under the trialled centralised coordination model. It focuses on whether aviation assets were selected appropriately, tasked correctly, and briefed adequately to support successful operational outcomes, without unnecessary duplication, confusion, or rework. This area considers whether the process of selection, briefing, and deployment was consistent, reliable, and resilient.

Results

Across Police SAR, RCCNZ, and Operators, there was a very high level of agreement that the correct assets were selected and tasked for the needs of each operation. Survey responses indicated that more than 90 percent of respondents across all three groups rated asset selection as *mostly* to *fully appropriate*.

Where the preferred or ideal asset was not used, this was due to practical availability constraints rather than assessment errors. The most commonly cited reasons were that the asset was already tasked elsewhere, unavailable due to maintenance or technical issues, lacked a required specialist capability such as a rescue swimmer or paramedic, or was too distant to respond in a reasonable time. Weather or crew fatigue were not reported as significant limiting factors.

A small number of issues were noted, including one instance where Police had pre-selected an asset that would not have been RCCNZ's preferred choice, although it remained operationally acceptable. In another case, a Tier 2 asset was deployed due to the unavailability of nearby Tier 1 assets, which was workable but highlighted resourcing and contractual boundaries between SAR and health systems. In several Tier 2 deployments, the pilot was the sole person attending the scene. This raises questions regarding appropriate crewing, risk management, and whether additional personnel, such as LandSAR volunteers, should be added as crew in some contexts. One health-related task, a Tier 2 asset, tasked by RCCNZ, relocated an injured person to the nearest medical centre; where the medical centre was not particularly experienced or prepared for such patient handovers.

Operational timing indicators suggest that assets were mobilised and deployed without undue delay once decisions were made. Median IMS-derived times from request, to decision, to take-off, and arrival on scene were all within timeframes that participants described as operationally acceptable. The majority of operators reporting preparation times of 30 minutes or less and flight times to scene of 30 minutes or less.

RCCNZ SAROs reported that confirming asset availability remained a manual and time-consuming step. Despite daily availability summaries for Tier 1 assets, availability for both Tier 1 and Tier 2 assets had to be confirmed by phone. The median time to confirm availability during the trial was approximately 12 minutes. This step could be reduced significantly if there was real-time, shared visibility of asset status.

One example highlighted how static availability information can obscure real-time nuance. A local operator who raised the alert about a medical incident was not used to respond to it, despite being immediately available, because their standard preparation time was recorded in National Air Desk operational tasking metrics as longer than it actually was in that instance. This demonstrates the limitations of static availability reporting compared to real-time situational awareness.

No failed taskings were reported during the trial. There were no confirmed instances of duplicate or conflicting taskings that resulted in wasted deployment. One suspected duplication between Police and RCCNZ taskings was later clarified as two separate operations in the same area. In this case, the notification process of the trial SOP enabled this to be resolved without operational conflict, and a single helicopter was able to assist with both operations.

One incident involved duplicated communication steps due to a failure to follow the SOP, where Police briefed a local operator before contacting RCCNZ. This was an exception rather than a pattern.

Operators consistently reported that task briefings were clear, consistent, and sufficient. All reported that on-scene instructions were clear, and nearly all rated briefings as good to excellent. Operators also reported that tasking was largely consistent with the SOP.

Feedback revealed some ambiguity around instruction authority once on scene. Once on scene, instruction sources varied, with some reporting joint direction from Police *and* RCCNZ, some from RCCNZ alone, and some reporting no formal on-scene instruction. Both SAROs and Operators commented that this created a need for multiple phone calls and dual reporting in some cases, particularly when RCCNZ handled the initial tasking but Police retained operational control under a Cat I structure.

Interpretation

The trial demonstrates that the centralised tasking model is operationally sound. Assets were selected appropriately, deployed without significant delay, and achieved intended outcomes. There is strong alignment across agencies that tasking decisions were correct and that the model did not introduce significant operational risk. Where ideal assets could not be used, this reflected real-world availability constraints rather than process failure. The absence of failed taskings and the near-total avoidance of duplication indicates that the notification and referral model worked as intended, and that centralised tasking reduces, rather than increases, the risk of parallel or conflicting deployments.

However, the tasking process remains unnecessarily manual. SAROs had to interpret static daily summaries of asset availability, confirm availability via phone, and manually reconcile multiple information sources. This creates delay, cognitive load, and opportunities for misinterpretation. While these issues were manageable under trial conditions, they will become increasingly problematic as workload increases in a national centralised model, particularly in peak seasons.

Briefings were strong, which reflects the professionalism of SAROs and Police SAR. However, the variability in who operators believed they were being instructed by highlights a structural ambiguity. Tasking authority and operational instruction were sometimes split between agencies. While this did not cause major issues during the trial, it is a latent coordination risk. If operators are unclear who they are reporting to, who is responsible for decision-making, and which instructions take precedence, safety and efficiency can degrade under pressure. In addition to training and education, the SOPs need to clearly articulate the difference between *tasking* and *instruction* to reduce the risks from ambiguity. Improvements in communication technologies would also help to reduce these risks, by allowing automation of dispatch and a task acceptance.

There is a need for clearer governance around Tier 2 involvement in medically-significant rescues, particularly regarding destination selection and clinical handover. While Tier 2 assets can enable rapid access and extraction; appropriate medical receiving arrangements and advance communication are essential to ensure patient safety and system-readiness. Where a rescue involves actual or anticipated medical care, the definition of “place of safety” should include an agreed clinical handover point, planned in coordination with the National Air Desk, and receive prior notification. Similarly, there are issues to be addressed around appropriate crew for Tier 2 asset deployments, to ensure the safety of the operators and those being rescued.

If centralised SAR aviation coordination is adopted permanently, tasking must evolve from being manually reconciled to being semi-automated, unambiguous, and role-clear. This includes:

- Real-time shared asset status and capability visibility;
- Clear separation between tasking authority and on-scene instruction;
- Standardised briefing and handover protocols;
- Reduced reliance on phone-based coordination; and
- Automated tasking records and audit trails.

Common Operating Picture (COP)

Focus

This area assesses the extent to which a shared, accurate, and continuously updated common operating picture was maintained throughout SAR operations during the trial. It considers how information about the incident, deployed assets, risks, and evolving circumstances was communicated, interpreted, and acted upon by the participating agencies. This area considers whether real-time monitoring arrangements were sufficient to support oversight of aviation taskings, whether communications between RCCNZ, Police, National Air Desk, and operators were timely and reliable, and whether all parties maintained a consistent understanding of the status and direction of each operation.

The assessment also explores how situational awareness was established and sustained over time, as new information emerged, conditions changed, or operational control shifted. This includes the ability to detect emerging risks, adapt plans, and coordinate actions across agencies without fragmentation, duplication, or loss of clarity. The intent is to evaluate how effectively people, processes, and tools combined to support a shared operational understanding during dynamic and time-sensitive SAR events.

Results

Survey responses indicate that a moderate proportion of participants considered that some form of live monitoring of aircraft was available and reliable during individual operations. However, “live tracking” was achieved through a mix of methods, including electronic tracking on certain aircraft and direct voice communications with pilots on others. In several cases, where one party held the primary communication link with an aircraft, other parties reported limited or no real-time visibility of its location or status.

True real-time geo-positioning of aircraft was only available on a limited subset of assets. Visibility of aircraft location and status was not universally available to all parties due to hardware and software constraints. It is likely that participants’ interpretation of “real-time monitoring” is shaped by what they are accustomed to. For example, telephone updates from pilots may be treated as equivalent to real-time tracking, despite being manually mediated and intermittent.

With respect to situational awareness, Police SAR and National Air Desk respondents reported that they were kept well informed by RCCNZ during operations. They described the information provided as clear and complete, and supportive of their understanding of evolving situations. In contrast, Police ECD respondents were more negative, with the majority indicating that information received was not as clear or helpful. RCCNZ Watch Leaders reported a positive view of interagency communication and information sharing.

National Air Desk and RCCNZ both reported a high level of visibility of Tier 1 assets, primarily from daily updates on availability, capacity, and capability. In contrast, visibility of Tier 2 assets was limited. RCCNZ’s baseline visibility of non-AAH assets is derived from the SAR Resource Database, which provides a static list of aircraft by operator. However, availability and capability for *any* asset type is typically established via phone calls at the time of activation.

Trial debrief discussions indicated that, on several occasions, ‘available’ assets were offline due to maintenance or had extended preparation times due to crew availability. For both tiers of assets, any unavailability or rejection of a tasking is recorded in the incident log; however, this information is not captured on shared via status boards or similar tools for real-time tracking or later analysis. Anecdotal feedback suggested that asset availability is often considered in binary terms (available or unavailable), and fails to account for operational nuances such as upcoming status changes, imminent return to base, or remaining flying hours.

Information sharing between agencies was reported as effective, but relied heavily on phone calls and email. ECD respondents in particular indicated that maintaining a common operating picture through ad hoc verbal updates was suboptimal.

Interpretation

The trial demonstrated that, while communication between agencies was active and collaborative, a true common operating picture was not consistently achieved. What existed in practice was a series of overlapping, manually maintained views of the operation, rather than a shared, real-time, and system picture accessible to all parties.

There is a distinction between "being informed" and "having a common operating picture". Survey responses suggest that Police SAR and National Air Desk participants often felt well informed by RCCNZ; by contrast, ECD participants appear to be further removed from this communication loop. RCCNZ is heavily relied on to act as a central information broker. This model is inherently fragile, as it depends on manual updates, individual availability, and the accuracy of relayed information.

The limited availability of true real-time tracking, combined with inconsistent access to asset location and status information, constrained shared situational awareness. Telephone updates from pilots, while operationally useful, do not constitute real-time monitoring in a technical sense. Manual, point-in-time updates are more vulnerable to delay, omission, and misinterpretation, particularly in complex or fast-moving incidents.

Visibility of Tier 1 assets is greater than for Tier 2 assets, reflecting the more mature requirements in the aeromedical contracts. In contrast, the reliance on phone calls and static databases for non-AAH assets created a structurally weaker information environment. However, phone-calls were still required to ascertain the immediate availability of both Tier 1 and 2 assets and specialist capabilities; making it difficult to anticipate future availability, assess competing demands, or optimise tasking decisions dynamically. The absence of a shared, dynamic view of asset status increases the risk of inefficiencies, including over-tasking, duplicated effort, and avoidable delays, particularly during periods of high operational tempo or when multiple agencies are involved.

The trial indicates that situational awareness was maintained largely through interpersonal communications, rather than through a common system view. While this worked under trial conditions, it is not scalable or resilient. A centralised SAR aviation coordination model significantly increases the importance of having a single shared operating picture, rather than multiple, parallel, manually reconciled displays.

The inherent weaknesses of the common operating picture is an issue of system design and aging technology. The trial showed that people are compensating for tooling gaps.

Draft Procedures

Focus

A key element of the trial is whether the draft SOPs were fit for purpose as an operational framework for centralised SAR aviation coordination. This includes their clarity, usability, and practical applicability across RCCNZ, Police, and National Air Desk functions. Of key importance is whether the draft SOPs supported effective decision-making, reduced ambiguity, enabled timely coordination, and could be realistically applied under operational pressure. This includes consideration of how intuitive the procedures were for practitioners, how well they aligned with existing agency workflows, and whether they provided sufficient structure without being overly rigid. Given that the trial was conducted in live operations, this assessment also considers how well the SOPs supported real-world variability, partial information, and evolving situations.

Results

Across agencies, the draft SOPs were perceived as clear, usable, and operationally workable. Police SAR reported that requesting helicopter support under the trial procedures was very easy, with multiple respondents highlighting reductions in delays and friction compared to business-as-usual processes. National Air Desk participants described the procedures as clear and did not report any uncertainty, duplication, or delays arising from their use. RCCNZ SAROs similarly reported that the procedures worked well in practice.

While most participants indicated they referred to the SOPs a moderate amount, several noted limited or no direct use. This may reflect familiarity with the SOP, or a reliance on professional experience rather than a rejection of the procedures themselves. Only one operation experienced notable confusion, which occurred when the trial procedure was not followed initially and was instead applied retrospectively.

Most post-trial survey responses indicated that there was no immediate need for substantive changes to the draft SOPs. However, several friction points were identified related to clarity of roles and communications, particularly around:

- Who an aviation asset should treat as the primary instructing authority.
- Who should be providing/receiving ongoing operational updates.
- Better clarity in the SOP regarding the definitions of “reflex taskings”.

Four SOP ‘pathways’ were available for Police requests to RCCNZ (See Appendix E). Pathway A was the most used, Pathway D was used once. Pathways B and C were not used at all. Pathway C, which provided for transfer of coordination from Police (Cat I) to RCCNZ (Cat II), was not used by Police SAR during the trial, despite several operations being regarded in hindsight as plausible candidates. The pathway was understood in principle; it was not operationalised in practice. The single use of Pathway D was *technically* a transfer to Cat II, though this had not been conceptualised in the SOPs.

Communication risks were most notable in Pathway A, in which RCCNZ tasked the aviation asset but Police retained operational control and instruction of the assets. Some operators, having been briefed by RCCNZ prior to launch, were then unclear as which agency should provide further instructions, or receive status updates. This created ambiguity around command, briefing responsibility, and communications flows, and was identified as a potential source of delay and confusion.

There was also evidence of early-stage confusion among one Tier 2 operator, particularly where RCCNZ contacted them after they had already been engaged by Police. This was not in alignment with the trial SOP, highlighting the need for clearer communication about the new model and stronger signalling of RCCNZ’s role as the aviation coordination point.

Most issues that arose during the trial were associated with deviations from or unfamiliarity with the SOPs, rather than intrinsic flaws in the procedures themselves.

Interpretation

The draft SOPs were considered fit for purpose as a cross-agency framework for centralised SAR aviation coordination. They were perceived as intuitive, operationally usable, and capable of supporting timely decision-making under real-world conditions. The consistently positive feedback from Police SAR, National Air Desk, and RCCNZ participants suggests that the procedures reduced friction rather than adding to it. The general adherence to SOP pathways, despite limited direct consultation of the written documents, suggests that the procedures were intuitive and aligned with professional judgement.

Importantly, most of the confusion and inefficiencies observed during the trial arose not from the SOPs themselves, but from instances where they were not followed, or overridden by existing habits. This suggests that the primary challenge for future implementation of the SOPs is embedding, reinforcement, and cultural transition; There will be a need for stronger controls to prevent out-of-process deployments, to ensure that the cost-owner tasks the asset deployed.

The non-use of Pathways B and C should not be interpreted as evidence that these pathways are unnecessary. It likely reflects a combination of early-trial behaviour, organisational habit, and low operational pressure during the period. This does not indicate failure of the model, but it does suggest that category thresholds and handover conditions will require stronger operational definition, rehearsal, and leadership reinforcement if centralised coordination is adopted.

The communication issues observed around Pathway A highlights a structural ambiguity: while tasking authority and cost ownership may sit with RCCNZ, operational instruction can remain with Police. Without clear, rehearsed communication protocols, this split creates uncertainty for operators.

The SOPs worked during the limitations of the trial. They could be improved with clearer thresholds for escalation, stronger role demarcation, and clarity of communication protocols. Any implementation needs to be supported by strong training and education campaigns, and frequent inter-agency exercises to embed the process across all participating agencies.

Systems / Tools / IT

Focus

In addition to the human operation of the SAR aviation coordination, the systems, tools, and information technology available to RCCNZ and partner agencies need to be adequate to support the coordination responsibilities. This considers whether existing platforms, data flows, and communication tools were sufficient to enable timely decision-making, situational awareness, tasking, record-keeping, and inter-agency information sharing under operational conditions. It also examines whether staff were required to compensate for tooling limitations through manual workarounds, parallel tracking, or informal communication. This area considers whether:

- Systems supported real-time or near-real-time visibility of assets and tasking.
- Information could be shared consistently and accurately across agencies.
- Data entry, retrieval, and updating were efficient under time pressure.
- Tools supported concurrent tasking and complex operational states.
- Records generated were suitable for audit, learning, and accountability.
- Systems could plausibly scale to higher tempo and national-level coordination.

Results

Participants reported that existing ICT systems coped with the workload experienced during the trial. No major system outages were reported. Some minor issues were noted, including intermittent screen failures and suspected firewall-related connectivity problems between RCCNZ and Police systems, which resulted in some duplication of documentation.

With respect to tasking, 63 percent of respondents gave a positive rating for the adequacy of current systems. However, RCCNZ SAROs consistently described the tasking and coordination process as highly manual and labour-intensive. In terms of situational awareness, survey responses indicated an average-level of support from current ICT systems. This reflects the adaptability of staff rather than the capability of the systems themselves. Systems were widely described as lacking integration and interoperability.

RCCNZ reported that its internal systems do not interoperate, limiting the ability to generate a consolidated, real-time operating picture. Information from external systems, including National Air Desk platforms, must be re-entered manually into IMS. This increases workload and introduces avoidable opportunities for error. Aircraft locations cannot be dynamically plotted within the same environment used for logging, tasking, and coordination; with no capability for forensic, dynamic play-back of search pathways.

Communications with aircraft were rated positively by 60 percent of respondents. However, communications were almost entirely analogue. Tasking, briefings, in-flight updates, and situational reporting were conducted via phone or radio. Some respondents reported lost emails and unreliable connectivity in certain environments. Real-time tracking capability was available only on a subset of aircraft, limiting shared, real-time situational awareness to that subset and making it impossible in some others.

Inter-agency communications received a lower to average rating of 50 percent. Several respondents noted that there was not consistent visibility for all parties. This leads to fragmented awareness, reliance on verbal relay, and delayed or incomplete information sharing.

Survey comments highlighted consistent themes:

- RCCNZ's IMS was described as cumbersome and not fit for high-tempo coordination.
- Lack of integration between RCCNZ systems and those of partner agencies added unnecessary workload.
- Manual re-entry of data from National Air Desk systems into IMS was common.
- Communications with aircraft were expectedly variable due to terrain and conditions, with limited technical mitigations.

- Multiple respondents suggested that RCCNZ should operate a CAD-style system of record, with inter-CAD connectivity to Police and National Air Desk, enabling direct tasking of assets, shared visibility, and reduced manual effort.

Participants agreed that the systems worked adequately for the trial's operational volume. However, several noted that this was because the workload was relatively light, with few concurrent or complex SAROPs.

Interpretation

The trial demonstrated that current systems are sufficient to support limited volumes of centralised coordination, provided that experienced staff are actively compensating for system limitations. This is *not* the same as the systems being fit for purpose. Maritime New Zealand's systems are not designed to support the level of integration, resilience, and scalability required for full-scale centralised coordination.

The data shows a pattern of human interventions masking technical/system fragility. Agency staff maintained situational awareness through good decisions, verbal updates, memory, and informal cross-checking. This kept operations safe and effective during the trial. However, this resilience is not a scalable or sustainable system design. The systems environment is characterised by:

- Low integration;
- High manual workload;
- Heavy reliance on analogue communication;
- Fragmented data ownership;
- Parallel record-keeping; and
- Limited real-time visibility.

These features create a coordination model that is labour-intensive, error-prone, and difficult to audit or analyse retrospectively. They also place a disproportionate cognitive load on individual staff. The positive ratings seen in the survey should therefore be interpreted carefully. They reflect that people make the system work, not that the system made the work easy.

The centralised SAR aviation coordination model fundamentally increases the importance of system performance. As task volumes increase, concurrency rises, and incident complexity grows; Manual workarounds become a liability. In high-tempo or multi-incident scenarios, such as severe weather events or major transport accidents, the current systems would likely become a constraining factor rather than an enabling one.

Coordination is currently relationship-based rather than structurally supported. The lack of system integration directly undermines the concept of a common operating picture; meaning there is a *lack* of shared, real-time, system visibility of:

- Asset status;
- Tasking state;
- Location;
- Capacity; and
- Competing demands.

The repeated suggestion of a CAD-style environment reflects a recognition that aviation coordination is fundamentally a real-time dispatch and resource management function. Current RCCNZ systems within Maritime New Zealand's technology environment were not designed for that purpose. The RCCNZ IMS is a bespoke tool built on an aging Lotus Notes platform, and was not designed as a real-time dispatch or resource coordination system. It operates largely independently of the suite of other tools SAROs routinely use, including Google Earth Pro, TracPlus, AIS feeds, Flight Explorer, MAPIT, Wave, and Microsoft Teams. There is little to no native data integration between these systems, meaning that operational awareness is constructed manually through copy-paste, parallel logging, and verbal brokerage.

The current ICT environment can be made to work at low-to-moderate tempo through manual effort and operator expertise. However, the current ICT stack will not be sufficient for national-scale, high-concurrency operations. If centralised coordination is adopted, system integration, automated data ingestion, and shared real-time visibility must be treated as foundational operational requirements. Otherwise, the model remains labour-intensive, fragile under stress, and vulnerable to failure as operational demands increase.

Timing and Costs

Focus

This assessment looks at potential financial impact, and the other value propositions, of the trialled model. If it supports visibility, attribution, and management of aviation costs, and whether response times remain operationally appropriate and realistic. It considers direct financial costs and broader operational value, opportunity costs, and system efficiencies, and the potential for improvements by:

- Reducing unnecessary or misaligned deployments;
- Improving asset matching (capability vs need);
- Preserving scarce Tier 1 capacity for higher-acuity or time-critical tasks;
- Reducing re-tasking, duplication, or late referral; and
- Supporting faster, clearer decision-making.

Rather than treating "cost" narrowly as hourly flying rates, this assessment recognises that aviation tasking decisions create downstream impacts on patient outcomes, survivor safety, asset availability, system capacity, and future response readiness. A well-functioning coordination model should therefore reduce waste and avoid unnecessary deployments. Which preserves high-capability assets for when they are genuinely required, and supports faster access to help where proximity matters more than capability.

Similarly, response time is not treated as a simple speed metric. This assessment considers whether response times were appropriate and realistic given geography, weather, asset distribution, preparation requirements, information quality, and the complexity of triage and coordination across agencies. The focus is on whether the model enables timely, proportionate responses, rather than simply faster ones.

This assessment draws on:

- Trial IMS data;
- Trial survey responses;
- RCCNZ cost reconciliation data;
- Historic SARdonyx records; and
- Historic HHStJ National Air Desk CAD data.

Historic volumes have been combined with current 2025/26 average asset rates to create indicative forward-looking scenarios. These are modelled estimates only, not realised savings or explicit budget forecasts.

Results

Observed Trial Costs and Attribution

Of the in-scope incidents during the trial window, not all resulted in aircraft deployment or RCCNZ-led coordination. For those that did, RCCNZ provided a reconciled cost dataset based on invoices received as of December 2025, with one operator cost estimated.

Asset Tier	Tasks	Hours	Billed Trial Costs
Tier 1	9	11.3	$100,584.77
Tier 2	13	9.1	$36,464.04
Total	22	20.4	$137,048.81

Based on these numbers, for the trial period alone, the increased cost to RCCNZ from referred tasks was $82,515.80 (or $93,831.80 including two North Island jobs referred to in this report, but out-of-scope of the trial itself). This expense would have been borne by the system regardless, so this metric provides an indication of how costs may shift across operating budgets should the trial recommendations be accepted.

Using incident-level counterfactual assumptions, RCCNZ calculated a net *system* saving in the trial period of $57,045.25, based on the likely costs of deployments under business-as-usual arrangements. This system-wide

saving was derived by comparing actual invoiced costs under the trial *versus* estimated pre-trial system costs, calculated per incident. This method provides for directional comparison, but it must be interpreted noting that:

- It depends on assumptions about what *would* have happened in pre-trial conditions;
- It reflects the short, low-volume trial window; and
- It cannot be prorated or annualised reliably due to seasonal volatility.

The trial improved the visibility and traceability of aviation costs by virtue of the tasking authority and cost owner being the *same* agency. However, real-world operations do not always align cleanly with single-agency ownership. Situations such as body recovery following a SAROP, cross-agency referral, or unavoidable mis-taskings create legitimate ambiguity about cost responsibility and recovery. Future system updates will need to support flexible cost attribution, including splitting or reallocation where appropriate, rather than assuming rigid ownership models.

Observed Response Times

Timing data from both IMS logs and survey responses indicates that response times were largely within expected and operationally acceptable ranges.

From IMS (median values):

- Request to decision: 27 minutes
- Request to airborne: 40 minutes
- Request to subject found: 61 minutes
- Request to place of safety: 100 minutes

From surveys:

- 83.3% of Police SAR expected helicopters within 60 minutes.
- 58.3% reported actual arrival within 60 minutes.
- No respondents reported waits exceeding two hours.
- Several non-arrivals were noted due to early stand-downs, weather, or the subject being located before aircraft departure.

RCCNZ respondents rated appropriate response times in 92.6% of cases; operators in 75% of cases.

The timing data indicates that response intervals observed during the trial were consistent with participant expectations and operational norms, with no evidence of systemic delay introduced by the centralised coordination model. More granular comparison against historic trends is not currently possible due to limitations in SARdonyx data, and the impracticality of manually extracting comparable timing sequences from IMS or CAD records.

Forward-looking scenario modelling (indicative)

Historic data has been used to provide a basis for indicative forward modelling of cost and workload implications for the RCCNZ under a nationally expanded model. Noting that any projection is sensitive to assumptions about transfer rates, asset mix, and operational complexity. For projected costings in this section the models have used an average hourly cost of $9,300 for Tier 1 assets, and $4,000 for Tier 2 assets.

Potential Transfer from Police

Using the median annual rotary-wing operations for Police Cat I over a three-year period, provides the following projected transfer to RCCNZ:

Asset Tier	~ Tasks	~Hours	~Cost
Tier 1	133	179	$1.66m
Tier 2 (Commercial Tier 2 + Police Eagle)	134	196	$0.78m
Total	267	375	$2.44m

Note that the number of instances of aviation tasks does not equate to an exact number of operations, as several used multiple assets.

Under a centralised coordination model RCCNZ tasking and cost-management of SAR aviation using Tier 1 and Tier 2 on behalf of Police, will free up Police's *Eagle* helicopter for core policing function, though presumably Eagle would still be notionally available if required. As *Eagle* is not directly tasked by RCCNZ, the governance and cost mechanisms for Eagle support to SAR will need explicit definition under any enduring model.

Potential Transfer from National Air Desk

RCCNZ and National Air Desk staff have predicted that up to 10 - 15% of National Air Desk tasks (across access-related, Police requests, and winching operations) could potentially be transferred to the RCCNZ scaling trial model nationally. Noting that this prediction is subject to many variables, it has been applied to the median annual workload of the National Air Desk across a three-year period to project the potential transfer of workload to the RCCNZ.

~ Tasks	~Hours
161–241	338–506

National Air Desk aeromedical taskings are performed using Tier 1 assets. SAR aviation taskings are conducted using either Tier 1 or Tier 2 assets, depending on the needs, risk profile, and location of the operation. Whilst the exact rate varies depending on the provider and their specified capabilities, Tier 1 assets are billed at significantly higher hourly flying rates than Tier 2 assets.

The trial demonstrated that centralised coordination provides opportunity for more discriminating asset use of assets, with a small number of tasks that may previously have defaulted to Tier 1 assets, were instead coordinated by RCCNZ using Tier 2 assets, where appropriate. This can produce:

- Lower direct hourly cost;
- Faster local response;
- Better outcomes for subjects if closer assets respond; and
- Preservation of Tier 1 capacity for higher-acuity or unrelated health taskings.

A counterfactual analysis provides a substitution projection for the use of Tier 1 and 2 assets for tasks referred to the RCCNZ as SAROPs. Using the conservative tier-split assumptions of:

Task-Type	Tier 1	Tier 2
Access	50%	50%
Police Requests	50%	50%
Winching	100%	0%

Provides the following projected transfer range to RCCNZ:

Asset Tier	~ Tasks	~Hours	~Cost
Tier 1	101 – 152	212 - 318	$1.97m - $2.96m
Tier 2	60 - 89	126 – 188	$0.50m - $0.75m
~Total	161 - 241	338 - 506	$2.47m – $3.71m

Based on the hourly rate gap between Tier 1 vs Tier 2 assets, if Tier 2 is used for a portion of tasks that might otherwise have been met by Tier 1 assets currently, the direct hourly billing differential implies indicative potential system saving of ~$0.67m–$1.00m p.a.

Operator Payments

A further cost-related issue raised during the trial relates to payment certainty for aviation operators. RCCNZ staff described anecdotal cases where operators have undertaken taskings in good faith, based on information provided by a tasking agency, only to later find that the asset was not required or requested by the *lead* agency. In these situations, billing responsibility is contested by the lead agency, the tasking agency doesn't have a mandate or budget, and the operator can be left without a clear cost owner, and thus bears the cost themselves.

This highlights an accounting and system integrity problem. Operators should not be financially penalised for errors, ambiguity, or boundary disputes between tasking and lead agencies. If aviation providers cannot rely on predictable payment for legitimate taskings, this introduces risk to service availability, responsiveness, long-term sector sustainability, and increases the likelihood of price increases to cover losses.

The trial did not generate sufficient empirical data to quantify the scale or value of unpaid or disputed taskings. Operators were asked about payment during the trial period, but response rates were too low to draw conclusions. RCCNZ, Police, and National Air Desk do not currently maintain consolidated records of disputed or unpaid taskings. This gap itself is indicative of a broader problem: cost ownership disputes are not being systematically captured, analysed, or resolved at a system-level.

Centralised aviation coordination has the potential to significantly reduce these situations by clarifying tasking authority, improving initial assessment quality, and making cost ownership explicit at the point of dispatch. However, coordination alone will not eliminate this risk. Clear rules are required for cost attribution in all cases.

If these issues cannot be fully resolved through procedural design, they need to be explicitly addressed in future contractual arrangements. A resilient system should ensure that operators are paid for valid taskings regardless of which agency ultimately "owns" the incident. Without this, cost disputes will continue to undermine trust, cooperation, and operational reliability.

Interpretation

The trial demonstrates that centralised SAR aviation coordination improves the visibility, traceability, and auditability of aviation costs, even where it does not necessarily reduce total system expenditure. Under current arrangements costs are fragmented across agencies, and difficult to analyse as part of a coherent system-wide picture; non-responsible agencies are able to task assets they are not accountable for, and mis-taskings may lead to private operators being left out of pocket due to the mistakes of others.

The trial model allows for:

- Tasking decisions to sit with the cost owner, and to be more explicit and documented;
- Transparent asset selection;
- Actual costs to the coordinating agency (RCCNZ) can be clearly identified; and
- System-level cost implications to be examined.

While some components of the cost analysis relied on counterfactual comparisons (notably the estimation of system-wide savings and task transference), the trial improved the ability to distinguish between real incurred costs and hypothetical alternatives which is essential for governance, accountability, and future funding discussions.

The most important cost-improvements from the trial is that the model enables:

- Better matching of asset capability to need;
- Earlier differentiation between health-led and access-driven tasks;
- More selective use of assets; and
- Less waste through mis-tasking or over-response.

Beyond flying hours, the largest cost drivers are structural inefficiencies: duplicated or unnecessary launches, late referrals, and loss of situational clarity. The trial shows early evidence that these inefficiencies can be reduced. These effects will compound over time into financial savings and better outcomes.

Response times remained operationally acceptable, and in some cases improved due to closer or more appropriate asset selection. This reinforces that value is not only financial. A cheaper asset that arrives faster and is fit-for-purpose is superior to a more expensive asset that arrives later.

However, the trial was conducted in a relatively quiet operational period, across only three police districts of the South Island, involving relatively few operators, Police SAR, Police ECD, RCCNZ SAROs, and National Air Desk CSOs. Expanding the trial model nationally will draw in the larger number of police districts of the North Island with greater boarder complexity, the challenges of peak season, and the inevitable parallel, complex SAROPs. As discussed elsewhere in this report, the potential benefits cannot be fully realised if they are underpinned by the currently fragile system, reliant on human judgement, manual reconciliation, phone-based coordination; and staff professionalism.

The forward-looking modelling indicates that a permanent centralised model would significantly increase RCCNZ's direct operating costs. This reflects a transfer of coordination responsibility rather than a net increase in system-wide expenditure. The trial suggests that the model has the potential to reduce waste and improve outcomes through better capability-matching and higher-quality decision-making. However, these benefits are contingent on those advantages being sustained. If they erode, the model risks becoming more expensive without delivering proportional value. The financial implications needs to be assessed in these terms.

Workload

Focus

The impact of the model on SARO workload, cognitive demand, and fatigue risk was assessed to determine if the model alters the volume, intensity, or complexity of work experienced by SAROs, and whether these changes were manageable within existing staffing, watch structures, and support arrangements.

Rather than treating workload as a simple count of jobs, this assessment considers how work is actually experienced: through concurrency, interruptions, handovers, decision density, information quality, and the need to maintain situational awareness across multiple evolving incidents. This area considers whether:

- SARO task volumes remained within historical norms during the trial.
- The trial introduced additional effort, rework, or administrative burden.
- SAROs were able to maintain situational awareness without becoming cognitively overloaded.
- Fatigue risks were adequately managed under trial conditions.
- The trial had any observable spillover effects on operations outside the trial area.
- The model could plausibly remain workable under higher tempo, higher concurrency, and national-scale implementation.

Results

Fatigue and Perceived Workload

SAROs reported relatively low to moderate fatigue levels during the trial, with 93 percent indicating that their fatigue was consistent with business-as-usual conditions. No material change in fatigue patterns was observed. Watch Leaders similarly reported that staff coped well, and that the workload profile experienced during the trial would be sustainable if maintained.

Put in context: The trial period was characterised by a relatively low volume of SAROPs compared with historical seasonal expectations, and there were no periods of prolonged high concurrency or operational complexity. As a result, the reported fatigue levels reflect trial conditions rather than stress-tested system capacity.

Time Investment per SAROP

Across the in-scope operations, the median duration of air operations, from task receipt by RCCNZ to helicopter stand-down at base, was 2.8 hours. While this is an adequate reflection of a SARO's time on-mission, it does not reflect SARO administrative and follow-up workload, which cannot be normalised into a fixed ratio, as it varies substantially with incident complexity. For some short or simple incidents, administrative time may be roughly equivalent to live operational time (1:1). For more complex incidents, administrative follow-up may exceed live response duration (up to ~1:1.5). Conversely, prolonged operations may require relatively little follow-up once stabilised. This non-linear relationship means that total SARO time investment is driven more by complexity and concurrency than by simple job counts or duration alone.

Impact on Operations Outside the Trial Area

National Air Desk staff reported a predominantly neutral impact of the trial on their operations both within and outside the trial area. RCCNZ Watch Leaders similarly reported minimal risk to broader operations during the trial. However, they noted that one complex Cat II SAROP reduced available cognitive and monitoring capacity; and while no concurrent trial requests occurred during that period, staff indicated that *if* they had, RCCNZ would have needed to revert to standard pre-trial SOPs. This demonstrates that the trial model coped because concurrency remained low, and that the supporting arrangements are not currently robust enough to sustain the model in multi-incident conditions.

SARO Call Volumes and Concurrency

During the trial, SAROs experienced a median workload of two concurrent SAROPs. Watch Leaders observed no signs of overload, and described the workload as highly manageable. This indicates that under trial conditions, two concurrent operations was sustainable. However, this should not be interpreted as a hard limit. Rather, it is the highest concurrency level that has been observed under the trial to be sustainable without system strain,

notwithstanding the lack of complex concurrent operations. That is, the trial demonstrated a capacity *floor*, not a proven capacity ceiling.

Baseline and Projected Volume Increases

Historic RCCNZ data shows a median of 368 SAROPs per year, equating to approximately 1.01 SAROPs per day. Projected transfers from Police and National Air Desk would raise this to approximately 876 SAROPs per year (2.4 SAROPs per day). A 2.4 x increase in task volume.

This increase is not just a matter of more work; it has structural implications:

- More concurrent incidents
- More frequent overlapping incidents
- More operational handover at shift-change
- More nighttime and weekend stacking of operations
- More parallel communications with external agencies and operators
- More logging, reporting, and reconciliation
- More cognitive task-switching

On the assumption that concurrency scales roughly with operational volume, this implies a shift from a trial median concurrency of 2 to approximately 2.4 SAROPs. This makes 3 concurrent operations a routine planning scenario rather than a rare spike.

Process Overheads

No participant reported that the trial process introduced significant wasted effort or additional time burden. In fact, many described the SOP pathways as easier than usual. Again, this needs to be interpreted in context. Lower-than-expected operational demand means that any inefficiencies were likely masked by spare capacity.

Request Volumes During the Trial

Activity levels were perceived as lower than expected for the time of year, attributed to poor weather and reduced recreational activity in the South Island. However, during the trial, Police SAR aviation operations exceeded the baseline for the same period in previous years; and when combined with National Air Desk interactions, overall coordination activity was substantially higher than historical norms. SAROs reported that this level of activity did not affect their ability to operate effectively. This appears to reflect a combination of manageable SAROP concurrency, the fact that volume alone does not equate to operational complexity, improved coordination under the revised SOPs, and increased capacity associated with the presence of a fifth watch-in-training during the trial period.

Interpretation

The trial demonstrates that the centralised coordination model did not materially increase SARO fatigue, cognitive strain, or perceived workload under the conditions in which it was tested. SAROs sustained a median of two concurrent SAROPs without observable strain, and staff reported that the workload profile was sustainable.

This finding should not be misinterpreted as evidence of scalability. The projected increase from approximately 1.0 to 2.4 SAROPs per day represents a significant change of operating conditions. This shift will represent a change in the nature of the work: with operational overlap likely to become routine; operational-handovers will become more frequent; and task-switching will become constant rather than occasional.

The workload for SAROs is shaped more by operational concurrency and complexity, rather than by number of SAROPs. Two SAROPs per day handled sequentially is manageable, three SAROPs live at the same time is a different operating regime. The trial provides evidence that RCCNZ can sustainably manage a median concurrency of two. It does not provide evidence that three or more concurrent operations can be sustained without risk; particularly if those operations are complex, involve multiple agencies, or require sustained attention.

This has direct implications for staffing, systems, and surge capacity. The trial occurred under RCCNZ's four-watch model, which has now changed to a five-watch model. The additional fifth-watch is assigned to training and project duties, and effectively provides conditional surge capacity, being 'on-call' to assist the operations room if there is a major SAR event. As centralised SAR aviation coordination increases workload on SAROs, the move to the five-watch model will:

- Provide surge capacity for edge cases
- Create recovery space
- Prevent collapse during complex or clustered events

But it does not reduce demand, and does not solve concurrency if work remains labour-intensive, manual, and communications-heavy. And if the on-call watch is constantly required to support the active watch, the value of the off-cycle for training and project work will be lost.

Without system-level efficiency gains, the projected workload increase would move RCCNZ into a permanent high-concurrency environment. In such a context, resilience becomes fragile. Errors become more likely. Situational awareness becomes harder to maintain. From a safety perspective, unmanaged fatigue and cognitive overload represent systemic risks, not individual performance issues

. In this scenario, simply adding watches or increasing staffing per watch is unlikely to provide a sustainable solution. Doing so would create extended periods of underutilisation during low-tempo months, increasing the risk of skill atrophy, disengagement, and staff turnover. This, in turn, would reduce capacity and resilience when peak demand returns, and risks evolving into a chronic workforce stability problem.

The key risk is not "too many jobs", it is too many jobs at the same time. This reinforces a core theme across the assessment: centralised coordination will only remain safe and sustainable if the handling time per job is reduced through system design, automation, and integration.

Improvement Process

Focus

Debriefing and reflection are already a cultural practice within the SAR community. Formal debriefing, peer discussion, and post-incident reflection are commonplace. This assessment area examines whether lessons from SAR aviation taskings were being consistently identified, documented, shared, and used to inform practice during the trial. The intent is to determine whether lessons are systematically recorded, shared, and made available for organisational improvement, rather than relying on ad hoc memory, individual initiative, or informal conversations.

Results

The majority of participants reported that some form of debriefing or post-incident discussion occurred following SAROPs. This is consistent with established SAR practice and expectations. However, the format, formality, and robustness of debriefing varied widely. Of 53 survey respondents:

- 25 percent reported that no debrief was held.
- 47 percent reported that issues were discussed but not formally recorded.
- 25 percent used the standard SAR debrief form.
- A small proportion used alternative formats such as informal notes, emails, spreadsheets, or written reports.
- Only one respondent reported using a formal lessons management system or database.

This indicates that the majority of participants did not contribute to any formal, durable record of lessons learned. Where lessons were recorded, there was no consistent methodology or shared platform. Data was dispersed across a mix of IMS entries, CAD logs, local files, emails, and personal notes. Some participants referenced GoPro footage, informal notebooks, or other ad hoc documentation.

There was no consistent cross-agency visibility of lessons learned. Records that did exist were typically embedded within incident-specific systems or personal repositories, limiting their discoverability, reuse, and ability to support trend analysis or procedural refinement.

Interpretation

Most participants engaged in some form of debriefing or post-incident discussion, indicating a strong professional norm of reflection and learning from experience. However, the high proportion of unrecorded or informally captured debriefs means that much of this learning is transient, localised, and vulnerable to loss over time. The absence of a consistent, shared mechanism for capturing and consolidating lessons limits the system's ability to:

- Identify recurring issues;
- Detect systemic patterns;
- Validate or refine procedures;
- Support training and onboarding; and
- Inform governance and policy development.

This has particular significance for a centralised coordination model. As responsibilities become more integrated across agencies, reliance on informal or siloed learning becomes increasingly risky. What is learned by one team or one agency may not propagate to others, leading to repeated friction, duplicated mistakes, or inconsistent practice.

The findings shows a willingness to learn and improve by practitioners; however, the system does not currently make it easy or natural to convert operational experience into shared, persistent knowledge. This was also evident in the post-trial analysis of SARdonyx data, where the lack of consistency and detail in the historic records was apparent.

The trial shows a strong norm of debriefing, but weak conversion of experience into durable, reusable organisational learning. Most lessons remains conversation-based or fragmented across incident systems and

personal records, limiting cross-agency visibility and trend detection. For a centralised model, this is a structural risk. Without an end-to-end lessons system that supports capture, triage, actioning, and strategic analysis, the sector will continue to solve the same problems repeatedly and inconsistently. LandSAR's OILLS (Observation, Insight, Lesson-identified, Lesson-learned) approach provides an existing, scalable solution. A shared SAR OILLS-based approach would enable lessons to be visible across agencies, and ensure that operational experience is systematically translated into practice improvements.

Stakeholder Confidence

Focus

Pre- and post-trial surveys gauges if the model generated sufficient stakeholder trust, legitimacy, and perceived value to be sustainable. It considers how participants experienced the process in practice, including whether it was clear, intuitive, and usable, and whether it met or reshaped their expectations of how SAR aviation coordination should function. This area focuses on perception-based indicators of system viability: confidence, trust, perceived efficiency, and perceived operational effectiveness. These factors are critical in multi-agency environments, where formal authority alone is insufficient to ensure compliance, cooperation, or sustained adoption.

Results

Stakeholder confidence in the centralised coordination model increased across nearly all measured dimensions. Participants reported improvements in clarity, ease of use, coordination, perceived effectiveness, and efficiency compared with the pre-trial baseline.

Clarity of process improved modestly but consistently. Prior to the trial, 73 percent of respondents indicated that the existing SAR aviation coordination process was mostly- to completely-clear. Following the trial, this increased to 87.5 percent for the trial process. While the change should be interpreted cautiously due to lower post-trial response volumes, the direction of change is consistent with other indicators of improved usability and coherence.

Ease of use was rated highly by most participants. The majority reported that it was easy or very-easy to request and receive SAR aviation support under the trial model. Only one respondent described the process as difficult.

Participants also reported substantial reductions in many of the challenges associated with the existing coordination model. Compared to pre-trial conditions, post-trial responses indicated:

- Reduced administrative burden.
- Less confusion around Cat I vs Cat II classifications.
- Less confusion around Tier 1 vs Tier 2 asset requirements.
- Fewer delays between request and tasking.
- Stronger process alignment between agencies.
- Elimination of approval-related friction.
- Fewer duplicate or overlapping taskings.
- More appropriate asset allocation.
- Improved information sharing.
- Fewer barriers to accessing aviation support when needed.

In terms of expectations versus observed change, respondents reported improvements across a wide range of areas. The strongest perceived gains were in inter-agency coordination, reduction of duplication, speed of tasking, and timeliness of response. Improvements were also reported in communication clarity, consistency of processes, situational awareness at deployment, and appropriateness of asset allocation.

Operational effectiveness ratings improved markedly. Under the existing model, most respondents rated the system as *moderately* effective. Under the trial, 87.5 percent rated the process as mostly- to very-effective.

Perceived efficiency improved substantially. Pre-trial, 88 percent of respondents rated the system as *average* or *less-than-efficient*. Post-trial, 81 percent rated the trial process as *efficient* or *highly-efficient*.

Some challenges persisted. Visibility of aircraft remained constrained, reflecting known system limitations. Participants also identified a range of issues and risks which were still of concern if the model were to be adopted permanently. These clustered around:

- System and ICT limitations.
- Workload and fatigue risk under higher operational tempo.

- Boundary clarity between SAR and health tasks.
- Tasking authority and reporting line ambiguity.
- Risk of scope-creep.
- Challenges maintaining situational awareness across multiple agencies.
- The need for stronger inter-agency data integration.

Finally, baseline confidence in RCCNZ's ability to coordinate SAR aviation was already high prior to the trial, with 84 percent of respondents reporting *high confidence.* Following the trial, this increased to 100 percent of respondents reporting *high-* to *complete-confidence.*

Interpretation

The trial produced a clear and consistent uplift in stakeholder confidence across nearly all metrics. Participants found the model easier to use, more coherent, more efficient, and more operationally effective than the pre-existing arrangements.

The improvement in process clarity, while modest numerically, is meaningful when interpreted alongside the much stronger gains in perceived ease of use, coordination, and efficiency. This suggests that the trial made the process more understandable on paper, and workable in practice.

The data indicates an easing of process friction-points. Participants reported fewer delays, fewer duplications, less approval complexity, and better alignment between agencies. Their reduction is a strong indicator that the model's process is functionally viable.

The large shift in perceived efficiency is particularly notable, as it can be considered a confidence metric as much as a performance metric. People will work around a system perceived as inefficient. The post-trial ratings suggest that participants will be less inclined to bypass the process and more willing to rely on it.

The universally high confidence in Maritime New Zealand's leadership role is encouraging for the future implementation of centralised SAR aviation coordination. Though this does not indicate that the model is flawless, it does signal a level of legitimacy that will garner sector support for implementation.

However, the trial also surfaced important unresolved risks. Many of the concerns raised by participants relate to scale, pressure, and edge cases rather than day-to-day usability. Addressing these risks in the system design will be crucial to the success of centralised SAR aviation coordination. These include:

- Whether Maritime New Zealand's systems can cope with high tempo and high concurrency incidents.
- How authority and instruction flows will work in complex, multi-agency situations.
- How scope creep will be prevented.
- How clinical versus rescue decision boundaries will be protected.
- How situational awareness will be maintained across organisations.

The data shows a clear support for the trialled process and centralised SAR aviation coordination. A high degree of confidence in RCCNZ's leadership of centralised coordination bodes well for implementation. However, the current confidence is conditional. It is based on observed benefits, not on guarantees of resilience under stress. System design will need to manage for existing and perceived risks.

Legal, Definitional, and Framework Boundary Issues

While no formal legislative assessment criteria were defined for the trial, a number of framework-level ambiguities emerged that are relevant to the design of any future centralised coordination mechanism.

At present, the SAR system operates across a patchwork of legislative, contractual, and policy environments. Maritime SAR responsibilities are comparatively well defined through international conventions and domestic legislation. Inland SAR, aeromedical tasking, and Police-led SAR activities are less clearly articulated in statute, relying instead on common practice, internal policy, and long-standing working relationships.

Currently there is potential for the National Air Desk to be inadvertently drawn into SAR aviation tasks through referral patterns, time pressure, or access-driven decision-making. While the National Air Desk plays a critical role in aeromedical tasking and clinical coordination, it does not hold statutory SAR coordination authority. Where boundaries are unclear it creates legal and accountability risk, increasing the likelihood that coordination responsibilities are executed outside of formal mandates. The trial demonstrated that structured referral pathways and early engagement with RCCNZ can mitigate this risk by ensuring that access-driven SAR coordination responsibility is consistently transferred to the appropriate coordinating authority, while allowing the National Air Desk to retain its health-led remit.

Trial planning highlighted that existing Cat I and Cat II classifications, while operationally familiar, are not coherent system-design constructs. In practice, they function as hybrid labels that attempt to simultaneously encode geography, funding responsibility, coordinating authority, and expected resource type. This creates structural ambiguity. Operational reality routinely cuts across these boundaries. For example, National Air Desk may reflex-dispatch helicopters for urgent near-shore 1W water rescues within 12 nautical miles, often before Police notification. Large ship medevacs within the same geographic zone are to be coordinated by RCCNZ due to scale and complexity. Inland PLB activations, despite being land-based, are managed initially by RCCNZ because of how the alerting architecture is structured. These examples demonstrate that Cat I and Cat II are not truly geographic categories, nor are they cleanly defined by authority, capability, or risk profile.

These ambiguities are not theoretical. Reflecting on one out-of-scope operation during the trial, RCCNZ raised a critical question: what should occur when RCCNZ fundamentally disagrees with a Police decision while providing aviation coordination under a centralised model? This highlights the need to clearly distinguish advisory and decision-making roles during Cat I operations where RCCNZ is supporting Police. Where RCCNZ provides aviation advice that fundamentally differs from Police decisions, a structured mechanism is required to formally record that advice and, where appropriate, escalate it. This is necessary to support transparency, consistent practice, and shared visibility of risk, rather than allowing disagreements to remain implicit, undocumented, or person-dependent. These ambiguities have historically been absorbed through by staff and common practice. This has also seen operations with incorrect lead-agencies, late referrals or poor notifications, and under-payment of operators.

The lack of clear definitions around decision authority, advisory roles, escalation rights, and accountability represents a system-level risk, not just a SAR aviation issue. This does not imply that legislative change is immediately required. Many of these issues can be addressed through governance structures, formal doctrine, inter-agency agreements, and operational rules. However, they should not remain implicit. Explicit, durable definitions of roles, authorities, responsibilities, and escalation pathways would benefit the entire SAR community. A move toward centralised SAR aviation coordination creates a natural opportunity to resolve these long-standing boundary issues, rather than perpetuating them through custom.

In the context of these legal, boundary and governance issues, it is important to distinguish between RCCNZ's operational coordination role and the broader responsibilities that sit with Maritime New Zealand as the parent agency. While RCCNZ is the operational lead for SAR aviation coordination, the responsibility for systems integration and accountability under a centralised model ultimately places organisational, reputational, and assurance risk with Maritime New Zealand. Changes to system investment, audit and assurance arrangements, governance of inter-agency boundary management will need to be treated as an enterprise capability shift for Maritime New Zealand rather than a standalone operational change for RCCNZ.

Engagement of SARdonyx

In developing this report, the standard SARdonyx dashboards available to the SAR community did not provide sufficient granularity or flexibility for the level of analysis required in this report. To access more detailed data, the trial team engaged directly with the private firm that manages the platform on behalf of the NZSAR Secretariat. While the custodians of the platform were helpful in providing extracts, they were not able to offer deeper analytical interpretation of the data without cost (which would have become significant).

Although SARdonyx proved valuable for developing the forward-looking models in this report, the dataset contains notable gaps arising from inconsistent data entry practices. This limits its reliability for strategic analysis and long-term trend modelling.

SARdonyx represents a particularly powerful tool to inform the SAR Council's strategic planning. However, it appears to be somewhat neglected and underutilised. It appears to suffer from a lack of governance and active administrative management in a way that reduces its strategic efficacy; while the quality of operational data entry appears to be affected by a perceived lack of downstream value. This creates a self-reinforcing cycle: poor data limits strategic utility, which in turn reduces incentives for high-quality data entry.

For future system design, including any upgrades to coordination platforms, it would be desirable to enable automated data capture and transfer into national datasets such as SARdonyx. This would reduce manual burden, improve data quality, and strengthen the system's value as a strategic planning and assurance tool.

Regardless of any changes to SAR aviation coordination, improving the governance and active management of SARdonyx should be a priority for the sector to realise its full strategic value. If managed well, it offers a particularly useful tool to assist the SAR Council's governance, assurance, and strategic risk management.

Conclusion

This trial has demonstrated that centralised SAR aviation coordination is both feasible and operationally valuable, but only under specific conditions. The model improves clarity of tasking, strengthens situational awareness, and enables more deliberate matching of assets to operational need. It also improves the visibility, traceability, and auditability of aviation decisions and costs. These represent structural changes in how SAR aviation is coordinated.

However, the trial also revealed that many of these benefits were contingent on favourable conditions. Low operational tempo, limited concurrency, experienced staff, and a high degree of professional goodwill masked several underlying fragilities. Manual workarounds, phone-based brokerage, and applied experience substituted for system design. This demonstrates the workforce's adaptability in making the model work; however, adaptability is not a sustainable operating model at national scale.

Across the assessment areas, a consistent pattern emerges. The centralised model improves outcomes when it enables better decisions. Its value lies in selectivity of assets and speed of response. In preserving high-capability assets for when they are genuinely required; and in enabling SAROs and operational partners to maintain a coherent operating picture across multiple evolving incidents.

At the same time, the model concentrates operational, cognitive, reputational, and system risk into a single coordination function. This concentration is not inherently problematic, but it requires deliberate system design to ensure that these risks are visible, bounded, and actively managed. Without integrated systems, formalised authority boundaries, explicit escalation rules, and workload-scalable tools, the model becomes fragile. Without these, it is unlikely to remain safe or sustainable.

The trial also surfaced long-standing structural ambiguities within the SAR system. These include unclear distinctions between advisory and decision authority, blurred boundaries between SAR and health-led tasking, inconsistent escalation practices, and category definitions that no longer reflect operational reality. These ambiguities have historically been absorbed through custom and staff willingness. Centralisation does not remove them; it makes them visible. That visibility is a strength, but only if it is acted upon.

The trial did not demonstrate that centralisation will reduce cost in absolute terms. It did demonstrate that it will change the nature of cost incurrence, and can improve value. It enables better attribution and allows asset substitution where appropriate. It provides system clarity which can drive *system* improvement, none of which is currently possible.

The same is true of workload. The trial shows that SAROs can sustain the model under low-to-moderate concurrency. However, it did not test the model under sustained high-concurrency conditions. The projected increase in daily volume is not purely quantitative; it represents a qualitative shift in how work will be experienced. Fatigue risk under these conditions is not a staffing issue alone, but a system risk. System-level efficiency gains are required to manage this structural risk appropriately.

These findings reinforce that centralised SAR aviation coordination represents a systemic change. It requires new governance, new tools, new definitions, and new forms of accountability. If simply implemented at a procedural level with existing arrangements, it will fail.

The recommendations that follow are *enabling* conditions. Without them, the model will be fragile and vulnerable to failure under stress. Implemented as a designed system, centralised SAR aviation coordination has the potential to improve safety, efficiency, and outcomes across the SAR sector.

Recommendations and Considerations

The following recommendations are derived from the trial findings and the cross-cutting themes identified across the assessment areas. They are intentionally high-level and strategic in nature, focusing on the structural, governance, and system conditions required for centralised SAR aviation coordination to be safe, effective, and sustainable at national scale.

These recommendations should not be read as incremental process improvements. Many of the benefits observed during the trial were contingent on low operational tempo, professional commitment, and manual workarounds. If the model is to be adopted permanently, those informal compensations must be replaced with deliberate system design.

Where appropriate, several operational and procedural improvements have been bundled into grouped recommendations to avoid fragmentation. These groupings reflect that many of the issues observed are not discrete problems, but symptoms of broader structural constraints.

The recommendations are intended to support Maritime New Zealand's existing RCCNZ workforce and capability plans, not to replace or reset them. Their focus is on enabling the current workforce to operate safely, efficiently, and with resilience under higher tempo, higher concurrency, and greater national responsibility.

Recommendations

1. *Adopt centralised SAR aviation coordination under Maritime New Zealand's Rescue Coordination Centre as the national model, subject to enabling system upgrades*

   Recommendation: That centralised SAR aviation coordination be formally adopted, with Maritime New Zealand's Rescue Coordination Centre as the single tasking authority for in-scope SAR aviation operations, replacing fragmented agency-led tasking. Noting that this should only occur alongside material upgrades to systems, governance, and safeguards identified in the recommendations of this report, without which the model will remain fragile and person-dependent.

2. *Formalise decision authority, advisory roles, and referral pathways across Cat I and Cat II SAR Operations*

   Recommendation: That a formal governance and operational framework be established for centralised SAR aviation coordination clearly defining decision-making authority, advisory roles, and dispute resolution between Maritime New Zealand, Police, and National Air Desk across CAT I, CAT II, mixed-mode operations, and regular training and exercising. This should explicitly define how responsibility, risk ownership, and accountability are allocated when advice is accepted, modified, or declined.

3. *Establish a standing SAR Aviation Governance Group led by Maritime New Zealand*

   Recommendation: That a permanent SAR Aviation Governance Group be established, chaired by Maritime New Zealand's Rescue Coordination Centre, with Police, HHStJ, and operator representation. This group should own the SAR aviation operating model, boundary definitions, escalation rules, standards alignment, and inter-agency issues, including those spanning SAR and aeromedical systems. Consideration should be given to the potential inclusion of FENZ, Health NZ, and NEMA as associate-representatives to wrap in broader emergency management response awareness and strategic planning.

4. *Treat SAR aviation coordination as a real-time dispatch function and fund a purpose-built coordination platform*

   Recommendation: That RCCNZ be equipped with a modern, CAD-style SAR tasking and coordination platform, funded, governed, and assured within Maritime New Zealand's enterprise systems environment, to replace the IMS as the primary operational system of record. This platform must support real-time tasking, concurrent incident management, shared visibility, and automated record-keeping, with inter-CAD connectivity to Police, National Air Desk, and future partners.

Dispatch systems should be deployed across operators as part of a broader communications modernisation. This will radically improve the speed of selection and decision making for the RCCNZ, and improve responses for major or fast-moving incidents.

5. *Build a national, shared SAR aviation asset visibility capability*

Recommendation: That a national SAR aviation asset visibility capability be established, providing RCCNZ and partner agencies with a shared, near-real-time view of Tier 1 and Tier 2 availability, location, readiness state, and specialist capabilities. This should replace static databases and phone-based discovery, and must include:

- Real-time status and location updates
- Non-binary availability states
- Automated updates from operators
- Integration with the tasking platform

6. *Commission an operational technology and systems review before major investments*

Recommendation: That a specialist review be commissioned to assess Maritime New Zealand's SAR-related systems, operational technology dependencies, and partner systems-interoperability; to map a staged, proportionate path toward the required SAR aviation coordination capability. This should include dispatch, telephony, GIS, tasking, and inter-agency integration. All future systems must be designed for high-availability operation, geographic redundancy, and full disaster-recovery, including the ability to operate under loss-of-site and loss-of-network scenarios.

7. *Introduce a national payment certainty rule for SAR aviation operators*

Recommendation: That a national payment certainty rule be established, ensuring that operators are paid for valid SAR taskings regardless of inter-agency boundary disputes. This must be supported by contractual mechanisms, a dispute resolution process, and systematic capture of disputed taskings.

8. *Adopt a national, cross-agency lessons system using OILLS*

Recommendation: That a standardised, cross-agency lessons management system be implemented using the OILLS framework currently used by LandSAR. The system should be appropriately resourced to support end-to-end use, from frontline capture through to strategic analysis, training integration, and procedural refinement, enabling shared visibility of lessons, detection of systemic trends, and continuous improvement across the SAR sector, rather than reliance on informal memory or localised fixes.

Additional Considerations for Implementation

In addition to the core recommendations above, the trial surfaced a number of important operational and structural considerations that should inform the design and implementation of any permanent centralised SAR aviation coordination model. These represent essential enabling mechanisms and design features.

9. *Alignment with SAR Aviation Standards*

The centralised model will only function safely if the SAR aviation community is supported to meet the Search and Rescue Aviation Standards. This includes preparedness, capability consistency, and training coverage across both Tier 1 and Tier 2 operators. Where compliance gaps exist, these should be addressed as part of implementation, not left to operators to absorb.

10. *Audit and assurance mechanisms*

A centralised model increases Maritime New Zealand's exposure to operational risk. This requires that a stronger assurance environment is developed, including a structured SAR Aviation Standards audit regime for operators, and clarity about how compliance, preparedness, and safety are monitored and enforced.

11. *Operator training and capacity development:*

    The trial highlighted the importance of specialist skill availability, particularly for Tier 1 platforms. The implementation of CAD-style tasking platforms will require standardised technology to be adopted for use by operators and on individual airframes. Any move toward permanent centralisation should be accompanied by targeted support for training and capacity development, rather than assuming that the market will self-correct. Material support mechanisms to operators to achieve these requirements should be considered.

12. *Strategic governance of SARdonyx:*

    SARdonyx remains a valuable national dataset, but its strategic utility is currently limited by inconsistent use, variable data quality, and weak governance. If the system is to support national planning, performance analysis, and trend detection, its role must be formally defined, resourced, and governed accordingly. Active ownership, governance and resourcing of the platform is strongly encouraged.

13. *Systematic tracking of tasking refusals and unavailability:*

    The trial identified that tasking refusals, asset/specialist unavailability, and readiness constraints are rarely captured in a structured way. This creates blind spots in national capability planning and masks structural weaknesses. These data should be routinely captured and analysed. This would be an ideal use case for the OILL lesson management system, and SAR aviation audits.

14. *Robust continuity arrangements*

    Centralised SAR aviation coordination must be implemented with explicit continuity and failover arrangements, supported by regular review and testing regimes. Continuity measures should include ICT disaster recovery design; the ability to sustain operations during loss of network, communications, or utilities; contingencies for regional disruption affecting Wellington; and formalised reversion pathways to direct Police tasking and analogue coordination modes.

15. *Review of SAR category definitions and their alignment with authority, funding, and coordination frameworks*

    The trial highlighted that existing Cat I and Cat II definitions do not consistently align with modern operational realities, particularly in how authority, coordination responsibility, and funding are exercised in practice. A targeted review of SAR category definitions would help ensure they better reflect how coordination, authority, and resources are actually managed under a centralised model.

Appendices

Appendix A: Glossary of Terms

Term	Explanation
Category I (SAROP)	A search and rescue operation coordinated at the local level. Category I operations include land operations, subterranean operations, river, lake and inland waterway operations, and close-to-shore marine operations.
Category II (SAROP)	A search and rescue operation coordinated at the national level. Category II operations include operations associated with missing aircraft or aircraft in distress, and offshore marine operations within the New Zealand SRR.
Coordinating Authority	New Zealand has two recognised search and rescue (SAR) Coordinating Authorities: the New Zealand Police (Police) and the Rescue Coordination Centre New Zealand (RCCNZ) operated by Maritime New Zealand. "There are no other agencies authorised to conduct SAR coordination in New Zealand." ("Search and Rescue Aviation Standard") Only one Coordinating Authority can be responsible for the management and coordination of a search and rescue operation.
Instruction	In the context of the trial, *instruction* is the operational direction issued by the incident controller or on-scene coordinator to assign and coordinate specific on-scene duties of the aviation asset to achieve objectives.
Notification	Notification occurs in both directions between the National Air Desk and RCCNZ.
Operator	Aircraft operator engaged in SAROP flight activities as prescribed in the Search and Rescue Aviation Standard. Holder of a Part 119 air operator certificate.
Patient	• There is a known injury or illness to a person or • There is indication that a person may be unwell or injured. For the purposes of the shared SOP when a non-air ambulance rotary wing asset is used, a patient is defined as a person who has ANY of the following: • Not completely awake/alert (includes confusion or memory issues, exhaustion) • Not at normal body temperature • Complains of any illness or reports having any medical condition • Complains of (or is seen to have) any injury (no matter how minor) • Any patient who has experienced an accident (regardless of how minor). • Any person who asks for clinical assessment, or accepts this when offered • Any patient who is thought to need assessment by the responding team
Person in need of Search and/or Rescue	• The location of the person is unknown and a search is required. • The person is not found at the location provided (for context simple ACCESS taskings where the location of a patient is believed to be known). • Environmental or geographical factors such as weather, location, terrain, or terrain type are identified as risk factors* • The use of specialist rescue teams, equipment or services may be required** • The incident is notified via a Distress Beacon or SEND device and there is insufficient information to confirm this is a medical response with no SAR coordinating requirement. • Any vessel underway (at sea)
Referral	Referral occurs in both directions between the National Air Desk and RCCNZ. It is consultation with the anticipation / expectation that either RCCNZ will coordinate the incident as a SAROP, or National Air Desk will run the incident as a health response.
Task or Tasking	Assigning a SAR aircraft a specific action to perform in a particular area (Maritime New Zealand's Search and Rescue Aviation Standard, August 2025). In the context of the trial, tasking is a reference to the agency that initially assigns the airframe to the SAROP.

Appendix B: Evaluation Criteria

Area	Criteria	Metrics
Initial Assessment Process	Appreciation process considers all required variables adequately	- Point of origins - Correlation to outcome - Cases considered for referral to RCCNZ as SAROP - Decision rationale - Requests requiring clarification before tasking - Critical factors in access assessment - Unassessed or missing criteria
	Appropriateness of request (based on initial information)	- Requests align with clinical assessment outcome - Variance between initial and final decision
	Assessment process is effective when determining asset allocation	- Requested AAH vs dispatched non-AAH - Appropriateness of asset allocation
	Requests for aviation support are appropriate to the needs of the operation	- Notification avenues
	SAR Categories and Health tasking boundaries are applied consistently	- Incidents referred correctly vs incorrectly - Partners reporting clarity
Notifications and Referrals	Air assets are selected and tasked appropriately	- Decision-point accuracy
	Appropriateness of request (based on initial information)	- Actions taken
	Referrals to RCCNZ timely and appropriate	- Referral and notification pathways
	Request followed draft SOPs	- Referral and notification pathways - Referrals assessed as appropriate
	Requests for support or referrals are acknowledged in a timely and consistent manner	- Time for acknowledgements
Tasking	No failed or duplicated taskings	- Duplication/conflict events - Resolved without delay - Number of assets per SAROP - Alignment with operational need - Duplication/conflict events - Resolved without delay
	Task briefings are consistent and adequate	- Consistency - Completeness - Briefings cover all required elements - Clarity of on-scene instructions - Reported confusions - Tasking authority - Accuracy of task records - On-scene command agency - Alignment with SOP - Correctly identifying task type

Area	Criteria	Metrics
	Air assets are selected and tasked appropriately	- Time from request to: - Decision - Airborne - Found - place of safety - Time from tasking to completion - Variance from expected duration - Avg prep time (tasking to take-off) - Distribution of delays - Duration of flights - Cost per operation - Assets matched correctly to task requirements - Variance by tier/location - Asset judged “fit-for-purpose” - Time from on-scene to place of safety - Within expected window
	Assets selected for operation are appropriate and achieve the outcome	- Decision adjustments following referrals
Common Operating Picture	Real-time monitoring and communications are maintained throughout the SAROP	- Sorties with continuous tracking - Comms failures reported.
	Situational Awareness is maintained throughout operation	- Clear communications / viability
Draft Procedures	Draft SOP is fit for purpose	- Ease of accessibility - Delays/barriers. - Active SOP referrals - Tasking for trial area - Error flags for data assessment - Geographic boundary assessed - Flagged improvements - Urgent requests for change
Systems / Tools / IT	Systems adequate to sustain coordination responsibilities	- System errors/tickets logged - User satisfaction - Qualitative feedback on system sufficiency - Issues theme frequency
Timing and Costs	Aviation costs are visible and attributable under the trial model	- Operator cost estimates - Variance vs historic baselines - Comparative costs: non-AAH vs AAH - Operations / operator losses Operators paid correctly
	Response times are appropriate / realistic	- Meets expectations - Expected vs actual wait time variance - Response time (request to on-scene) - Trend comparison with baseline
Workload	Fatigue levels are managed appropriately	- Fatigue post-SAROP - Variance from baseline
	How much staff time was required per SAROP?	- Total operator hours per operation
	No operational impact outside trial area.	- Non-trial operations impacted - Reported spill-over issues
	SARO are not overwhelmed by the volume of calls	- Concurrent tasks per SARO - Peak load ratio - Reported manageable workload - Qualitative theme on sustainability
	SARO task volumes do not significantly exceed baseline	- Tasks per shift vs baseline

Area	Criteria	Metrics
	Trial process does not add significant time or wasted effort to current process.	- Perceived assessment of workload impact
	Volume of requests remains within averages	- Request per agency vs historic data
Improvement Process	Lessons are captured consistently across SAROPs	- Completed debriefs - Actionable lessons logged
Stakeholder Confidence	Clarity of process	- Clarity - Reported ambiguities
	Ease of use	- Ease-of-use - Frequency of issues logged
	Perceived efficiency	- Efficiency - Duplications / delays - Task duration
	Perceived effectiveness	- Process effectiveness - Alignment of outputs with objectives
	Confidence baseline	- Confidence score - Variance between agencies
	Key challenges	- Challenge listed
	Expectations	- Themes of desired improvements - Volume seeking process/system change
	Remaining issues	- Frequency and type of risk themes - Stakeholder distribution of concern
	Stakeholders have confidence in the RCCNZ to lead process (Confidence comparison)	- Confidence shift (pre- vs post-trial) - Variance by stakeholder type
	Perceived change	- Improvement/decline indicated - Score change (pre- vs post-trail)

Appendix C: Survey Questions

Post Operation Survey Questions

RCCNZ SAROs

- Which category or type was this incident?
- Where was this incident?
- What was the origin of this incident?
- Initial nature of engagement with partner agencies:
- Which best describes the request from the National Air Desk?
- Which best describes the request from the Police ECD?
- Which ECD did the request come from?
- Which best describes the request from the Police SAR Coordinator?
- Which best describes your referral to the National Air Desk?
- Was the request/referral that you received clear and complete?
- Was the tasking or referral decision made at the right point in the process?
- Regarding notifications between agencies, check all that applied for this incident:
- Was the initial asset/tasking decision changed after referral to RCCNZ?
- How many aviation assets were tasked for this SAROP?
- How suitable was the tasked asset(s) for the requirements of this response?
- If the preferred asset was not available, what was the main reason? (Check all that apply)
- Were helicopters on scene within expected timeframes?
- Were there any duplicate or missed/failed taskings?
- Were there additional air assets on-scene, not tasked directly by RCCNZ?
- Was live asset-tracking and communications reliable throughout the tasking?
- What was the approximate cost of air operations for this incident?
- What was the approximate hours of air asset operations for this incident?
- Did you refer to the trial SOP during requests, referrals, or notifications?
- How were lessons from SAROPs recorded?
- Would you like to tell us anything more about this operation or the Aviation Coordination Trial?
- How many concurrent tasks were you managing during this SAROP?
- Rate your fatigue level at the conclusion of this SAROP
- Compared to non-trial operations, how did your fatigue level feel?
- Please tell us anything else about this operation you think is important for this Aviation Coordination Trial?

Police SAR

- Which category or type was this incident?
- Where was this incident?
- Which best describes your request for air support?
- How many aviation assets were tasked for this SAROP?
- How suitable was the tasked asset(s) for the requirements of this response?
- Were there additional air assets on-scene, not tasked directly by RCCNZ?
- Were there any problems or failures in tasking an air asset for this incident?
- At the time of request, how long did you expect the helicopter would take to arrive on scene?
- Approximately how long did the helicopter take to arrive on scene?
- Regarding notifications to you, check all that applied for this incident:
- Regarding communications from you , check all that applied for this incident:
- Was live asset-tracking and communications reliable throughout the tasking?
- How clear and complete was the information provided by RCCNZ during this operation?

- How well did RCCNZ keep you informed with proactive updates, versus you having to seek information yourself?
- How effectively did RCCNZ's information support your understanding of the situation and what was happening during the operation?
- How easy was it to request a helicopter using the trial procedure?
- Did you refer to the trial SOP during requests, referrals, or notifications?
- How were lessons from SAROPs recorded?
- Please tell us anything else about this operation you think is important for this Aviation Coordination Trial?

Operators

- Which category or type was this incident?
- Where was this incident?
- Which agency initially tasked you for this operation?
- How clear and sufficient was the initial briefing?
- At the time of tasking, did you understand the job to be:
- How consistent was the briefing compared with others received during the trial?
- Which agency instructed the crew, once on-scene?
- How clear were the on-scene instructions that the aircrew received?
- How many assets did you deploy for this SAROP?
- How suitable were the tasked assets for the requirements of this response?
- Given your previous answer, what assets or solutions would have provided a better outcome? Please explain your answer.
- How long was the preparation time (from tasking to take-off)?
- How long was the flight from take-off to arrival on scene?
- Were helicopter(s) on scene within expected timeframes?
- How long did it take from arrival on scene to delivering the person(s) to a place of safety?
- What where your approximate total flight hours for this incident?
- What are the approximate total billable costs of operations for this incident?
- Which agency/ies will you be billing for this incident?
- Considering this incident, what payment outcome do you expect?
- How were lessons from SAROPs recorded?
- Would you like to tell us anything more about this operation or your experiences of the Aviation Coordination Trial?

Weekly Survey Questions

RCCNZ Watch Leaders

- How confident are you that RCCNZ maintained effective oversight of all operations (trial and non-trial areas) this week?
- What impact did the trial process have on RCCNZ's ability to manage operations in the South Island (trial area) this week?
- What impact did the trial activities on RCCNZ's ability to manage operations in non-trial areas this week?
- Day-to-day, how clear was RCCNZ's visibility of AAH assets (availability, capacity, and capability)?
- Day-to-day, how clear was RCCNZ's visibility of non-AAH assets (availability, capacity, and capability)?
- During operations, how effective was RCCNZ's real-time visibility of aviation assets (location, tasking status, upcoming (un)availability, and constraints or limitations)?
- How effectively did RCCNZ manage information flow between agencies this week?
- How effectively did RCCNZ support a shared understanding of operations across partner agencies?
- Were there any notable concerns or delays in information exchange between partner agencies?

- How effective were RCCNZ's systems and tools support situational awareness and decision-making?
- Were there any ICT or system issues that significantly affected performance?
- Were there any times where workload or complexity risked exceeding RCCNZ's capacity?
- How sustainable was staffing/workload for the week?
- Did you notice a significant change in SARO workload under the trial conditions?
- How well did SAROs manage their workload under trial conditions?
- What feedback did you observe from SAROs on the trial process and agency interactions?
- Please provide any observations you have from the week. e.g. significant issues and risks, or positive experiences of the trial.
- What improvements to the trial process would strengthen RCCNZ's performance and operational outcomes?

Police ECD

- During this period, did your ECD have any contact with the RCCNZ for aviation support?
- How many aviation support requests/referrals did your ECD handle directly in this period?
- Relating to the South Island only, please list the Police Incident Number for each SAR incident
- On average how quickly were your requests/referrals acknowledged by the RCCNZ?
- On average on how quickly were assets tasked after acknowledgement?
- Were there any problems or failures in taskings for air asset during this period?
- Was live asset-tracking and communications reliable throughout the tasks?
- How clear and complete was the information provided by RCCNZ during operations?
- How well did RCCNZ keep you informed with proactive updates, versus you having to seek information yourself?
- How effectively did RCCNZ's information support your understanding of the situation and what was happening during these operations?
- How easy was it to request a helicopter using the trial procedure?
- Did you refer to the trial SOP during requests, referrals, or notifications?
- How were lessons from SAROPs recorded?
- Please tell us anything else about SAR operations during this period, or that you think is important for this Aviation Coordination Trial?

National Air Desk

- In the last week, what was the total number of South Island calls (all types) to National Air Desk
- In the last week, what was the number of South Island calls referred to directly RCCNZ (as SAR, not AAH)
- In the last week, what was the number of South Island calls notified to RCCNZ following urgent reflex tasking (transferred to RCCNZ as SAR)
- In the last week, what was the number of South Island calls notified to RCCNZ following urgent reflex tasking (retained by National Air Desk)
- In the last week, what was the number of South Island calls closely considered for referral, but retained by National Air Desk
- In the last week, what was the number of referrals from the RCCNZ for AAH
- In the last week, what was the number of calls from RCCNZ to clinical assessments during SAR, including planning for patient handover to ambulance.
- Thinking about referrals to the RCCNZ this week: Which of the following "access" factors informed the decision to refer to RCCNZ ? (Check all that apply):
- Were there any referrals to RCCNZ required following National Air Desk (health) taskings where the patient could not be located or specialist rescue?
- For calls that were considered, but not referred to RCCNZ, what factors led to the decision to retain management with National Air Desk?

- Did CSOs refer to the trial SOP during requests, referrals, or notifications?
- How clear did the CSOs find the trial process/procedure for referrals and notification to the RCCNZ?
- Did the CSOs have calls where the decision to involve/not involve RCCNZ was particularly uncertain?
- Did any decisions create friction, duplication, or delays?
- Day-to-day, how clear was National Air Desk's visibility of AAH assets (availability, capacity, and capability)?
- Day-to-day, how clear was National Air Desk's visibility of non-AAH assets (availability, capacity, and capability)?
- During operations, how effective was National Air Desk's real-time visibility of aviation assets (location, tasking status, upcoming (un)availability, and constraints or limitations)?
- How effective was RCCNZ in supporting a shared understanding of operations across partner agencies?
- On average how quickly were your requests/referrals acknowledged by the RCCNZ?
- How effective was communication between National Air Desk and RCCNZ this week?
- How effectively did RCCNZ manage information flow between agencies this week?
- Were there any notable concerns or delays in information exchange between partner agencies?
- Were there any ICT or system issues that significantly affected performance?
- What impact did the trial process have on National Air Desk's ability to manage AAH operations in the South Island (trial area) this week?
- What impact did the trial activities on National Air Desk's ability to manage AAH operations in non-trial areas this week?
- What feedback did you observe from CSOs on the trial process and agency interactions?
- Please provide any observations you have from the week. e.g. significant issues and risks, or positive experiences of the trial.
- What improvements to the trial process would strengthen performance and operational outcomes?

Pre- and Post-Trial Survey Questions (All Participants)

Pre-Trial

- In your opinion, how clear are the current (pre-trial) process for requesting and tasking helicopters?
- How efficient is the current SAR aviation tasking process (in terms of avoiding duplication or delay)?
- How effective is the current SAR aviation tasking process (in terms of achieving the intended outcome)?
- What is your current level of confidence in RCCNZ's ability to coordinate all SAR air-operations?
- In your experience, what are the biggest challenges with the current SAR aviation coordination process?
- What do you hope this trial will help improve?
- Is there anything else you would like to tell us ahead of the Aviation Coordination Trial?

Post-Trial

- In your opinion, how clear was the trial process for requesting and tasking helicopters?
- How easy was it to request and receive SAR aviation support under the trial process?
- How efficient was trial SAR aviation tasking process (in terms of avoiding duplication or delay)?
- How effective was the trial SAR aviation tasking process (in terms of achieving the intended outcome)?
- Following the trial, what is your level of confidence in RCCNZ's ability to coordinate all SAR air-operations?
- Which of these issues did you experience during the SAR aviation coordination trial?
- Which of these areas did you see the most improvement in during the trial? Select any that apply.
- Did the ICT systems perform reliably under operational workload during the trial?
- Did systems provide you with a clear operational picture?
- Did systems integrate information from multiple sources effectively?
- Did systems support clear and timely tasking?

- Did systems support reliable and optimal communications between agencies?
- Did systems support reliable and optimal communications with aircraft?
- Were there any ICT or system limitations that significantly affected trial operations?
- Do you have additional comments on the use of ICT systems during this trial and their adequacy for coordination activities?
- Do you think changes are required to the draft process / procedures?
- What do you see as the main challenges or risks of RCCNZ coordinating all SAR aviation assets?
- Is there anything else you would like to tell us regarding the Aviation Coordination Trial?
- During the trial period, were you directly involved in a SAROP that used a helicopter under the trial process?

Operators Only

- During the trial, to whom did you usually report your daily availability
- During the trial, how did you submit reports of your daily availability (capacity and capability)?
- Regardless of use over the trial period, approximately how many days was a winch capability unavailable?
- Regardless of use over the trial period, approximately how many days was rescue swimmer capability unavailable?
- Regardless of use over the trial period, approximately how many days where other specialist capabilities (e.g. paramedic, NVG) unavailable?
- How could the SAR sector better support your organisation in maintaining capability and capacity (e.g. crew training, equipment, funding, coordination)?
- Have you experienced, or do you expect to experience, any issues with payment for tasks undertaken during the trial?
- What is the approximate amount of payment at risk (lost, delayed, or disputed)?
- Please describe the issue (e.g. delays, disputed categorisation, non-payment).

Appendix D: Comparison of Historic October Flying Hours vs October 2025 Actual

Flying hours are used in this report as an approximate indicator of aviation activity and potential cost exposure. They do not represent operational complexity, concurrency, decision density, or administrative burden. Consequently, they are used for trend comparison and indicative modelling only, not as a direct measure of workload or system performance.

RCCNZ Aviation Hours October 21-23

	Oct-23	Oct-22	Oct-21	Avergae	Median
NTH T1	17.61	16.76	11.68	15.4	16.8
NTH T2	1.1	0.2	5.3	2.2	1.1
NTH ALL	***18.71***	***16.96***	***16.98***	***17.6***	**17.0**
STH T1	5.3	15.18	31.35	17.3	15.2
STH T2	4.4	3.4	2	3.3	3.4
STH ALL	***9.7***	***18.58***	***33.35***	***20.5***	**18.6**
Total	**28.41**	**35.54**	**50.33**	***38.1***	**35.5**

RCCNZ's rotary wing hours of operation for October between 2021 – 2022 contributed to the baseline understanding of aviation activity that informed the trial's initiation and design.

Comparison of RCCNZ Aviation Hours October 21-23 (median) vs October 2025 (actual).

	Oct 2021-2023 Median	Oct-25 Actual	Difference (-/+ %)	Difference (hours)
NTH T1	16.76	9.48	-43.4%	-7.28
NTH T2	1.10	0.20	-81.8%	-0.90
NTH ALL	**16.98**	***9.68***	-43.0%	-7.30
STH T1	15.18	18.70	23.2%	3.52
STH T2	3.40	15.60	358.8%	12.20
STH ALL	**18.58**	***34.30***	84.6%	15.72
Total	**35.54**	**43.98**	23.7%	8.44

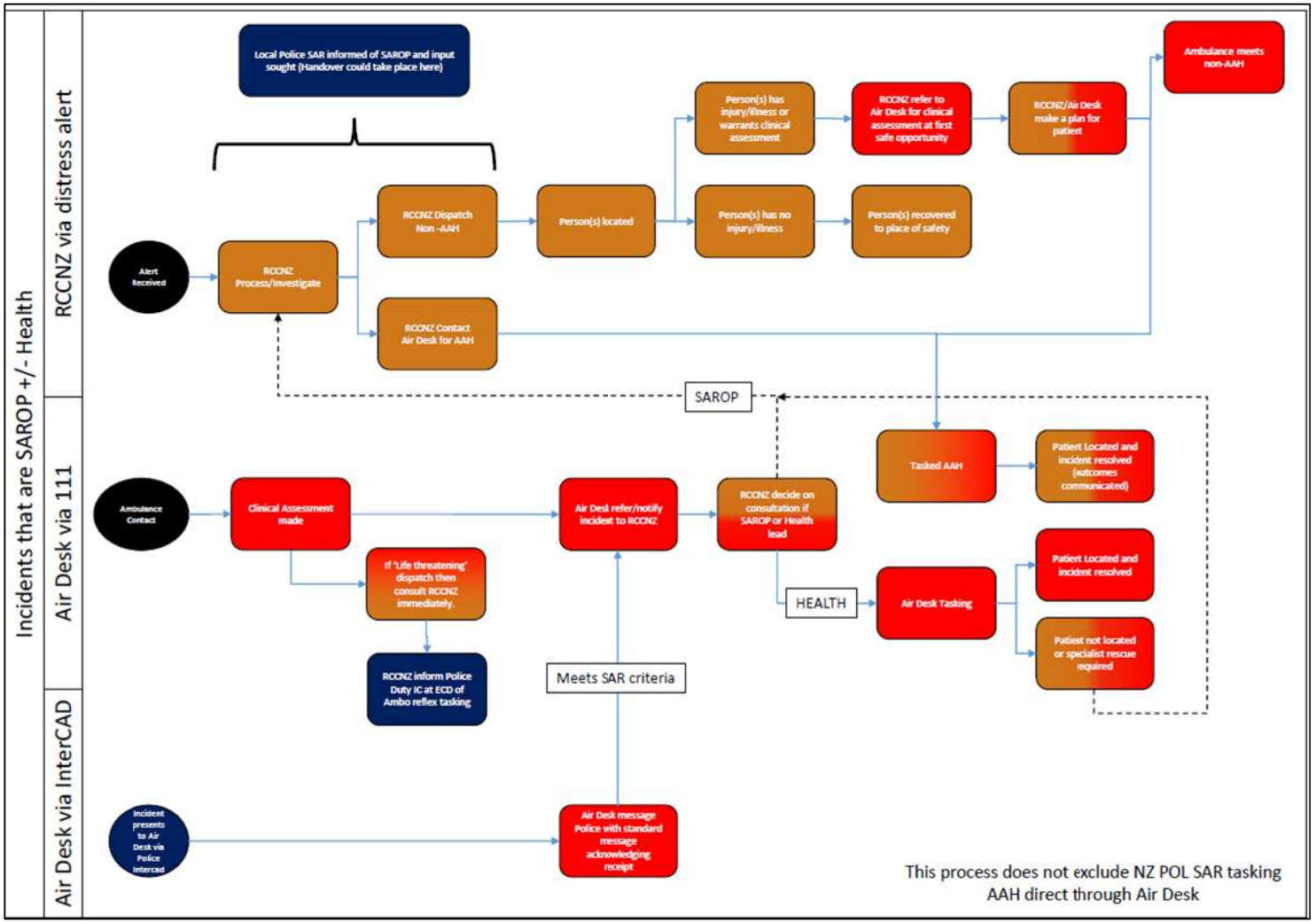
This figure compares the median October rotary-wing hours for RCCNZ across the period 2021–2023 with the actual hours recorded during the October 2025 trial window. The comparison highlights a marked reduction in North Island activity and a substantial increase in South Island activity. This asymmetry reinforces that perceived operational tempo does not always align with flying-hour metrics and should not be treated as a direct proxy for SARO workload or system stress.

Police Rotary Wing Hours October 22 - 23

	Oct-24	Oct-23	Oct-22	Average	Median
NTH T1	2.8	19.25	14.9	***12.32***	***14.9***
NTH T2	0	2.5	4	***2.17***	***2.5***
NTH POL	7.8	6.85	5	***6.55***	***6.85***
NTH NZDF	0	5	0	***1.67***	***0***
NTH ALL	***10.6***	***33.6***	***23.9***	***22.7***	***23.9***
STH T1	4.7	4.5	9	***6.07***	***4.7***
STH T2	6.8	3	5.95	***5.25***	***5.95***
STH ALL	***11.5***	***7.5***	***14.95***	***11.32***	***11.5***
Total	**22.1**	**41.1**	**44.85**	***36.02***	***41.1***

This figure presents historic SARdonyx data for Police Cat I SAROPs involving rotary-wing assets during October across the period 2022–2024. These data are used as an indicative reference point to contextualise South Island activity observed during the trial, noting that historic Police aviation hours can notionally account for a substantial proportion of the observed increase in South Island RCCNZ flying hours.

Appendix E: Trialled SOP Process



Trial SOP for Ambulance to RCCNZ Handover:

Considerations for turning an ACCESS Ambulance Incident into a SAROP:

1. Is the location of the casualty known with a high degree of confidence?

2. Are the current or anticipated environmental factors a significant planning factor?
   - Weather
   - Location (Isolation)
   - Terrain
   - Altitude
   - Daylight hours

3. Are specialist SAR Resources likely required to resolve the incident?

4. Are there Health resources (both aeromedical or otherwise) available to assist?

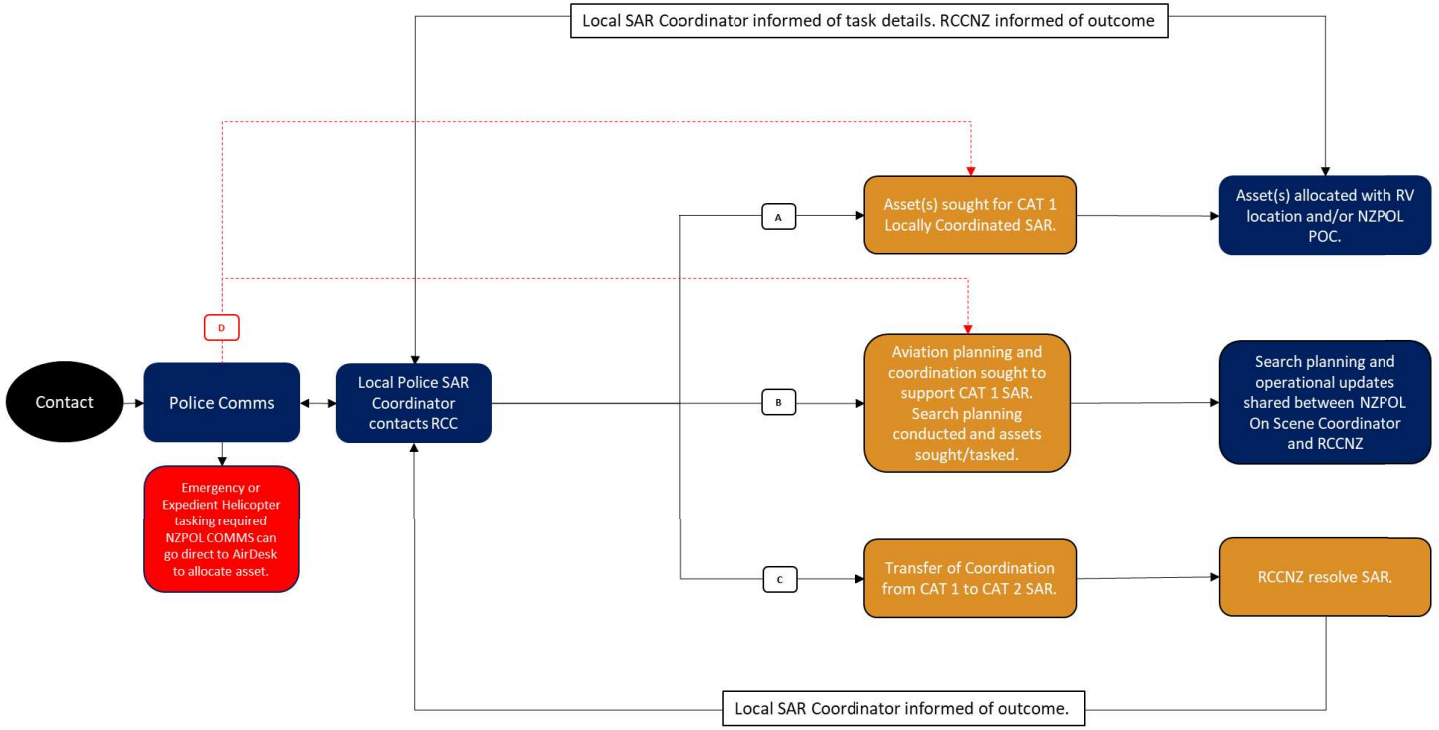
5. Are there resources nearby which could assist that are non-medical?

Once assessment has been made clear acknowledgement of coordination needs to be recorded. (i.e. 'RCCNZ will coordinate this incident as a SAROP' or 'this will remain a health led response').

If the Incident is to be undertaken as a SAROP RCCNZ should also seek clear advice on:

1. What clinical advice or assessment is required (and where) once the casualty has been recovered?

RCCNZ Aviation Tasking for NZ Police SOP – Aviation Trial 1 Oct to 5 Nov 2025



A:	B:	C:
• RCCNZ locate and task aviation asset • NZ Police provide instruction to Aviation Asset	• RCCNZ locate, task, and instruct aviation asset(s) • RCCNZ provide search planning support and information to Police IC.	• If aviation asset can resolve SAR NZPOL hand over incident to RCCNZ • Incident is coordinated as a CAT 2

D:

- If Police ECD contact RCCNZ directly for an emergency task, RCCNZ are to establish minimum details required to support any urgent request (location, situation, any other assets tasked), and then RCCNZ can quickly dispatch assets at the request of NZ Police ECD.
- Police ECD may only be requesting information on nearby assets (such as vessels or aviation resources) to inform options for a Police led response. Tasking may not be required in this situation.

Appendix F: Trial Cost Schedule

Incident Type:	Air Asset Tasking Authority	Cost Owner		Notes:
		Outbound Leg	Inbound Leg	
1. Health issue or injury through accident reported through 111 which is not a SAROP	National Air Desk	Health NZ Or ACC	Health NZ Or ACC	
2. Health issue or injury through accident reported through 111 and determined to be a SAROP and uses Air Ambulance Helicopter	RCCNZ	RCCNZ	Health NZ Or ACC	Split cost. SAROP met by RCCNZ, Te Whatu Ora or ACC meets cost of recovering patient (from the point of paramedic access to the patient).
3. Health issue or injury through accident reported through 111 and determined to be a SAROP and uses non-Air Ambulance Helicopter	RCCNZ	RCCNZ	RCCNZ	RCCNZ coordinate and pay for SAROP. Any Road Ambulance or Air Ambulance tasked once SAROP is resolved (i.e. responding AAH has been stood down from SAROP tasking) is at the cost of Te Whatu Ora or ACC.
4. MEDEVAC from any vessel (not alongside or at anchor) within 12NM utilizing Air Ambulance Helicopter	RCCNZ	RCCNZ	Health NZ Or ACC	RCCNZ coordinates and pays for outbound MEDEVAC leg. Inbound leg is at the cost of Te Whatu Ora or ACC.
5. MEDEVAC from any vessel outside 12NM utilizing Air Ambulance Helicopter	RCCNZ	Private/Commercial Insurance	Private/Commercial Insurance	RCCNZ to undertake cost recovery from designated person ashore/ships agent or individual's insurance provider.
6. SAROP where RCCNZ coordinate response utilizing an Air Ambulance Helicopter or a non-Air Ambulance Helicopter and no medical treatment is required	RCCNZ	RCCNZ	RCCNZ	Entirety of SAROP cost met by RCCNZ.
7. SAROP inside NZ Search and Rescue Region but outside 12NM limit	RCCNZ	RCCNZ	RCCNZ	Entirety of SAROP cost met by RCCNZ.

Incident Type:	Air Asset Tasking Authority	Cost Owner		Notes:
		Outbound Leg	Inbound Leg	
8. SAROP reported through 111 and coordinated by NZ Police SAR which uses an Air Ambulance Helicopter and results in a patient. This includes any response which sees SAR resources being used on Air Ambulance Helicopters.	RCCNZ	RCCNZ	Health NZ Or ACC	Split cost. SAROP met by NZPOL, Te Whatu Ora or ACC meets cost of recovering patient (from the point of paramedic access to the patient).
9. SAROP reported through 111 and coordinated by NZ Police which uses an Air Ambulance Helicopter or non-Air Ambulance Helicopter and does not result in a healthy patient.	RCCNZ	RCCNZ	RCCNZ	Entirety of SAROP cost met by NZPOL.
10. Any SAROP which results in deceased person requiring body recovery either via Air Ambulance Helicopter or non-Air Ambulance Helicopter	RCCNZ	RCCNZ	NZ Police	Body recovery plans and cost to be met by NZPOL unless pre-arranged with RCCNZ during SAROP. Air Ambulance Helicopters will not be tasked with body recovery (unless during a response offer to do so) nor meet cost.
11. SAROP and coordinated by NZ Police which uses EAGLE and does not result in a health patient; and any tactical operation which results in deceased person requiring body recovery either via Eagle, Air Ambulance Helicopter or non-Air Ambulance Helicopter	NZ Police	NZ Police	NZ Police	Eagle typically operates in the North Island and is outside of the trial's geographic boundary. Body recovery plans and cost to be met by NZPOL. Air Ambulance Helicopters will not be tasked with body recovery (unless during a response offer to do so) nor meet cost.
12. Tactical police operations, non-SAR.	NZ Police	NZ Police	NZ Police	

Appendix G: Summary of Trial Jobs

Trial Costs and Surveys

RCCNZ Incident #	CAT	Incident DTG (UTC)	Island	Pathway	In scope	Job Statistics								Survey References			
						Assets Tasked	Helicopter Type	Total hours	Tier I	Tier II	Cost allocated per asset (actual costs incurred)	What would this have cost TO THE SYSTEM pre-trial?	What would RCC have expended under normal conditions trial?	SARC	ECD	SARO	Operators
s 9(2)(b)																	

RCCNZ Incident #	CAT	Incident DTG (UTC)	Island	Pathway	In scope	Job Statistics								Survey References			
						Assets Tasked	Helicopter Type	Total hours	Tier I	Tier II	Cost allocated per asset (actual costs incurred)	What would this have cost TO THE SYSTEM pre-trial?	What would RCC have expended under normal conditions trial?	SARC	ECD	SARO	Operators
s 9(2)(b)																	

RCCNZ Incident #	CAT	Incident DTG (UTC)	Island	Pathway	In scope	Job Statistics								Survey References			
						Assets Tasked	Helicopter Type	Total hours	Tier I	Tier II	Cost allocated per asset (actual costs incurred)	What would this have cost TO THE SYSTEM pre-trial?	What would RCC have expended under normal conditions trial?	SARC	ECD	SARO	Operators
s 9(2)(b)																	

Total Costs

s 9(2)(b)

Appendix H: Trial Response Times

SAROP Details				Airframe Timings (IMS logged times)								Timing Analysis(minutes)						
RCCNZ Incident #	Pathway	Assets Tasked	Helicopter Type	Request received	Availability Check	Decision	Asset Launched	Subject Found	Subject Rescued	Subject in place of safety	Stood down / returned to base	Request - Avail Check	Request - Decision	Decision - Launch	Launch - Subject Found	Subject Found - Place of Safety	Start-Finish	Decision to place of safety
RCC1096/25 OPS4022/25	AMBO	The Helicopter Line NZ - Queenstown. ZK-HRG	Tier II	14:10	14:19	14:24	14:30	14:30		15:20	16:18	9	14	6	0	50	128	56
POL0027/25	A	Christchurch Helicopters - Christchurch. ZK-HNC	Tier II	11:35	11:51	12:04	N/A	N/A	N/A	N/A	N/A	16	29					
RCC1110/25	AMBO	GCH Aviation - Christchurch ZK-HGW	Tier I	16:10	16:40	16:40	20:35	N/A	23:01	0:12	0:32	30	30	235			502	452
OPS4080/25	AMBO	Nil	Nil	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							
RCC1115/25	AMBO	Nil	Nil	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							
OPS4108/25	AMBO	Nil	Nil	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							
POL0029/25	A	Heli Services - Franz Josef. ZK-HDZ	Tier II	21:56	21:58	9:56	10:00	10:08	10:10	10:36	10:36	2	720	4	8	28	760	40
POL0030/25	A	Heli Services - Franz Josef. ZK-IDD	Tier II	17:02	17:10	17:44	17:47	18:41	22:25	22:35	23:12	8	42	3	54	234	370	291
POL0030/25	A	GCH Aviation - Greymouth. ZK-HGU	Tier I	20:16	20:16	20:29	20:38	22:05	22:25	22:35	23:13	0	13	9	87	30	177	126
POL0031/25	A	GCH Aviation - Greymouth. ZK-HJC	Tier I	22:02	22:34	22:34	22:59	23:50	0:10	0:47	1:04	32	32	25	51	57	182	133
POL0032/25	A	GCH Aviation - Greymouth. ZK-HJC	Tier I	12:41	12:55	12:56	13:51	13:58	15:15	15:27	15:27	14	15	55	7	89	166	151
POL0033/25	A	HeliOtago - Queenstown. ZK-IWL	Tier I	18:06	18:15	18:52	18:52	19:05	19:30	19:43	19:43	9	46	0	13	38	97	51
POL0034/25 RCC1132/25	D	GCH Aviation - Greymouth. ZK-HGU	Tier I	15:00	15:15	15:45	15:54	16:41	17:14	17:23	17:49	15	45	9	47	42	169	98
POL0035/25 RCC1129/25	A	Amuri Helicopters - Christchurch. ZK-IEV	Tier II	8:06	8:11	8:12	9:00	9:58	N/A	N/A	11:31	5	6	48	58		205	
POL0035/25 RCC1129/25	A	GCH H-145 Helicopter ZK-IGI	Tier I	10:10	10:23	10:23	11:43	12:00	12:16	13:17	13:17	13	13	80	17	77	187	174
POL0037/25	A	Airwest Helicopters - West Coast. ZK-HAS	Tier II	23:02	8:29	8:38	9:00	9:34	9:34	9:44	9:44	567	576	22	34	10	642	66
RCC1140/25	AMBO	HeliOtago - Queenstown. ZK-HUP	Tier I	16:50	17:16	17:16	17:19	17:36	17:38	18:15	19:22	26	26	3	17	39	152	59
OPS4295/25	AMBO	Nil	Nil	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							
POL0039/25	A	GCH Aviation - Christchurch. ZK-IGI To provide H-145 Helicopter ZK-IGI cancelled due to weather	Tier I	22:31	0:10	1:10	1:10	1:47	2:28	3:44	5:12	99	159	0	37	117	401	154
RCC1162/25	A	Aspiring Helicopters - Wanaka. ZK-HAH	Tier II	15:35	15:45	15:45	16:01	16:04	16:47	17:01	17:19	10	10	16	3	57	104	76
RCC1183/25	AMBO	Aspiring Helicopters - Wanaka. ZK-HMM	Tier II	15:26	15:58	16:03	16:19	16:19	16:25	16:33	16:47	32	37	16	0	14	81	30
RCC1191/25	Ambo	Murchison Heli Tours - Murchison. ZK-IKA	Tier II	7:47	7:56	7:59	8:05	8:23	8:35	8:35	8:50	9	12	6	18	12	63	36
POL0042/25	A	GCH Aviation - West Coast. ZK-HQT	Tier II	12:53	12:59	12:59	13:20	13:55	13:55	14:20	Unknown	6	6	21	35	25		81
RCC1203/25	AMBO	Nil	Nil	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							
RCC1210/25	Ambo	Heli Services - Franz Josef. ZK-HDZ	Tier II	13:33	13:45	14:00	14:55	15:03	15:06	15:24	15:24	12	27	55	8	21	111	84
RCC1219/25	AMBO	Helicharter Nelson - Nelson. ZK-HUG	Tier II	10:39	11:00	11:05	11:24	11:54	12:01	12:37	12:39	21	26	19	30	43	120	92

SAROP Details				Airframe Timings (IMS logged times)								Timing Analysis(minutes)						
RCCNZ Incident #	Pathway	Assets Tasked	Helicopter Type	Request received	Availability Check	Decision	Asset Launched	Subject Found	Subject Rescued	Subject in place of safety	Stood down / returned to base	Request - Avail Check	Request - Decision	Decision - Launch	Launch - Subject Found	Subject Found - Place of Safety	Start-Finish	Decision to place of safety
OPS4570/25	AMBO	Nil	Nil	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							
RCC1216/25	AMBO	Heli Services - Franz Josef. ZK-HHO	Tier II	12:44	12:53	13:07	13:07	13:13	13:19	13:23	13:23	9	23	0	6	10	39	16
POL0044/25	A	Nil	Nil	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							
POL0045/25	A	Nil	Nil	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							

Analysis

Flying Hours

	Total hours	Tier I	Tier II
Average	1	0	0
Median	1	0	0
Max	2	2	1
Min	0	0	0
P75	1	1	1
P90	2	2	1
IQR (P75-P25)	1	1	1
% within threshold (≤ 30 minutes)	43%	70%	73%
% within threshold (≤ 60 minutes)	70%	80%	90%
% within threshold (≤ 120 minutes)	100%	100%	100%
Outlier count (> 60 minutes)	0	0	0
Outlier count (> 180 minutes)	0	0	0
Median Absolute Deviation	1	0	0

Response Times

	Request - Avail Check	Request - Decision	Decision - Launch	Launch - Subject Found	Subject Found - Place of Safety	Decision to place of safety	Start - finish
Average	43	87	30	27	52	113.3	233
Median	13	27	16	18	39	82.5	168
Max	567	720	235	87	234	452	760
Min	0	6	0	0	10	16	39
P75	25	41	25	40	57	137.5	246
P90	32	148	55	54	95	185.7	516
IQR (P75-P25)	16	28	21	32	34	82.75	137
% within threshold (≤ 5 minutes)	14%	0%	29%	15%	0%	0	0
% within threshold (≤ 15 minutes)	64%	36%	48%	40%	21%	0	0
% within threshold (≤ 30 minutes)	82%	64%	76%	55%	37%	0.05	0
Outlier count (> 60 minutes)	2	3	2	1	4	13	19
Outlier count (> 180 minutes)	1	2	1	0	1	2	8
Median Absolute Deviation	6	14	12	16	18	43	60

Appendix I: SARdonyx Historic data

Explanation of Filters

Sardonyx dataset contained 120 columns of fields, with a total of 10912 rows of data (SAROPS), for a date range of October 2022 – August 2025 (1/10/2022 - 28/8/2025).

To isolate the relevant data for this report, the following filters were applied:

1. Aviation Assets Used – YES only
2. SRR Name – Removed all other than NZSRR and NULL (noting that Police entries often site NULL)
3. Valid Request for SAR – removed False SAROP, HOAX / malicious SAROP, and NULL
4. Root Cause – removed despondent / psychotic
5. Terrain Setting – removed Town/city (i.e. urban)
6. Response Name –SAROP conducted only
7. SAR Category – removed Exercise, Maritime Assistance Services (MAS), and NULL.

Other fields were subject to sorting and filtering as required for analysis.

Assets and Hours

	Filtered		**Cat I**				**CAT II**				**Body Recovery**				**Ambulance Managed**			
			NTH		STH		NTH		STH		NTH		STH		NTH		STH	
	Assets	Hours	Assets	Hours	Assets	Hours	Assets	Hours	Assets	Hours	Assets	Hours	Assets	Hours	Assets	Hours	Assets	Hours
EMS Helicopter (Tier 1)	1349	1824.35	295	407.72	140	189.75	14	37.43	8	12.75	0	0	0	0	1	2	1	2
Aviation Asset (Tier 2)	498	669.44	68	90.6	118	245.34	3	9.15	1	0.1	1	3	1	6	0	0	0	0
Police Eagle	221	272.93	219	269.83	0	0	1	2.1	0	0	0	0	0	0	0	0	0	0
NZDF Aviation Asset	36	152.95	7	17.8	2	10.5	1	10.2	0	0	0	0	0	0	0	0	0	0
MULTIPLE ASSETS	158	N/A	52	N/A	15	N/A	3	N/A	1	N/A	0	N/A	0	N/A	0	N/A	0	N/A

Police CAT I- Aviation

YEAR	2022*	2023	2024	2025*	Total	Average (3 years)	Median (3 years)
Jobs	79	275	232	153	739	246	232
EMSHelicopter (Tier 1)	42	181	133	79	435	145	133
AviationAsset (Tier 2)	27	87	43	29	186	62	56
PoliceAsset	23	58	83	55	219	73	78
NZDFAsset	0	3	2	4	9	3	3
EMSHelicopter HOURS (Tier 1)	65.93	250.1	179.14	102.3	597.47	199	179.14
AviationAsset HOURS (Tier 2)	46.4	181.77	63.5	44.27	335.94	112	90.67
PoliceAsset HOURS	65.95	57.85	105.3	40.73	269.83	90	105.3
NZDFAsset HOURS	0	8.5	7.6	12.2	28.3	9	8.5

RCCNZ CAT II- Aviation

	2022*	2023	2024	2025*	Total	Average (3 years)	Median (3 years)
SAROPS	82	379	368	263	1092	364.0	368.0
EMSHelicopter (Tier 1)	71	335	320	213	939	313.0	320.0
AviationAsset (Tier 2)	19	106	110	74	309	103.0	106.0
PoliceAsset	0	1	1	0	2	0.7	1.0
NZDFAsset	0	11	14	3	28	9.3	11.0
EMSHelicopter HOURS	88.62	435.33	463.25	294.13	1281.33	427.1	435.3
AviationAsset HOURS	18.4	113.69	113.45	75.4	320.94	107.0	113.5
PoliceAsset HOURS	0	1	2.1	0	3.1	1.0	1.0
NZDFAsset HOURS	0	22.55	99.35	16.25	138.15	46.1	22.6

National Air Desk CAD Records

National Air Desk provided CAD aircraft operating records of taskings between October 2022 and September 2025. 5369 records were filtered to assess the numbers of Access, Police and Winching tasks.

Access Related Taskings

Year	Access Related Taskings	Hours	Police Taskings	Hours	Winching	Hours
2022	358	669	2	2	105	215
2023	1537	3102	30	39	393	815
2024	1401	2845	37	57	520	1019
2025	954	2106	16	36	419	900
Grand Total	4250	8723	85	134	1437	2949
Average	1063	2181	21	33	359	737
Median	1178	2475	23	37	406	858