



New Zealand Search and Rescue Council

**Minutes of Meeting
New Zealand Search and Rescue Council
Thursday 11 June 2015
Boardroom, Ministry of Transport
Level 6 SAS Tower, 89 The Terrace, Wellington**

In Attendance:

Martin Matthews – MoT (*Chair*)
Superintendent Chris Scahill – NZ Police
Graeme Harris – CAA
Nigel Clifford – MNZ
Richard Davies – DOC
Air Commodore Kevin McEvoy – NZDF

Present:

Mike Hill – RCCNZ
Nick Drew-Crawshaw – (*guest of RCCNZ*)
Caroline McKenzie – (*guest of RCCNZ*)
Jo Holden - Police
John Hamilton – Kestrel Group (*for SAR Governance Review item*)
Duncan Ferner – NZSAR
Carl van der Meulen – NZSAR
Rachel Roberts – NZSAR
Amy Greig – MoT (*minutes*)

Apologies:

Commissioner – Mike Bush
Air Commodore Tony Davies – NZDF
Keith Manch – MNZ
Mike Edginton - DOC

1. Welcome

Martin Matthews opened the meeting by welcoming attendees and noted apologies as above.

2. Minutes of Meeting held 5 March 2015

The minutes from the last meeting were accepted as a true and accurate record.

3. Actions Arising from Previous Meeting

Item 2 – SAR Sector Funding

Send SLA letters of intent to attendees. Meet with and/or share information with funders with a view to assisting their funding/grant decision making.

Actions completed:

- Letters of intent were sent
- NZSAR met with the Lottery Outdoor Safety Committee Coordinator.

4. SLA Monitoring Report for the January – March 2015 Quarter and Sector Update

Key numbers include:

- 1503 volunteers involved, totalling 10,626 volunteer hours
- A total of 16 lives saved and 642 SAROPs
- 54,122 beacons registered to date.

Sector update report was taken as read. Key points included:

SLSNZ

- This period has been the busiest time of the year for SLSNZ due to school summer holidays and the tail end of a great summer.

LandSAR

- Since the last Council meeting, there has been an increase in operational activity compared to the previous third-quarter periods.

Coastguard

- Coastguard recently held their MayDay Appeal, a heightened awareness and fundraising period that runs for the entire month of May.
- Changes to the Maritime VHF channels currently allocated to Coastguard and the migration of services to alternative channels is a cause of serious concern with initial estimates suggesting a cost of more than \$500k.

Outcome: The Council **noted** the SLA Monitoring Report.

5. SAR Governance Review

A copy of this report was distributed prior to the meeting. John Hamilton (Kestel Group) spoke to the report prepared to review NZSAR Governance Arrangements.

Purpose of Review:

To examine the arrangements that the Government has in place to meet its Search and Rescue obligations with a view to ensuring the sector remains fit for purpose, aligned to its environment and optimized to face future issues.

The review specifically examined:

- The structural and governance arrangements for SAR in NZ;
- Identify the future challenges SAR is likely to face and recommend if required, adjustments to the governance arrangements.

Report Recommendations:

The report lists a series of recommendations for the Council to consider. The Secretariat prepared a briefing paper proposing possible actions in response to the recommendations.

In Summary:

The Council agreed to the recommendations and the responses described in the accompanying briefing paper. The Council commented on the linkages to be made between the Governance review and risks identified to technology and volunteers. The Council directed that these be added to its risk matrix.

The Secretariat asked the Council to bear in mind response to the recommendations will have implications on the operation and workload of the NZSAR Secretariat. The Council noted the need to prioritise the Secretariat's workload and the requirement for additional resources.

Outcomes: The Council:

- **accepted** the SAR Governance Review
- **agreed** to adopt the recommendations.
- **implement** the SAR Governance Review recommendations as per the attached approved action table.

Actions:

- The Secretariat is to **update** the NZSAR risk matrix to reflect the identified volunteer and technology risks.
- The Secretariat is to **implement** the agreed responses to the recommendations as per the attached table.

6. NZSAR Risk Matrix – Mass Rescue Event

The current risk matrix includes these treatments:

- Treatment Option 2015/06/A: *Develop mass rescue policy and plans*
- Treatment Option 2015/06B: *Conduct regular mass rescue exercises. In conjunction with partner agencies, exercise the mass rescue plans in all Police districts to validate and refine them.*

The NZSAR Council noted progress on these treatments and believes both remain appropriate. The Council endorsed the Rauora MRO exercise programme and agreed that an occasional full scale MRO SAREX would assist greatly to test systems and procedures and further de-risk the Sector.

Outcomes: The Council:

- **noted** that a full scale MRO SAREX has been added to the national exercise programme for 2019.
- **noted** the requirement for adequately resourcing the planned full scale MRO SAREX.
- **agreed** that an independent study should be established to determine if any additional MRO resources, skills or equipment could be considered for the New Zealand context.

7. NZSAR Risk Matrix – SAR Health and Safety

The current risk matrix includes these treatments:

- **Treatment Option 2015/08/A:** Implement sound health and safety processes and procedures.

NZSAR Council H&S processes and procedures for the SAR sector have been approved and are being implemented. The four SLA documents include H&S provisions from Jul 2014. SAR sector H&S monitoring and reporting has commenced.

- **Treatment Option 2015/08/B:** Health and Safety incident contingency planning.

SAR providing agencies and coordinating authorities are encouraged to develop contingency plans for use in the event of a SAR related severe H&S incident. Plans may include media, internal personnel and SAR partner engagement as well as grief & trauma counselling etc.

The Secretariat reported that health and safety work within the sector has progressed well and is being taken very seriously.

The Secretariat noted that it is important to ensure the health and safety obligations satisfactorily meet the standards required to be safe in the SAR sector, especially for volunteers. However, there is a balance to be struck, in that any introduction of health and safety obligations don't become problematic for the sector, especially in relation to pressure volunteers may feel about complying with health and safety requirements.

Graeme Harris advised of High Hazards meetings that he attends which may be worthwhile having Duncan attend also. This could provide some good linkages between high hazards work (SAR) and health and safety. Duncan felt there would be merit in attending these meetings and will follow up with Graeme as necessary.

The Secretariat also outlined the likelihood that steps taken to mitigate health and safety risks could increase the operational costs of the two SAR coordinating authorities. In particular, increased use of SAR standards for air operators may restrict freedom of operator choice by the coordinating authorities and increase the hourly rate for air operators who meet the required SAR standards.

The SAR Governance Review (paragraph 67) outlined the desirability for the SAR sector to collaborate more closely with the Fire Service, MCDem and the ambulance services to develop a collective health and safety approach and guidelines. This will be added as a treatment to the NZSAR health and safety risk and added to the Secretariats workplan.

Outcomes: The Council:

- **noted** the update on Health and Safety in the SAR sector.
- **noted** the potential for increased operational SAR costs caused by health and safety risk mitigations.

Actions: The Secretariat:

- will **learn** more about the High Hazards meetings.
- will **update** the NZSAR risk treatments for Health and Safety.

8. SLA Agreement Draft Letters

The Council considered four draft SLA letters of intent for 2015/16 (distributed prior).

Outcome: The Council **agreed** to the proposed SLA letters of intent and asked that they be signed and sent.

9. Assessment of NZSAR Secretariat

The Council assessed the performance of the NZSAR Secretariat over the 2014/15 year. The assessment will be utilised by the Ministry of Transport.

10. 2014/15 National SAR Support Programme

The Secretariat briefed the Council on the delivery of the 2014 / 2015 National SAR Support Programme (NSSP) and noted that a very wide range of projects had been completed and a number continued in the 2015 / 2016 financial year.

Workshops & Seminars	SAR Training
• Wander Symposium	• Training Support and Advice
• Land Search Seminar	• Air Observer on line material
• SAREX Planning	• Air Observer training
• Helicopter workshop	• Land Formal Search Planning
• SAR Partner Wksp support	• Marine Formal Search Planning
• Organisational Support	• START material
SAR Data management and IT	Prevention
• Data Store and analysis tools	• AdventureSmart Comms & website maint
• Data Extractions	• Visitor Intentions
• SAR Data Standard	• Wander
• Operational Analysis	• Jasons / Tourism Radio
• Resource database enhancements	• Safety Code Partnership
• Maint - SARNET, Website, START, RDB etc	Exercises
SAR Documentation	• Police SAREX support
• SAR Forms and Guidelines	• MRO SAREXs
Secretariat	SAR Research
• Communications and publications	• Governance Review of SAR in NZ
• NZSAR Awards	• Avalanche Advisory Independent review
• Travel, meetings, advice etc	• SAR Funding part II

Outcome: The Council **noted** the delivery of the 2014/15 NSSP.

10.1 SAR (ACE) Training Update

The Secretariat updated the Council on SAR (ACE) training.

Course	Registered	Attended	EFTS	Total course count	YTD course count	Cancelled courses
Total	554	486	49.31	115	39	17

The Council was advised that there continues to be some problems with SAR (ACE) arrangements and performance but work continues to resolve these issues. The overall trend is of slow but steady improvement.

Outcome: Council **noted** the SAR (ACE) training update.

10.2 Adventure Smart Update for the Quarter

- 37,230 brochures distributed; 6,856 visitors to the website; 9,101 visitors to the main website plus mobile.
- Main site visitors are from NZ, followed by USA, Australia and the UK.
- Social media interest in and around AdventureSmart is very small. Considerable investment would be required to increase interest and activity.

Council commented that it would be good to know the size of the market that AdventureSmart is targeting. Duncan is not able to fund research of this nature this financial year but hopes to be able to do this in the future.

Outcome: Council **noted** the AdventureSmart update.

11. Proposed 2015 / 2016 National SAR Support Programme and Budget

Workshops & Seminars	SAR Training
• SAR Evaluation Seminar	• Training Support and Advice
• Organisational Support	• Air Observer training & Training material
• SAREX Planning (+Police) Meeting	• Marine Formal Search Planning (aft gap analysis)
SAR Data management and IT	• START material
• Maintain SARNET, Website, START, RDB <i>etc</i>	• Formal Search planning Land (Complete)
• SAR Dashboard	Prevention
• IMT Time Line	• AdventureSmart & Rec Safety Partnership
• Data Store maintenance and operation	• Visitor Intentions
• SAR Data Standard (Continues)	• Safety codes, printing and advertising
SAR Documentation	• Wander Support
• SAR Forms and Guidelines	• NZ Inc Recreational Safety Strategy
Exercises	SAR Research
• Support Police SAREXs	• Fatality Analysis
• MRO SAREXs	• Outdoor Safety Code – evidence base
• Abnormal Flight Behaviours	• SAR Demand and Supply Study – Marine
Secretariat	• Prevention knowledge research
• Communications and publications	• SAR Expectations
• NZSAR Awards	• Impact – SAR Prevention messaging
• Travel, meetings, advice, administration <i>etc</i>	• SAR Demand and Supply study – land
• Advice	• SAR Communications - Land

A paper outlining the proposed 2015/2016 NSSP and budget was briefed and discussed (summarised in the table on page 7).

Outcome: The Council **approved** the 2015 / 2016 NSSP and budget.

12. Coastguard Repeater Channel Changes and Implications

The Coastguard has approached the Council seeking funding support to change the 43 VHF Repeater and 23 NowCasting site frequencies by 1 October 2016. Coastguard NZ's business case and funding proposal was provided to Council prior to the meeting.

Council comments reflected that they felt the proposal was weak and a more robust business case would be required for further consideration. A revised proposal should include alternative options should the funding not be available and a stronger economic business case was required.

Duncan agreed to report this back to the Coastguard and work with them to provide a stronger business case for consideration by the Council.

Outcome: The Council **noted** Coastguard NZ's business case and funding proposal.

Action: The Secretariat is to **assist** Coastguard NZ prepare a more robust business case for consideration at a later date.

13. Aoraki/Mt Cook Provision of Alpine SAR

A paper supporting this discussion was distributed prior to the meeting. Following the death of a DOC SAR member (not during a SAROP), an internal DOC review of the systems and processes that currently support the DOC Alpine SAR team functions at Aoraki / Mt Cook is currently underway.

The Aoraki SAR team is the only professional alpine SAR team in NZ. DOC remains committed to the provision of an alpine SAR team at Aoraki / Mt Cook for the immediate future. However, DOC believes it is timely to consider whether the current arrangement for Aoraki will continue to suits the needs of SAR and the various stakeholders in future years.

Once that review is complete, DOC is interested in a high-level interagency discussion about the best long-term SAR arrangements for the Aoraki / Mt Cook area.

Outcome:

The Council:

- **noted** that DOC is currently reviewing their systems and processes of SAR in the Aoraki / Mt Cook area.
- **noted** that DOC remains committed to the provision of an alpine SAR team at Aoraki / Mt Cook for the immediate future
- **agreed** to engage with DOC with regard the provision of alpine SAR in the Aoraki / Mt Cook area once DOCs internal review was complete.

14. General Business

Defence White Paper

Action: The Secretariat is to **engage** with Defence to ensure NZSAR is connected to the work around the Defence White Paper.

Avalanche Advisory Service Level Agreement with the Mountain Safety Council

The Secretariat advised that there was a strong possibility the Mountain Safety Council would not be able to provide an avalanche advisory for the winter of 2015 due to management delays and difficulties. The Secretariat has been attempting to negotiate a service level agreement for the provision of the advisory since March 2015 with little practical success. Efforts to gain certainty around service provision continue.

Outcome: The Council **noted** the problems with establishing an Avalanche Advisory Service Level Agreement for winter 2015 with the Mountain Safety Council

Coastguard Air Patrol Reduction

Following an internal review, Coastguard has decided to disband all Coastguard air patrol units except those at Kaikoura, Northland, Auckland.

Meeting ended: 3.00pm

Next meetings: Thursday 27 August (combined workshop)

Thursday 19 November

Martin Matthews
Chair
NZSAR Council

Attachments:

NZSAR Council Action and Responsibility Table

SAR Governance Review approved action table

**NZSAR Council Action and Responsibility Table
Meeting of 11 June 2015**

Item	Actions	Responsibility
5. Governance Review	Update the NZSAR risk matrix to reflect the identified volunteer and technology risks. Implement the agreed responses to the recommendations.	Secretariat Secretariat
7. SAR Health and Safety	Learn more about the High Hazards meetings. Update the NZSAR risk treatments for Health and Safety.	Secretariat Secretariat
8. SLA Letters of Intent	Sign and send NZSAR SLA intent letters.	Secretariat
12. Coastguard Repeater channel	Assist Coastguard NZ prepare a robust business case for consideration at a later date.	Secretariat
14. Defence White Paper	Engage with Defence to ensure NZSAR is connected to the work around the Defence White Paper	Secretariat

NZSAR Governance Review - Approved Actions Table

NZSAR Governance Review Recommendation	NZSAR Council Approved Actions
<p>1. The SAR Council manages expectations by providing key stakeholders with an explanation of the SAR capabilities and the limitations that apply at the extremities of the NZSRR.</p>	<p>1a. Prepare a briefing note regarding SAR capabilities and limitations for the RRB.</p> <p>1b. Include relevant comment regarding SAR capabilities and limitations in briefs to Ministers.</p> <p>1c. Engage with the Ministry of Defence as they develop the 2015 Defence white paper.</p> <p>1d. Add expectations of SAR capabilities and limitations to the NZSAR risk matrix.</p> <p>1e. Conduct an abnormal flight behaviours workshop (completed 23 July 2015).</p>
<p>2. The SAR Council completes the development and trials the coordination procedures for conducting a mass rescue operation in the NZSRR.</p>	<p>2a. Complete the Raoura Mass Rescue desktop exercise series for each Police District.</p> <p>2b. Prepare a paper for the RRB regarding a full scale MRO SAREX as part of the national exercise plan. (Planned for April 2019).</p> <p>2c. Seek resources for a full scale four yearly mass rescue exercise.</p> <p>2d. Conduct a study to determine if any additional resources, skills or equipment should be considered to de-risk NZ should a mass rescue event occur within the NZSRR.</p> <p>2e. RCCNZ to continue working with other jurisdictions within the NZSRR to improve their capacity to undertake or assist with a MRO.</p>

NZSAR Governance Review Recommendation	NZSAR Council Approved Actions
3. The SAR Council considers having the arrangements and mandates for SAR affirmed by the Minister.	3a. Prepare a briefing note for the Minister of Transport confirming the NZSAR Council's membership, role and mandate.
4. The SAR Council strengthen its reporting of capability, readiness and risk to Ministers by using the ODESC RRB reporting process and thus align SAR reporting with other all-of-government emergency preparedness and assurance reporting.	4a. Prepare a briefing note for the ODESC RRB requesting formal endorsement and inclusion of search and rescue as one of their clusters. 4b. Report to the RRB according to an agreed schedule on SAR capabilities, readiness, risks and performance.
5. The SAR Council develops a process through which membership of the SAR Council is enhanced by adding representatives from supporting NGOs	5a. Develop considered options for enlarged membership of the NZSAR Council. 5b. Include advice on enlarged NZSAR Council membership in the briefing note to the Minister of Transport (see Recommendation 3)
6. The SAR Council co-ordinate the development of a joint preventative strategy that will place greater emphasis on preparedness and reduce the demand for SAR services in the future.	6a. Develop a whole of sector evidence based and measured SAR preventative strategy to support decision making and improved prioritisation of resources.
7. The SAR Council review the performance measures used to report progress towards the strategic goals.	7a. Conduct research into SAR performance measures used by other SAR jurisdictions and similar industries to determine what might be useful for incorporating into an NZSAR measurement framework. 7b. Develop and implement measures to better monitor and understand the performance of the NZSAR Council and the wider sector's achievement of the NZSAR Council goals.

NZSAR Governance Review Recommendation	NZSAR Council Approved Actions
<p>8. The SAR Council investigates opportunities to research developments to ensure the SAR sector keeps ahead of changes in demography, expectations, technologies and volunteering associated with SAR that could impact SAR capabilities and responsiveness in the future.</p>	<p>8a. Organise occasional SAR technology workshops to identify technological trends and opportunities relevant to SAR.</p> <p>8b. Seek funding to permit the establishment of a contestable SAR initiatives fund.</p>

New Zealand Search and Rescue Council

Notice of Meeting
1-3 pm Thursday 11 June 2015
Te Waka Boardroom Ministry of Transport
Level 6, SAS Tower
89 The Terrace, Wellington

AGENDA

1.	Welcome (Coffee & Tea available)	Chair
2.	Apologies	Chair
3.	Minutes of meeting held 5 March 2015 – <i>for approval</i>	All
4.	Matters arising from the Minutes	All
5.	SLA monitoring report: January - March 2015 quarter – <i>paper</i> SAR Sector Update: - <i>paper</i>	Snr Adv
6.	SAR Governance Review - <i>Discussion</i>	All
7.	NZSAR Risk Matrix – <i>Item: Mass Rescue Event</i>	All
8.	NZSAR Risk Matrix – <i>Item: SAR Health and Safety</i>	Sec Mgr
9.	SLA Agreement Draft letters – <i>for approval</i>	Council
10.	Assessment of NZSAR Secretariat - <i>paper</i>	Sec Mgr
11.	2014/15 NSSP and SAR (ACE) - <i>update</i>	Sec Mgr
12.	NSSP 15/16 draft programme and budget – <i>for approval</i>	Sec Mgr
13.	Coastguard repeater channel changes and implications	Sec Mgr
14.	Aoraki / Mt Cook Provision of Alpine SAR	DOC
15.	General Business	All
	a. Defence White paper	Chair
	b. Avalanche Advisory SLA	Sec Mgr

Proposed next meetings:

27 August 2015 – Combined with Consultative Committee

19 November 2015



New Zealand Search and Rescue Council

**Minutes of Meeting
New Zealand Search and Rescue Council
Thursday 5 March 2015
Boardroom, Ministry of Transport
Level 6 SAS Tower, 89 The Terrace, Wellington**

In Attendance:

Martin Matthews – MoT (*Chair*)
Superintendent Barry Taylor – NZ Police
Graeme Harris – CAA
Keith Manch – MNZ
Lou Sanson – DOC
Lt Col Dean Gerling – NZDF

Present:

Superintendent Chris Scahill – NZ Police
Richard Davies – DOC
Duncan Ferner – NZSAR
Carl van der Meulen – NZSAR
Rachel Roberts – NZSAR
Phil Burgess – NZSAR
Amy Greig – MoT (*minutes*)

Guests for item 2:

Mark Cassidy – Wellington Community Trust
Joy Cooper – National Ambulance Sector Office
Scott Milne – Auckland Regional Amenities Funding Board (*via teleconference*)
Karen Hope-Cross – Southern Operations (DIA)

Apologies:

Assistant Commissioner Mike Bush – Police
AC Tony Davies - NZDF
Scott Pickering – ACC
Mike Knell - NZCT

1. Welcome

Martin Matthews opened the meeting by welcoming attendees and noted apologies as above.

2. SAR Sector Funding – Strategic Discussion

The NZSAR Council recognises its responsibilities to provide leadership and strategic governance to the Search and Rescue sector. The funding necessary to support organisations within the sector is provided from a range of sources and agencies including the Council. The Council felt it was timely to have a meeting of interested parties to examine options that may help to maximise the value of available funding.

This session was an opportunity to examine how as a broad collective, the sector could share information, priorities and purposes with a view to improving the joint impact of combined financial input. The Council and guests participated in a broad discussion. The summary points are:

- Most resources that SAR use typically exist for other purposes with SAR usage only making up a small part of their overall activity.
- A reasonable body of research is being built which will enable a better understanding of the sector.
- The diverse funding streams experienced by the SAR sector is not a unique situation.
- Community driven 'requirements' as presented to funding agencies are currently often assessed without any strategic context.
- Funding volatility has led to increased pressure on funding agencies and trusts.
- Agencies such as the Lotteries Grants Board and the Auckland Regional Amenities Funding Board are bound by statute.
- The notions of an overarching national prevention strategy, emerging issues and trends, incentives, transparency and improved analysis, prioritisation & information sharing was discussed and the ideas were received positively.
- A once per year meeting of funding agencies was suggested with most agreeing that this would be useful. Attendees noted differences in their funding cycles. (Early August preferred for LGB, Combined Community Trusts meet in October/November.)

The group agreed the opportunity to meet in this forum was useful and well received. Discussion was positive and helpful and some tangible ideas were explored. Key points made included the possibility of the Council having an opportunity to meet with funding providers before bids are confirmed i.e – the Lottery Grant Board.

Outcome: Council members and guests welcomed this opportunity to meet and explore funding issues.

Actions: NZSAR Secretariat is to follow up on points made during the session including:

- Send SLA letters of intent attendees.
- Meet with and/or share information with funders with a view to assisting their funding/grant decision making.

Guests left the meeting at this point of proceedings.

3. Minutes of Meeting held 18 November

Minutes of the meeting held 18 November were accepted as a true and accurate record.

Outcome: Council *approved* the minutes from 18 November.

4. Matters arising from minutes

Item 3 – Sector Update

- Ensure key messages from the combined workshops held in April 2014 become a standing agenda item for future Council meetings.
- Add 'prevention' to the notes taken for the combined workshops.

Item will be included on future agenda as time allows. 'Prevention' added to the notes.

Item 8 – Strategic Discussion – SAR Funding

- Follow up with a multilateral meeting in March 2015

Completed.

Item 9 – Avalanche Advisory Review

- Martin to discuss DOC part funding of the avalanche advisory with the CE of DOC.
- NZSAR Secretariat to work with relevant agencies to implement the avalanche advisory review recommendations.
- NZSAR, MSC and DOC will develop a joint SLA for the ongoing delivery of the avalanche advisory

All in progress.

Item 10 – SAR Governance Review Terms of Reference

- Secure a reviewer to undertake the NZSAR Governance Review.
- Make arrangements to effect the NZSAR Governance Review

Completed.

Item 14 - General Business

- Extend an invite to Water Safety NZ to become a member of the Consultative Committee.

Completed.

Outcome: Council *noted* the matters arising.

5. SLA Monitoring Report: 1 Oct – 31 December 2014 Quarter

Key numbers include:

- 1,680 volunteers involved, totalling 8,773 volunteer hours
- A total of 36 lives saved and 603 SAROPS
- 51,646 beacons registered to date.

SLSNZ

- A service level agreement has been reached between the Police and SLSNZ setting asset costs for Surf Life Saving Equipment used during category 1 searches across all police districts and all SLSNZ regions. This will help to simplify the drawing up of invoices post events for SLSNZ and allow police to gain a clearer insight into the costs of deployment for a response.

LandSAR

- LandSAR has completed the new Safety Management System, LandSAR website renewal and Training Management System projects.

Coastguard

- Coastguard has completed its review of Air Patrol Units, and will shortly share the results with the sector.
- The Auckland Volunteer and Howick Coastguard Units have launched new vessels.
- Callum Gillespie has joined Coastguard as the new CEO of the Northern Region.

Outcome: Council *noted* the SLA Monitoring Report.

7. NZSAR Awards

The NZSAR Awards for 2014 will be held on 21 April 2015, 6.00pm at Government House, hosted by the Governor General.

20 nominations were received; 9 for operational activity and 11 for support activity. The awards were ranked by a non-conflicted sub-group with their advice presented to the council in a paper distributed prior to this meeting.

Council discussed the suggestions made to them by the sub-group. Discussion included whether the sub-group was deemed adequate to be making the first cut on nominations on behalf of the Council. Duncan acknowledged that it had been challenging to find a sub-group that was completely non-conflicted. Council members asked that this be addressed for future awards.

After some discussion, Council agreed to all recommendations except the recommendation that a certificate be awarded to the crew of the Taranaki Rescue Helicopter.

A special award recommendation was proposed by the Secretariat requesting the Council consider a special award to recognise the extreme effort put in by the 5 Squadron RNZAF during the search for MH370. The Council agreed to this.

Outcome: Council *agreed* to all recommendations made by the sub-group with one exception – that the nomination for a certificate for the Taranaki Rescue Helicopter crew be removed. They also agreed to the recommendation that a special award be presented to the 5 Squadron.

8. SAR Governance Review Update

The project is tracking well. Nearly all the interviews have been completed, with follow-up meetings arranged with Maritime NZ and CAA to discuss key projects.

Council can expect to receive a preliminary report at the next Council meeting.

Outcome: The Council *noted* the update on the SAR Governance Review.

9. SAR (ACE) MoU

The MoU is near completion. A summary of course data is below.

	December 2013	December 2014
Total SAR ACE EFTs	153	153.1
Number of courses	83	80
Number of courses cancelled	44	29
Number participants registered for courses	Unknown	1495
Total number participants attending	1267	1272
Average numbers registered for course		18.6
Average Number attending per course	15	16
% non-attendance	10%	16%
% of GPT predicted courses	54%	60%

10. 2014/2015 NSSP Update

Summary of 2014/2015 NSSP is outlined below:

Workshops & Seminars	SAR Training
• Wander Symposium	• Training Support and Advice
• Land Search Seminar	• Air Observer on line material
• SAREX Planning	• Air Observer training
• Helicopter workshop	• Land Formal Search Planning
• SAR Partner Wksp support	• Marine Formal Search Planning
• Organisational Support	• START material
SAR Data management and IT	Prevention
• Data Store and analysis tools	• AdventureSmart Comms & website maint
• Data Extractions	• Visitor Intentions
• SAR Data Standard	• Wander
• Operational Analysis	• Jasons / Tourism Radio
• Resource database enhancements	• Safety Code Partnership
• Maint - SARNET, Website, START, RDB etc	Exercises
SAR Documentation	• Police SAREX support
• SAR Forms and Guidelines	• MRO SAREXs
Secretariat	SAR Research
• Communications and publications	• Review of SAR in NZ
• NZSAR Awards	• Avalanche Advisory Independent review
• Travel, meetings, advice etc	• SAR Funding part II

11. General Business

Adventure Smart

This initiative is stable and delivering good outputs given modest investment. 118,000 brochures were distributed through Jasons, I-Sites, DOC visitor centres, Coastguard, MSC and WSNZ last year. The recreational partnership continues with WSNZ, CNZ and MSC this includes safety code engagement with the public.

Challenges remain in increasing online view figures up but this remains a focus of the Secretariat.

CAA- Air Operators Submission

The NZSAR secretariat has made a submission to the CAA on the proposed Rule for unmanned aircraft operator certification.

Coastguard Radio Update

Council were advised that Coastguard will be obliged to change to new frequencies for many of their radio repeaters. This may have a significant and unanticipated cost implication for them. They will need to inform the public and SAR partners of the new frequencies once they are up and running. Duncan will find out more information and report back.

Phil Burgess Resignation

It was with regret that Duncan announced the resignation of Phil Burgess who has decided to pursue opportunities in Australia. Duncan thanked Phil for all his hard work and the valuable impact he had made on the SAR sector during his time here, particularly in relation to training.

The Council also passed on their thanks and warm regards to Phil.

Outcome: The council *noted* the general business items.

Meeting ended: 3.00pm

Next meeting: 28 May 2015

Martin Matthews
Chair
NZSAR Council

Item	Decisions / Action	Responsibility
2. SAR Sector Funding	<ul style="list-style-type: none">• Send SLA letters of intent attendees.• Meet with and/or share information with funders with a view to assisting their funding/grant decision making.	Duncan



NZSAR 2-2

20 April 2015

NZSAR Council
NZSAR Consultative Committee

Search and Rescue Sector Update

The Search and Rescue sector update for the NZSAR Council and NZSAR Consultative Committee meetings for April 2015 is contained below.

Ambulance NZ

Nil report

Antarctica NZ

Operations at Scott Base are progressing well with some of the Hillary Field Centre developments. The Winter Joint Search and Rescue Team (Scott Base and McMurdo Station) have an established training programme and have been conducting regular weekly training activities on ice. Although the requirements for the winter team is not of a highly technical nature there is still a strong interest from the US and Kiwi members to develop strengths in personal technical skills across the winter programme.

Recently there was one incident which was call out for the JASART crew for a missing person on a local recreation route on Ross Island. This was due to a walker having missed a regular radio check in with Scott Base. The person was found by a hasty party, returning to Scott Base after having become aware that they were in a communications dead spot and unable to communicate directly with Base. A number of valuable learnings came out of the incident.

Further discussion has been continues with the D.O.C Mt Cook SAR team to look at future training opportunities and possible alignment of standards. Antarctica NZ wishes to continue its development in the arena of SAR by engaging with other high performing groups.

AREC

Nil report

Coastguard NZ

Coastguard is preparing for the annual MayDay Appeal, a heightened awareness and fundraising period which runs for the entire month of May. For the third year running, Sir Graham Henry will be the "face" of the Appeal.

Changes to the maritime VHF channels currently allocated to Coastguard and the migration of services to alternative channels is a cause for serious concern with initial estimates suggesting a cost of more than \$500k. The changes are the result of the NZ government signing up to a revised international protocol - Coastguard has not budgeted for this expenditure and is seeking help from NZSAR to identify a timely and cost effective solution

Department of Conservation

Nil report

LandSAR NZ

Operations

Since the last Consultative Committee meeting we have seen an increase in operational activity compared to the immediately previous third-quarter periods. All of the key 'demand' indicators (number of SAROPs, number of persons 'at risk' and rescued etc.) showed an increase over the previous year and were comparable to the levels of 3-4 years ago.

1 Jan – 31 March 2015	2014/15	2013/14	2012/13	2011/12	2010/11
Category 1 operations	109	52	79	121	69
Category 2 operations	8	3	7	6	7
Volunteer hours during SAROP	7890	3895	3185	4384	5585
Volunteers used during SAROP	933	545	644	993	1001
Number of subjects					
People at risk	150	66	95	214	125
Lives saved	19	6	2	18	4
Rescued	45	42	50	94	54
Persons assisted	61	17	34	106	55
Perished	15	4	9	13	11
Not located (Missing)	10	3	2	1	1

Support Activities

The total amount of support effort (non-operational) in Quarter 3 2014/15 was 35,892 hours. This compares with 22,374 hours of support effort in Q3 2013/14.

Quarter 3	2014/15	2013/14	2012/13
Total volunteer effort	35,892	22,374	39,455
Operations	7890	3895	3185
SAREX incl prep	7029	5549	13,956
Training	13,445	7865	14,393
Administration	7528	5065	7921

Training consumed by LandSAR volunteers (hours)

As with the operational tempo during the 2014/15 summer, and the support effort from LandSAR volunteers, there appeared to have been a 're-bounce' in training activity in

the first 3 months of 2015. There was a particularly noticeable increase in the uptake of SARACE-funded training.

Quarter 3	2014/15	2013/14	2012/13
SAREX	7029	5311	13,521
Local/Regional Courses	6980	4688	12,097
Training prep/support	1117	1427	1547
Skills acquisition training delivered by TPP	5348	1989	1185
Total Training	20,474	13,172	28,349

Organisational Initiatives

The focus of effort in the 3rd quarter of 2014/15 has been on:

- Bedding in the Safety Management System which was deployed organisation-wide in December 2014
- Initiating the trial of the new Competencies Framework assessment system, to be trialled May to August and planned for wider deployment in late-2015.

Maritime Operations Centre

Nil report

Mountain Safety Council

Nil report

NZDF

Nil report

New Zealand Helicopter Association

The Aviation New Zealand annual Conference is scheduled to take place in Queenstown this year, with the Helicopter Association Programme running on Wednesday July the 1st through to Thursday July 2nd with both national and international guest speakers presenting on topical items of interest. Our Australian counterparts will be in attendance at what promises to be a great occasion, particularly with the ANZAC aviation celebrations being included as part of the conference activities.

Following are matters of interest managed by the HA Association since the last report:

- The Air Ambulance EMS Division has been resolved as a separate Division (due to lack of membership) and a subcommittee has been developed to sit within the Helicopter Association and this subcommittee is currently chaired by Peter Turnbull from NEST. This subcommittee will continue to be the member representation of Aviation NZ's role in the Air Ambulance Standards processes and procedures.
- Health and Safety. There is various work being undertaken in regards Health and Safety, as follows:
 - The Division has recently signed off on a software offer that will make SMS and Work-Safe compliance a user friendly system for operators of aircraft

who have not already adopted a safety management system in advance of the CAA's implementation for CAA Regulations for 135 operators;

- Aircare participants have a requirement to notify Industry of incidents involving environmental matters or those that are being investigated by the Regulator (but this is limited to those participating in the voluntary Aircare Program);
- The Regulator is beginning a process involving Fatigue Risk Management for all CAA Regulation 135 Operators. This will, along with other matters, involve Health and Safety requirements. NZHA representing 135 operators are engaged with CAA as part of the Fatigue Risk Management Panel that is developing material that will become a rule requirement.
- The Division presented at a RPAS (Remotely piloted Aircraft Systems – known to the media as drones) Symposium recently at Masterton. Like the AAA (Agriculture Sector), our Division have safety concerns about the apparent wholesale promotion of RPAS. Since then we are now seeing the promotion of “Beyond Line of Sight” activity. In regards to the UAV's themselves – the operations of these continues to raise concerns from members, and work is on-going within Division on ways to ensure safe operating procedures are considered by the regulator.
- The Helicopter Association has recently had input into Regional Council Plans and submissions: Involved with Whakatane, Whangarei and Melborough District Council Plans. Such involvement included addressing those hearings on Noise issues and in particular the Whakatane Council proposing a requirement for helicopter operators to obtain resource consent for frost fighting.
- The Divisional EMS subcommittee had input into the 2014 NZ Search and Rescue Council Awards.
- Robinson R44 Main Blade issues. These aircraft were subject to a temporary Grounding following a recent fatality. The Association continues to have on-going dialogue with the CAA over Divisional involvement in flight safety requirements being developed following the recent fatalities involving these aircraft.
- Safety Bulletins. Whilst these continue to be a popular publication with Bulletin No. 4 having just recently been published (**a copy of this bulletin is attached at the end of this report**), it is worthy of note two new developments have occurred since the last report: (a) that this publication has now gained overseas interest with Joe Dewar of the CAA Statistics Division recently making a presentation to the International Helicopter Association in the USA which generated a large amount of interest and feedback, and (b) this type of publication has now been adopted by the Agriculture Division of the industry with the continuing efforts and cooperation between the NZHA Division and the CAA. This particular Bulletin 4 covered Low G situations and mast bumping and turbulence – a topical issue currently facing industry.
- Aircare membership continues to be a focus for the Division, although there is some resistance by some air operators to become part of this industry safety initiative. The Aviation NZ Board Chair has suggested that it is timely for the industry to review Aircare with a view of overhauling this system.
- The NZSAR Secretariat has requested from industry input for the NZSAR Council's information pathway in its preparation of an “all of New Zealand SAR data standard”. This will be an on-going input item from the division over the next short period.

Police

The Police Training and Tactics Coordinator's role is now being completed by Acting Senior Sergeant Jo Holden. She has brought with her a wealth of experience as the previous Wellington District SAR Coordinator and from her private activities in multi-sport events.

The Police National SAR Training camp at Dip Flats has just been completed (17/4/15) which is why A/S/Sgt Holden is unable to make it this afternoon.

Acting/S/Sgt Holden will get to know you as she attends the various meetings and fora that impact on SAR and Disaster Victim Identification (DVI). Expect to see her at a SAREX or meeting near you in the near future.

The SAR statistics show that we have been busy in both Land and Marine SAR activities over the past quarter. Police appreciate the support that so many agencies represented here provide for Category I SAR incidents. Thank you for your help and please express our thanks to your members back home for their time and expertise that they so willingly provide to make life safer for those who experience our great outdoors.

Police are working with NZSAR to deliver Mass Rescue Exercises at a district level, nationally. The work being completed is looking very promising and will enable us all to identify what we do well, what we may do better and who we need to work with to provide an optimal response.

We, together with NZSAR, will keep you updated as to progress and any new lessons learned as the training progresses.

Inspector Joe Green (Coordinator Emergency Management) is on long service leave until 17 May. If you have any service requests that would usually go to him please forward them to Inspector Geoff Logan.

RCCNZ

Operational

In the reporting period from January to March 2015 there have been 233 Category II incidents. This is an increase of 17.7% from last quarter (198>233) and almost similar to the same period in 2014 (236). CAT II incidents with taskings jumped significantly, up by 85% (40>74) from October-December period but dropped slightly 5.1% (78>74) against the January to March 2014 period.

Of the 233 CAT II incidents, 26.6% were in the maritime environment (30.3%), 34.8% aviation (33.9%), 29.6% land (23.2%) and 9.0% categorised unknown environment (12.6%). (Percentage figures in brackets are last quarters.) Comparison for the January to March quarter 2014 (236 incidents), marine 30.5%, aviation 35.2%, land 24.1%, unknown environment 10.2%.

Tasking during this period within the three environments result in:

MARINE (17): Seven 406 MHz, one 121.5 MHz beacon activations. Australian coded EPIRB on-board a Tongan fishing vessel: Missing fisherman Tuvalu, RNZAF P3 conducted search but was stood down due to weather conditions: NZ coded EPIRB on-board a Tongan fishing vessel, P3 tasked, located, crew and vessel recovered by Tongan Navy: Three cruise ships required medevac's of passengers: One fishing vessel, medevac of sick crew member: One sick crew member on-board an inbound

commercial vessel, deceased before medevac able to be undertaken: Sick yachtsman assisted to ashore by Coastguard: Local fishing vessel dead in the water, West Coast SI: SCUBA diver with breathing difficulties on-board a disabled launch: International effort to rescue a fishing vessel trapped in ice, Antarctica: Capsized boat of the West Coast SI, crew recovered: French yachtsman in path of Cyclone Pam taken off by RNZN warship: two fishermen blown out to sea, Marlborough Sounds: Old 121.5 MHz beacon tracked down to a vessel not in distress in the Kaipara Harbour: Yacht with three POB being blown onto rocks. Police assumed coordination and tasked SAR assets.

AIR (11): Five associated with a 406 MHz beacon alerts. Eight aircraft crashes (5 x fixed wing, 3 x helicopters), one forced landing (pair of gliders), one overdue (helicopter), one possible gyrocopter crash.

LAND (46): There were 40 associated with a 406 MHz beacons, the other six as a result SPOT transmitter alerts. one Fishing, five hunting, one jet boating, one kayaking, one motor biking, one mountain biking, six mountaineering, 26 x tramping, one canyoning, two rubbish dumps, and one medical.

Total beacon incidents for the quarter increased by 5.9% (151>160) from last quarter but dropped by 8% against the January to March 2014 quarter (174). Real distress alerts jumped 69.7% from last quarter (33>56) but were lower 18.8% against the same quarter in 2014 (69).

A total number of 597 (575) people were supported in the quarter. This comprised: 310 (298) at risk; 4 (2) lives were saved; 26 (21) lives rescued; 90 (56) lives assisted; 9 (0) people perished and 158 (198). self-assisted. (Figures in brackets, last quarter).

RCCNZ supported Police for 71 Category I (Police) incidents during this period. Incidents involved the provision of 12 SAD's RCCNZ (7 x SAD's, 4 x Active Involvement, 1 x with both Active Involvement and generation of a SAD). Of these 60 of the incidents were in the marine environment, eight on land and three aviation.

Operational Support

Beacons

Beacon registrations for the year to date have been consistent at approximately 911 per month. This is a 4% increase for the same period last year and the ratio of PLBs is two thirds of this volume. There remains a significant change in PLB registrations and now there are significantly more PLBs (29776) registered than EPIRBs (18776) with total registrations now 52519.

MEOLUT Project

Following the selection of the preferred tender for the joint Australian and New Zealand MEOLUT project the contract to build was signed with Techno Sciences Inc. (TSi) in the United States on 22nd August 2014. TSi have subsequently entered into sub contracts with Kordia Australia and New Zealand to develop the ground site works, complete the build and in New Zealand's case the future operation of the MEOLUT installation. Site construction will commence at the Goudies location (between Rotorua and Taupo) on 29th April 2015 and the six antennas and control systems will be in an initial operation configuration in late June 2015. Full operational status, which is reliant on future satellite launches and extensive system testing, is unlikely before 2017.

Staffing changes

During the period three new staff have been appointed to positions within RCCNZ: Mike Hill has been appointed to the position of Manager RCCNZ and Safety Services, Carolyn McKenzie the position of Deputy Manager Training and Nic Drew-Crawshaw the position of Deputy Manager Planning.

SLSNZ

Surf Life Saving Operations

This period January to March has been the busiest time of year for Surf Life Saving services; due to the school summer holidays and the tail end of what could be arguably the best summer season on record.

The early onset of very warm water conditions on top of a very prolonged fine weather pattern produced high beach visitation numbers. In January particularly the first two weeks, the crowds peaked; this coincided with a persistent swell on both coasts. This kept Life Guards extremely busy and most patrols reported large numbers of strong rips along their beaches. This resulted in, Surf Life Saving services responding to a number of other callouts and incidents that occurred during this time.

In addition to the Category 1 Search and Rescue Operations listed above (and detailed in the Appendices), surf lifeguards rescued (688) people, treated (1977) members of the public for injuries, conducted a further 273 searches and assisted 287,209 people through preventative activities (i.e. educated on rip currents and advised to swim between the red and yellow flags). Surf Lifesaving services amassed over 137,857 hours patrolling the beaches, attending incidents and providing other services where required.

Organisational Update

The following organisational changes or progress has occurred of relevance to the search and rescue sector:

- The Bay of Plenty // Coromandel Communications Network is near completion, and is operational covering an area from Maketu to Onemana. The planned network was to provide radio communications coverage along the coastline between Hot Water Beach and Maketu however due to a theft of equipment at the Whangamata Repeater site and a prolonged administration period for the DOC consent for the Pauanui Repeater site the coverage stopped at Onemana in the North.
- The Capital Coast Communications Network is underway, and will be completed in time for the 2015/16 season. A meeting has been held with the Surf Life Saving Clubs, and consents and permissions to install repeaters at identified locations are being sought.
- A service level agreement has been reached between the Maritime New Zealand and SLSNZ setting asset costs for Surf Life Saving equipment used during category 2 searches across all New Zealand Coastal and inland water ways and all Surf Life Saving New Zealand regions. This will simplify the drawing up of invoices post events for SLSNZ and allow MNZ to gain a clearer insight into the costs of deployment for a response.



New Zealand Helicopter Association Safety Bulletin

Low-G situations, mast bump, and turbulence

NZHA SAFETY BULLETINS

SB 4

Late last year, shortly after a fatal R44 accident at the top of the South Island, we received the following e-mail:

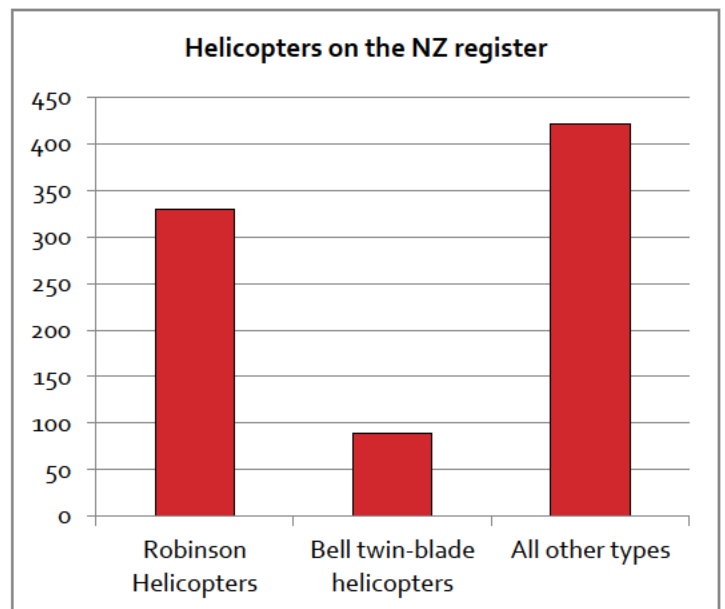
“Having just returned last night from the South Island where I spent the day with the pilot’s father and sister on a hill waiting for ground search teams to follow along the wreckage trail in steep heavily covered bush forest, to discover the cabin and the pilot dead I believe the following is worthy of consideration for all who fly two-bladed rotor systems.

In relation to the above accident, the prevailing conditions, terrain, and wreckage trail was very similar to that of a 2013 accident in the Central North Island. The helicopter was flying downwind in about a 20 knot wind and had crossed a high ridge. First found were pieces of paper, followed by clear plastic, a blade tie down, honeycomb, and eventually the cabin.

It is most likely going to take a while for the formal investigations to be completed but I suspect both will identify mast bumping as a result of negative G experienced in the turbulence encountered after crossing the ridge.”

Mast bump and other situations where control over the main rotor is lost are leading causes of fatal accidents in two-bladed semi-rigid rotor helicopters. In terms of

machines operating in New Zealand, this means mainly Robinsons and Jet Rangers. Combined these helicopter types make up 50% of the total register:



Combined with New Zealand’s unique topography and weather, the high proportion of twin-blade machines means pilots here are at increased risk of mast bump accidents. This bulletin is targeted at preventing us from having any more of these accidents, which in the vast majority of cases are catastrophic. It also looks at other risks posed by turbulent conditions, particularly when operating over and within mountainous terrain.

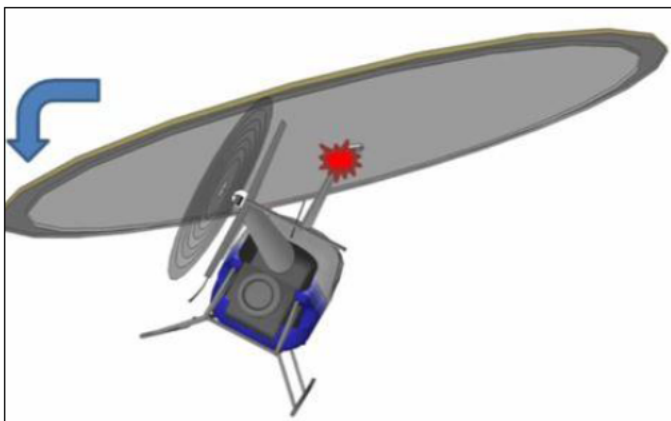
Mast bumping explained

Twin-blade semi-rigid rotor systems are designed to allow the blades to flap. **Mast bump** is the name given to the accident situation where this flapping exceeds the structural limitations of the rotor hub's connection to the mast: the rotor head tilts so far that it contacts the mast, usually causing separation of either one blade or the entire rotor. The flapping can be such that the rotor severs the tailboom or strikes the cabin. The vast majority of these accidents are fatal as the helicopter becomes completely uncontrollable. The causes are outlined below.



Low-G situations and mast bumping

Pilot-induced low-gravity situations are the most commonly-mentioned causes of mast bump in the operating handbooks and textbooks. In a low-G situation the weight of the fuselage is momentarily unloaded from the rotor disk. The thrust from the tail rotor then causes the fuselage to roll to the right very, very quickly: in a safety video from the early 90's Frank Robinson explains that this roll rate can be "as fast as 100° a second". It is the instinctive reaction of pilots finding themselves in this situation to apply left cyclic – and generally this is done abruptly considering the rapidness of the roll and the panic induced by the sudden weightless condition that has preceded it. Application of left cyclic tilts the disk but has no effect on the fuselage: the static stop limits are exceeded, the rotor head contacts the mast and either the mast



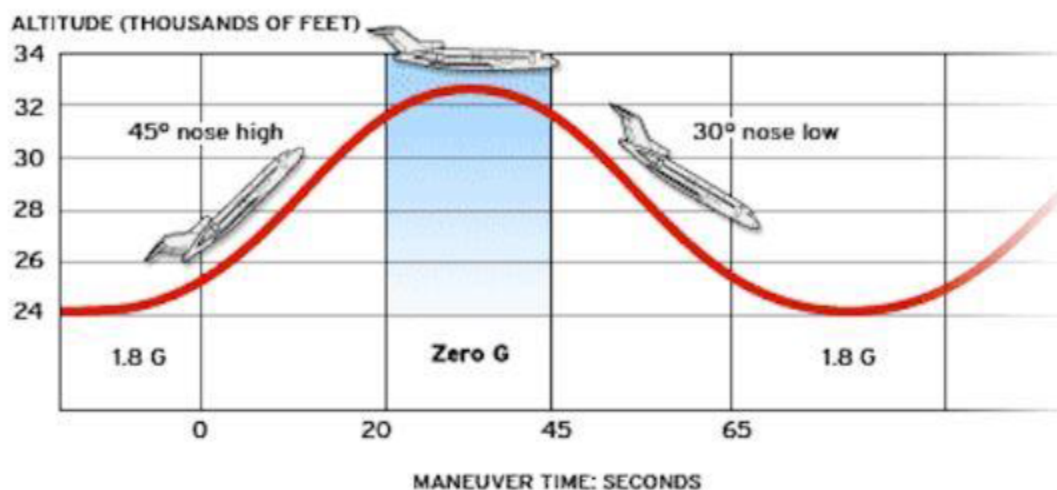
separates or the blades contact the fuselage, either the tailboom or the cabin. The image to the left illustrates the process.

How control inputs can induce low-G states

Abrupt cyclic pushovers are the most frequently-mentioned cause. These can be induced in several ways. For instance they may occur when a pilot becomes focused on **following terrain**: as terrain begins to slope downhill the pilot may initiate a cyclic pushover while they concentrate on maintaining a steady height

above the ground. Cyclic pushovers can also occur when pilots **attempt to level out after climbing**. This is illustrated in the picture below. Although the example is for large jet aircraft flying many thousands of feet high, the principle is exactly the same. Note that the first of these (following descending terrain) can occur in level flight. Both of these cyclic pushover causes were addressed specifically in the Robinson Safety notice SN-11, originally issued in 1982. A related safety notice is SN-29 concerning fixed wing pilots transitioning to rotary. The learned, highly ingrained reaction of fixed wing pilots to push the stick forward when attempting to descend or to avoid a collision (say with a bird) can be fatal. Please be aware of the special risk that this presents.

An example of just such a low-G accident in New



Zealand occurred in Taupo in early 2004:

The R22 was found crashed inverted, with a debris trail of cabin contents and shattered perspex leading to the accident site. Both the pilot and passenger were fatally injured. The weather on the day was perfectly clear, calm and still. The accident site was near several high voltage power lines. It was determined that at some point in the flight, possibly after climbing rapidly to avoid the power lines, the pilot had initiated an abrupt pushover leading to a low-G situation. The low G and roll to the right were so violent that the pilot's windshield, which survived the accident intact, bore marks from where his boots left the pedals and were forced against it (shown below):

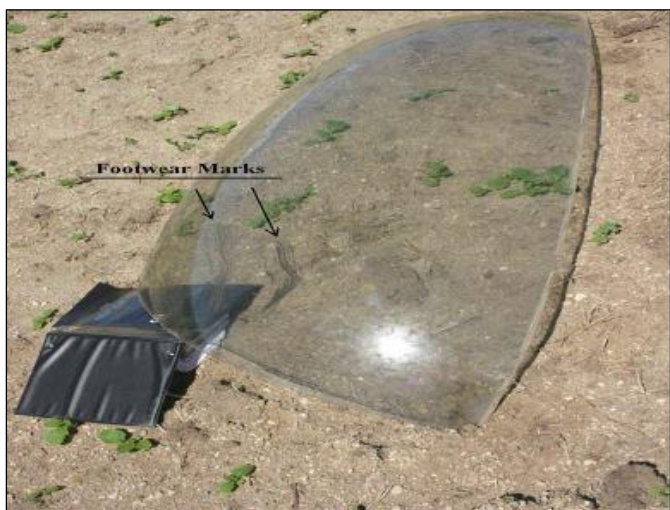


Figure 3: Pilot's windscreen with footwear marks. Note abrupt change in direction.

As the fuselage continued into the right roll the main rotor blades sliced through the cabin 3 times; first severing the roof of the canopy, then the control panel, and then the cabin floor through the center. The accident wreckage revealed that the cyclic pushover must have been so abrupt that once the low-G situation was reached it would have been impossible to recover from.

This accident vividly and horrifically demonstrates how critical this safety warning (in several Robinson safety notices and in operating handbooks) is:

"Never abruptly push the stick forward".

Turbulence can induce a low-G state

Windshear and other meteorological conditions play a huge role in NZ aviation accidents, due in large part to the fact that the weather conditions here are uniquely challenging. **In New Zealand this is especially true of turbulence.** The Robinson Safety Notice SN-32 warns pilots of the increased risk of mast bumping and excessive blade flapping when operating in turbulent conditions.

In a severe downdraft the loading on the main rotor disk can become low or negative, exactly like the pushover-induced low-g situation mentioned above. Once again the main rotor becomes unstable; the tail rotor begins to roll the fuselage over and the risk of mast bump and/or the rotor cutting through the fuselage increases rapidly. If the turbulence is severe enough then recovery can become next to impossible, as in the accident below:

R22 near Mt. Aspiring. Both the instructor and the student were killed when the helicopter broke up in flight. The investigation revealed that the rotor hub teeter stops were crushed, indicating that mast bump had occurred, however before the blades separated from the mast they flapped to the extent that they severed the tail boom and the helicopter fell to the ground. At the time the helicopter was flying above 5000 ft in mountain country, crossing the Waipara Saddle. The turbulence was described as 'severe to extreme' by subsequent rescue pilots operating near the area. The wind speed in the area was around 30 kts. The severe turbulence was cited as the main cause of the accident.

Certain factors can increase the risk that an encounter with turbulence will be catastrophic for you and your machine. One of these factors is your airspeed. The effects of turbulence on blade flapping are increased as airspeed increases and if you are going too fast for the conditions you simply will not have the time to react and save the situation. Another factor is the control inputs used in response to turbulence encounters. Turbulence can encourage sudden, abrupt control inputs including overpitching that can lead to excessive blade flapping and mast bumping.

Consider these words from Robinson Safety Notice SN-32: ***"Do not overcontrol. Allow aircraft to go with the turbulence, then restore level flight with smooth, gentle control inputs."***

Both turbulence and airspeed were considered likely factors in the accident below:

R22 over Lake Wanaka: the helicopter crashed over Lake Wanaka and was recovered by a Navy Dive Squad from a depth of 80m. The wreckage and injuries to the pilot showed that a catastrophic mast bump event had occurred. Almost immediately following the mast bump one of the main rotor blades cut through the cabin, killing the pilot and sending the helicopter nose-down into the lake. While the exact causes of the mast bump could not be determined the TAIC investigation determined it was likely brought about by an encounter with turbulence while the helicopter was travelling with a high forward airspeed. A further contributing factor was the pilot's use of his cellphone during the onset of the accident sequence.

Below is an image of the damaged rotor hub and mast from the R22 in the accident:

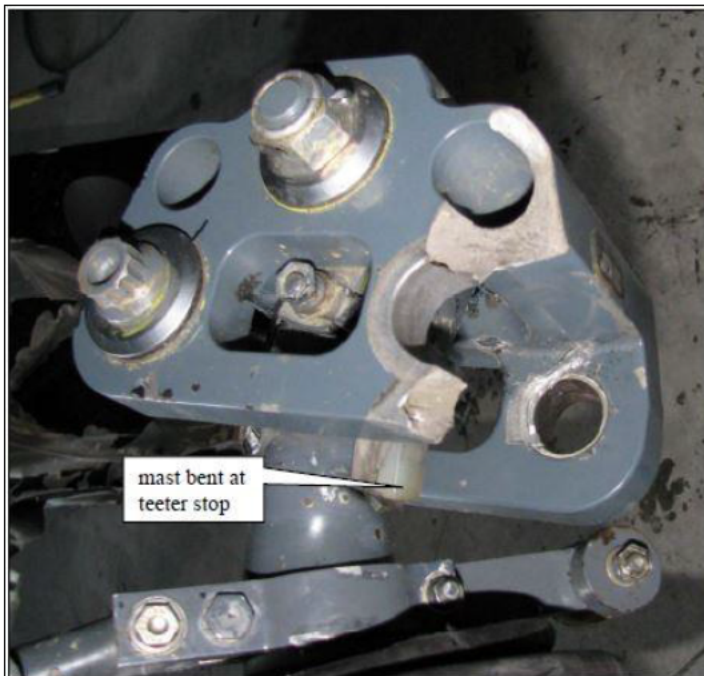


Figure 7
Rotor hub and evidence of mast bump

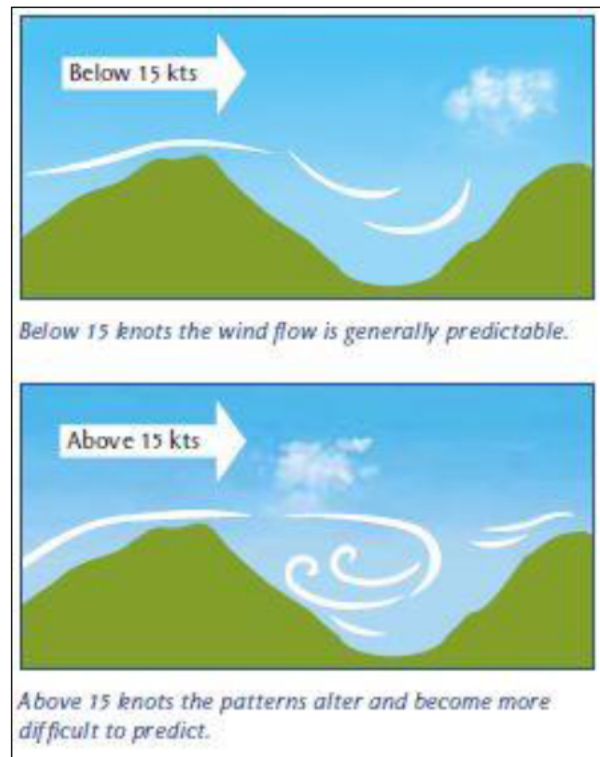
Resilience against the risk

As so many other safety notices and bulletins state, the most important strategy to reducing the risk of being involved in a mast bump accident is avoiding the

conditions where it might occur in the first place. As the Rotorcraft Flying Handbook says: ***"this means avoiding turbulence as much as possible."*** But of course that's easier said than done in New Zealand, where over half of the terrain is mountainous and we lie as we do in the Roaring 40's. It is important therefore that those who operate twin-bladed machines are fully up-to-speed on where and when turbulence will occur and what to do to:

- a) Avoid it; or
- b) Manage it correctly

As the diagram below shows, whenever the wind speed gets up over around 15 kts and there are obstacles in front of that wind, turbulence is likely to occur:



Understanding how air flows in the mountains can be really hard but there is an easy way to learn about it. Get students to go to the river and watch how the water goes around the rocks (hills/mountains). Place different rocks in the river in various places (where the current is slow and fast, creating valleys and seeing the venturi affect) and use milk or cream dripped into the water upstream. This shows the turbulent areas and where the wind changes speed and even goes backwards. As air is just a fluid the water behaves the same as wind in the mountains. Before you scoff at how simple this sounds, bear in mind that this type of accident has claimed two

experienced pilots in the last two years. Understanding air movements and how turbulence occurs is key to ensuring the list of accidents in this category stops where it is now. There are some great resources online that are worth a look. Although it's focused on fixed-wing, Mountain Flying offers a lot of good information on weather in the mountains and is an extremely good resource for operators of all machines and all levels of experience: http://www.mountainflying.com/Menu/mtn_fly_menu/mtn_fly_menu.html

The CAA's GAP booklet on Mountain Flying is another good resource:

http://www.caa.govt.nz/safety_info/GAPs/Mountain_Flying.pdf

Flight techniques: keeping the disc loaded and recovering from a low-G roll

The secret to avoiding mast bumping situations is to keep the disc loaded. Think of the helicopter fuselage as a pendulum suspended by the rotor disc. When the pendulum effect is removed by low G then the tail rotor will roll the fuselage – if it is providing sufficient thrust. The lower the collective, the less will be the T/R thrust so any uncommanded roll will be slower and give you more time to react. The reality is that the less cyclic inputs you make in turbulence, the safer the flight condition. So think about this:

- Lower the collective and reduce speed BEFORE turbulence is encountered. To be able to do this you need to understand wind over terrain.
- Where possible stay on the windward side of any ridge and if you must cross over try and follow a ridge that heads in the general downwind direction – then stay on the windward side of that.
- Keep the disc loaded by gently applying aft cyclic
- Use minimal cyclic inputs
- Restore the helicopter to normal flight once you are through the turbulence
- **Accept that there are conditions in NZ which will generate turbulence beyond the helicopter's ability to withstand. So wait for better conditions to prevail.**

When planning a flight that may involve significant turbulence consider the weight of the helicopter. A lightly loaded machine is more likely to suffer mast bumping than when it is heavily loaded. The forgoing is really all about prevention rather than cure.

A word on recovery

Pilots have been taught that the correct response to a low G roll is to apply aft cyclic to load the disc. And this will work but the challenge for any pilot is not to apply cyclic in the opposite direction of the roll – **because that is instinctive.**

So the ability of pilots to cure a low G situation is heavily compromised by their instinctive reaction to a roll and that is why NZHA promotes prevention rather than cure. Please see the Appendix on the next few pages (pp. 6-9) for a paper on mast bump accidents and Robinson helicopters compiled by the CAA's Andy Mackay.



Appendix: Flight into Turbulence

(Andy McKay March 2015)

Robinson Safety Notice SN-32

Issued: March 1998

Revised: May 2013

HIGH WINDS OR TURBULENCE

A pilot's improper application of control inputs in response to high Winds or turbulence can increase the likelihood of a mast bumping Accident. The following procedures are recommended:

1.

If turbulence is expected, reduce power and use a slower than normal cruise speed. Mast bumping is less likely at lower airspeeds.

2.

If significant turbulence is encountered, reduce airspeed to 60 - 70 knots.

3.

Tighten seat belt and firmly rest right forearm on right leg to prevent unintentional control inputs.

4.

Do not overcontrol. Allow aircraft to go with the turbulence, then restore level flight with smooth, gentle control inputs.

Momentary airspeed, heading, altitude, and RPM excursions are to be expected.

5.

Avoid flying on the downwind side of hills, ridges, or tall buildings where the turbulence will likely be most severe.

The helicopter is more susceptible to turbulence at light weight. Use caution when flying solo or lightly loaded.

Correct Recovery from a low "G" Roll

First -Gentle aft cyclic (to recover from low G condition)

Second -Apply lateral cyclic (to recover from right roll)

Third -Land immediately

So why does Robinson ask us to slow down in Turbulence?

- Simply put, to avoid a low G induced right roll that could lead to “Mast Bumping.”
- To a lesser degree, to reduce aerodynamic shock loading that can lead to damage

The actual mechanics of the “Mast Bump” itself is explained in another briefing.

The effects of shock loading damage can be unique to the type of Helicopter and Rotorhead. E.g. Hughes 500 heads have a tendency to break strap packs in bad turbulence.

In this briefing I want to get the relationship sorted between **Speed**, **Low G** and a **Low G Roll** on a two bladed helicopter, **specifically the Robinson**.

Low G is any G loading below 1g (1g is what we feel normally). Below 1g we start to feel a bit weightless and above 1 g we feel more weight pressure. Learn to feel this for yourself. We refer to this sometimes as an increase or decrease in loading.

It does not need to be negative to cause an issue in a 2-bladed helicopter.

Robinson have typically flight tested down to about 0.5g. A Pull-up and push-over in an R66 from 124 knots created a 0.478 g loading and a right roll that was on the limit of what the test pilot was comfortable recovering from in a timely manner. In the days when Low G was a demonstration the power setting for the demonstration in an R22 was typically 18-20 inches in a gentle pushover. The right roll was reasonably gentle and anticipated for recovery. However if the roll is commenced from high cruise power then the resulting roll is significantly faster and remember that's a recovery *with* anticipation. Generally in the real-deal the low G rolls are unexpected. **Please remember Low G demonstration is now strictly prohibited in flight.**

By the time it goes negative (below 0) the roll rate is likely to be extremely high (and possibly unrecoverable) depending on the power in use.

The killer with Low G is the pilot's incorrect input of cyclic control when it is encountered. The recovery should become second nature.

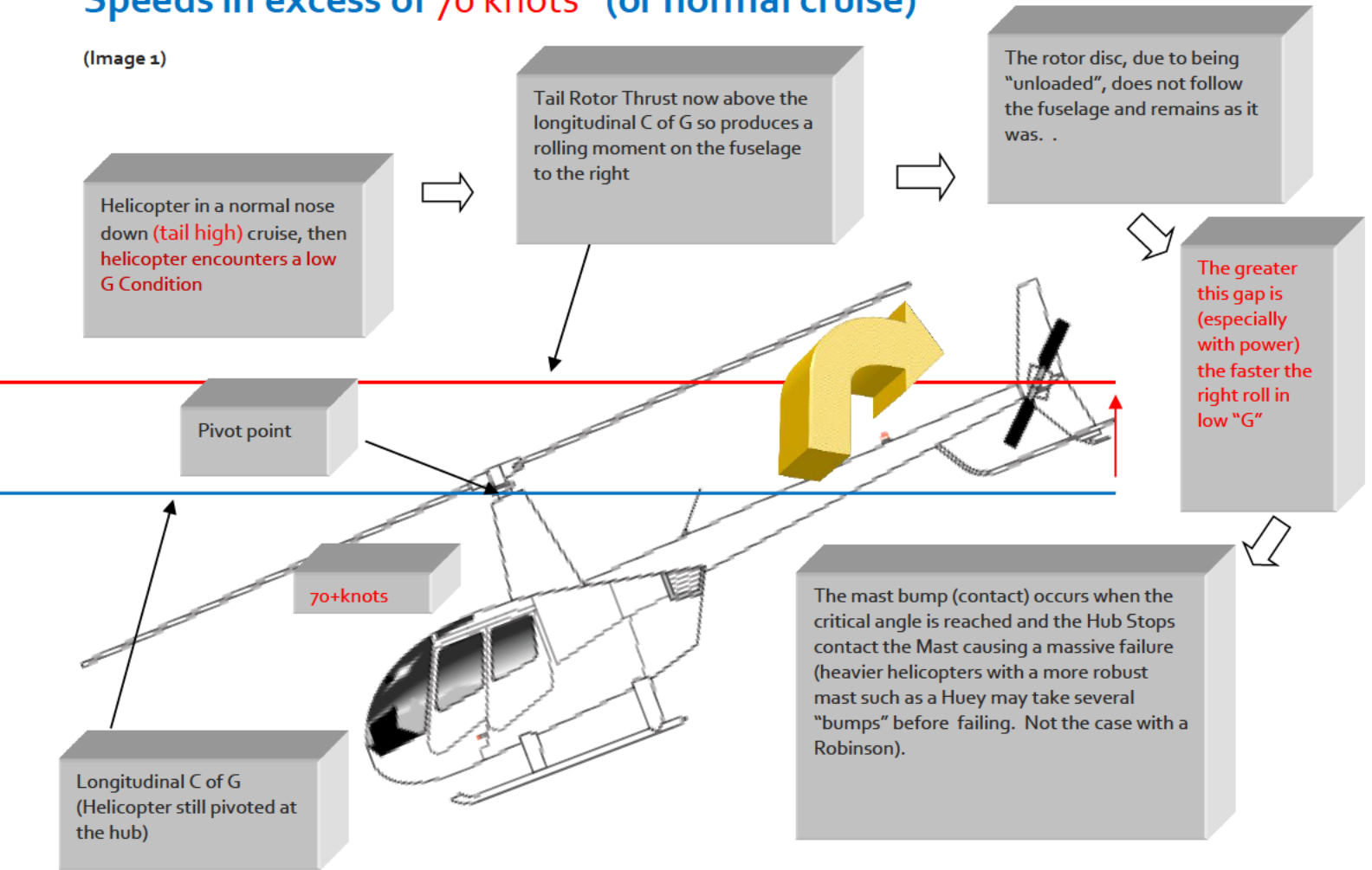
Often in bad turbulence you will feel a combination of an increase and decrease in loading as the helicopter reacts to the disturbed air. Often its not worth chasing as it will correct by itself. However be prepared should you be exposed to a prolonged decrease in loading as Low G issues may develop.

The best defence is avoid a Low G condition. Speed control is one means of achieving this.

Let me explain with some diagrams:

Speeds in excess of 70 knots (or normal cruise)

(Image 1)



- Helicopter speed **70+ Knots**
- Nose down, tail high attitude.
- The higher the speed the higher the tail
- The higher the tail is above the longitudinal C of G then the higher the right roll rate.

Practical examples of where this may be a problem.

Crossing a ridge or saddle at 70+ knots and then allowing the nose to drop excessively on the downside or leeward side is not a good time to encounter turbulence and Low G.

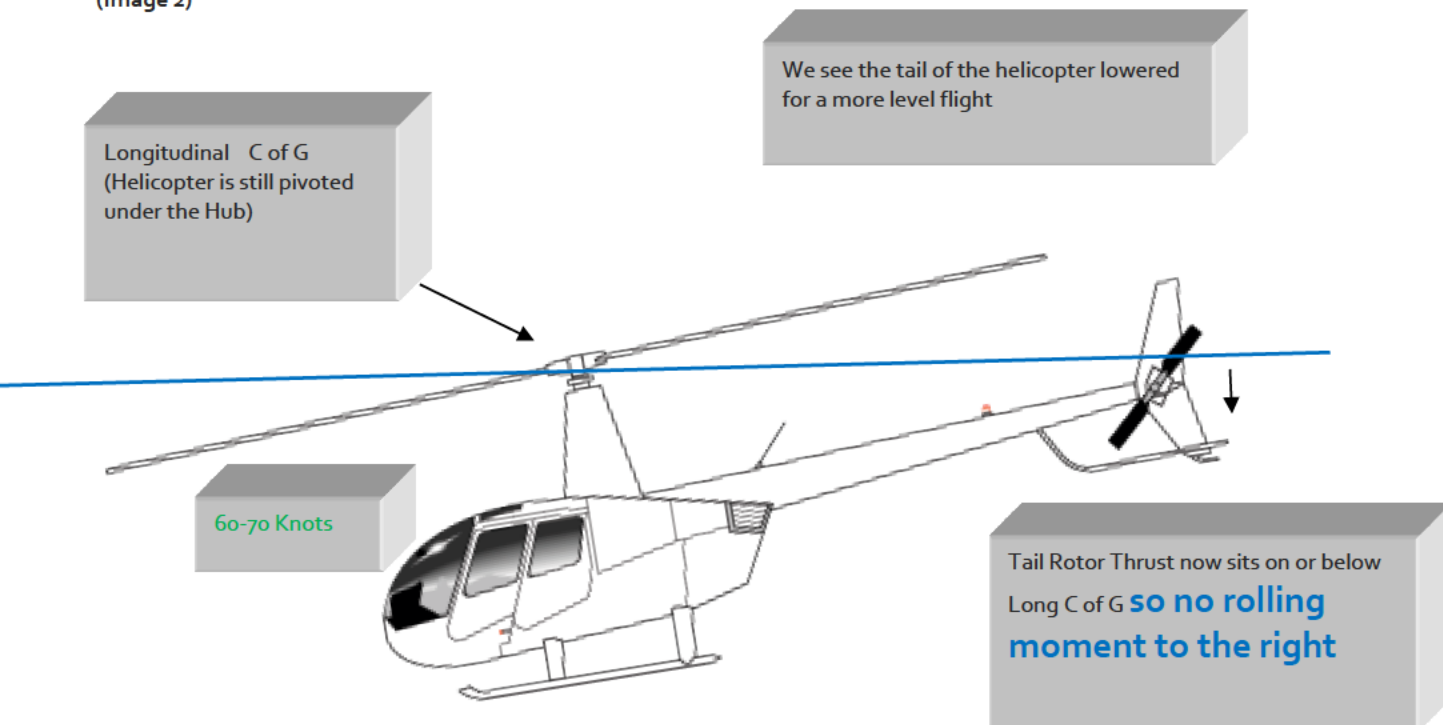
Any 'map of the earth' flying, especially in the mountains. Remember in a two bladed helicopter always lead with collective and watch where the nose + tail attitude is.

The lighter the helicopter, the more susceptible it is to Low G.

The faster the helicopter (i.e. an R66 at 130 knots), the longer it takes to reduce speed to 60-70 knots. Also this higher speed may indicate a high power setting and an extremely high roll rate if Low G is encountered.

Now we reduce Speed to 60-70 Knots

(Image 2)



- Helicopter Speed is now **60-70 knots**.
- Helicopter loses the tail high attitude.
- No rolling moment as T/R thrust is below pivot point on Hub (longitudinal C of G)
- So if in turbulence and Low G occurs in this attitude there is no right rolling moment to allow the mast bump.

****Caution note **However even with low airspeed if the tail is well above the Long C of G and Low G is hit then the helicopter will still roll. As long as the tail rotor is producing thrust (It may be on a low power setting) the roll rate will just be lower.**

Example

Watch out for climbing up to a high saddle from a valley in turbulence and then aborting the crossing and turning downwind and downhill and in the process allowing the nose to excessively drop (loss of horizon) and putting the tail high even at low speed. Not a good time to hit Low G (keep aware).

Helicopter may experience a Low G and get bounced around. This in itself is not an issue unless it rolls. Keep control movements to a minimum. Ride with it as much as possible.

With experience you should learn to anticipate where turbulence is hiding and if possible avoid it but at least prepare for it by **SLOWING DOWN**.

REVIEW OF NEW ZEALAND'S SEARCH AND RESCUE GOVERNANCE ARRANGEMENTS

Introduction

1. New Zealand has an international obligation to provide Search and Rescue (SAR) services in the New Zealand search and rescue region (NZSRR) covering a vast area from just south of the equator to the Antarctic, dominated by ocean expanses with a few small, isolated land masses. It can be argued that the government also has a moral obligation to provide SAR services to those that get themselves into distress in New Zealand where the outdoors is readily accessible and outdoor activities have long played an important part in the national culture. But large parts of New Zealand comprise some very difficult terrain and experience highly variable weather. History shows it is easy to get lost or injured and difficult to find people when they are in distress.
2. The current governance arrangements for SAR in New Zealand have their origins in the 2001 report of the Maritime Patrol Review and a Cabinet decision in 2003 which agreed to the establishment of the SAR Council, the NZ SAR Secretariat (based in the Ministry of Transport) and the NZ SAR Consultative Committee. These arrangements were introduced to provide stronger strategic co-ordination and governance of all SAR modes (land, marine and aeronautical). The revised structure was intended to provide strategic policy advice to government and strong strategic co-ordination of the operational aspects of SAR with the SAR Council expected to provide the vision, mission and goals for SAR expressed in a national SAR Plan. The Council was also expected to link with the Domestic and External Security Co-ordination (DESC) system through the Officials' Domestic and External Security Co-ordination (ODESC) group.
3. The arrangements for the SAR Secretariat were reviewed again in 2006. That review found strong support within the stakeholders for the SAR governance arrangements in place. The review identified availability of adequate resources as an issue for the voluntary agencies that SAR relies on, but acknowledged that it would be addressed through a strategic funding proposal.
4. Since 2003 further developments have taken place in the way government manages and co-ordinates national security issues and emergencies. In addition other trends are likely to have an implication for SAR such as increased tourist activities and the accessibility of remote areas, the availability of new technologies that aid SAR but could also lead to a false sense of security, a low awareness of the risks associated with some outdoor activities as the population becomes more urban, and the impact of demographic changes including an aging population. Two recent international SAR operations, the unsuccessful search for Malaysian Airlines flight MH370 and the mass rescue of passengers from a ferry that caught fire in the Adriatic Sea in 2014, serve to highlight the increasing high expectations the public have for SAR and the responsibilities of governments for effective SAR arrangements despite the operational challenges

such SAR Operations (SAROPs) at the upper end of the scale of response might present.

Purpose of Review

5. The purpose of this review is to examine the arrangements that the Government has in place to meet its search and rescue obligations with a view to ensuring the sector remains fit for purpose, aligned to its environment and optimized to face future issues. The Terms of Reference directed the review to specifically examine the following aspects of SAR:
 - The structural and governance arrangements for SAR in New Zealand;
 - Identify the future challenges SAR is likely to face and recommend if required, adjustments to the governance arrangements.
6. The review was not expected to examine in detail the funding arrangements for SAR nor comment on the role performance organizational or resourcing arrangements of any organization involved in SAR.

International Obligations

7. New Zealand is a signatory to the following international conventions for search and rescue which have an implication for the SAR services provided:
 - The Convention on International Civil Aviation (1944) Annex 12 SAR Standards and Procedures.
 - The International Convention for the Safety of Life at Sea (SOLAS) (1974, amended 2000) Chapter V Search and Rescue.
 - The International Convention on Maritime Search and Rescue (1979) Provision of regional SAR services and RCC.
 - Law of the Sea Convention Article 98 – Duty to Render Assistance.
8. These conventions impose an obligation on the party states to:
 - Arrange for the establishment and prompt provision of SAR services within their allocated Search and Rescue Region (SRR).
 - Establish national machinery for the co-ordination of SAR services;
 - Establish a rescue co-ordination centre for the SRR that is staffed 24 hours a day; and,
 - Provide a Marine Assistance Service.

Operational Arrangements for SAR

9. The New Zealand Search and Rescue Region (NZSRR) is derived from its agreement to the international conventions. The Convention on International Civil Aviation provides an obligation on New Zealand to provide SAR services to

air services in the NZSRR. The International Convention for the Safety of Life at Sea provides for marine SAR services in NAVAREA XIV, which is an area roughly aligned (but larger) to the NZSRR. The NZSRR is one of the largest SAR areas of responsibility in the world; an area characterized by vast distances, few land masses and few centers of population. It experiences highly variable weather and sea conditions and has a variety of geographies but nevertheless it is traversed by considerable sea and air traffic.

10. To meet its international obligations for SAR New Zealand legislation through the Civil Aviation Act 1990 makes the Minister of Transport responsible for the establishment, maintenance and operation of a search and rescue co-ordination centre to co-ordinate and conduct aviation and maritime SAROPs and any other SAROP the Minister considers appropriate. The Civil Aviation Act authorizes the Minister of Transport to appoint persons to participate in SAROPs and in practice, through the Maritime Transport Act 1994, the Minister directs Maritime New Zealand to be responsible for the Rescue Co-ordination Centre New Zealand (RCCNZ) and its co-ordination function in an aviation or maritime SAROP in the NZSRR.
11. A Cabinet decision in 2003 established the New Zealand SAR Council which in turn has established the operational arrangements for the co-ordination of SAR activities in the NZSRR in the land environment, aviation or marine. Two co-ordinating authorities have been established to manage the two categories of SAROPs. Police are the co-ordinating authority for Category I SAROPs and Maritime New Zealand maintains the RCCNZ at Avalon as the co-ordinating authority for Category II SAROPs within the NZSRR associated with aircraft in distress, missing aircraft and offshore marine SAROPs. The manner in which an alert is received does not determine the category of the SAROP or the Coordinating Authority.
12. Category II SAROPs typically require the use of national or international resources and may require co-ordination with other states. Alerts for Category II SAROPs are received directly at RCCNZ or are passed to the RCCNZ through the Maritime Operations Centre (MOC) or Police Communications Centers. The RCCNZ is also the New Zealand point-of-contact for distress beacon alerts through the COSPAS/SARSAT system irrespective of the environment in which the beacon is activated. The RCCNZ is co-located with the MOC which monitors maritime communications including distress calls and provides a messaging service and alerting function in NAVAREA XIV to meet the obligation under The International Convention for the Safety of Life at Sea and the International Convention on Maritime Search and Rescue (1979) Provision of regional SAR services. The MOC has an ability to monitor the movements of marine vessels in the New Zealand area.
13. Operational capabilities for Category II SAROPs are drawn from the New Zealand Defence Force (NZDF) (primarily air and maritime assets) and commercial operators of ships and aircraft and are employed in SAROPs under the direction and co-ordination of the RCCNZ. A Category II SAROP may make use of volunteers. The arrangements for Category II operations are well practiced and it is assessed New Zealand's obligations to the international conventions for SAR are met.

14. Police are the coordinating authority for Category I SAROPs which are coordinated at the local level and include land searches, subterranean operations, river, lake and inland waterways and close to shore marine operations. The Policing Act 2008 does not specifically refer to Police's responsibilities for search and rescue but Section 9 of the Act lists Functions of Police including to maintain public safety, provide community support and reassurance and emergency management. Section 10 of the Act acknowledges 'that it is often appropriate, or necessary, for the Police to perform some of its functions in co-operation with individual citizens, or agencies or bodies other than the Police'.
15. Police have SAR Co-coordinators appointed in each Police District but not all of them are fulltime appointments as determined by the SAR need and other policing priorities in the District. The alert for a Category I SAROP can be raised locally with Police or a Coast Guard unit, regionally through a call to 111 and the Police and emergency services' communications centers, and by delegation from the RCCNZ following the reception of a beacon alert or the notification of an aircraft or vessel in distress.
16. Operational capabilities for the conduct of Category I SAROPS are drawn from local resources that can include the emergency services, helicopter operators, Coastguard New Zealand, Surf Living Saving clubs, Land Search and Rescue Groups, Department of Conservation staff, Police SAR teams, Police maritime units, the Police helicopter, NZDF assets, members of the Amateur Radio Emergency Communications group and local tramping clubs and other volunteers and groups. Typically close to shore marine operations are conducted out to the 12nm limit but depend on the capabilities available and the conditions at the time. A Category I operation can be escalated to Category II where the RCCNZ takes responsibility for the coordination of the SAROP and a Category II operation can be reclassified as a Category I and delegated to Police to coordinate.
17. The operational arrangements that provide for two SAR co-coordinating authorities are an effective and pragmatic structure. At the local level it provides for a swift and coordinated response drawing on local capabilities and local knowledge but with an ability to escalate the operation to those with call on greater capabilities if required. The arrangements for the conduct of Category I operations have a number of characteristics which deserve to be highlighted:
 - The operational capability is based largely on volunteers and the clubs and units they belong to. These participants show extraordinary willingness and commitment to the SAR role and provide the backbone for Category I SAR in New Zealand and an outstanding SAR capability. Volunteers may also participate in Category II operations.
 - Being based on volunteers, the national SAR capability for Category I operations represents extraordinary value for money, which may not always be acknowledged by Government.
18. While having two co-coordinating authorities suits the New Zealand response setting there are a number of centers in New Zealand staffed 24/7 to monitor

various fields, and some of which are responsible for activating a response. These centers include the RCCNZ, the MOC, Police/Fire communications centers, Ambulance communications centers, the NZDF's Headquarters Joint Forces New Zealand and others, each responsible for managing their host agency's requirements. The caller seeking assistance does not care about the location of the operations centre or the parent agency of the staff taking the call. The caller expects a swift response from the call receiver and the response to be transferred to the agency best placed to conduct the response. Given the number of operations centers staffed, there could be a perception of duplication and overlap and therefore some value in greater sharing of facilities and staff for the monitoring and alerting function. But while centralization may reduce staffing levels and the number of facilities, there are a number of challenges to centralization:

- There will be an increased training burden for cross-training staff onto other response systems and structures;
- There would need to be an agreement on where the responsibility and accountability lies for the activities undertaken by a central operations centre when the staff and facilities are shared and are not necessarily under command of the organization responding to an emergency;
- Centralization tends to reduce local knowledge available to the those responsible for co-coordinating a SAROP; and,
- Implementation of a shared facility would require some investment initially.

19. The value and costs of centralization of the monitoring and alerting function across many agencies is beyond this review and would require a separate study. From a SAR perspective there is no imperative to investigate the benefits of sharing operations centers. However if one of the other agencies operating a 24/7 center was to investigate the costs and benefits of sharing, the SAR Council would be expected to work with the ODESC RRB to ensure the current responsiveness of the SAR sector is maintained.

Risks and Capabilities

20. The review has identified a number of operational factors drawn from the nature of the NZSRR and the recent publicity around the ability of authorities in other jurisdictions to locate missing aircraft quickly or in the case of the ferry fire in the Adriatic Sea, to affect a mass rescue. New Zealand has the responsibility for coordinating SAROPs in some of the most remote parts of the world be that in the Southern Ocean, at the eastern extremities of the SRR or to the north in the tropics. The capacity to search these areas is limited by the range of aircraft and vessels, the transit times involved and the time-on-station available. The ability to rescue those in distress in those areas is similarly limited. While the SAR system is known to be effective close to New Zealand, the limitations that apply at the extremities of the NZSRR are not well known, and the challenges may not be appreciated by the public but potentially also by Ministers and other key stakeholders. Given the attention searches in remote areas have received recently, it is suggested the SAR Council provide key stakeholders with an explanation of the SAR capabilities and their limitations at the extremities of the

NZSRR in order to manage the reputational risk.

21. Another reputational risk exists in the under-developed planning and exercising of a mass rescue scenario that could be encountered by a cruise ship or airliner in distress in the NZSSR and potentially, in a remote part of New Zealand. The SAR Strategic Plan identifies a mass rescue event that overwhelms normal SAR capabilities as a risk and acknowledges that such an event might be infrequent but would have severe consequences. But the Strategic Plan was developed before the 2014 loss of MH370 and the subsequent publicity the search for that airliner has generated. To help manage the risk the NZ SAR Secretariat has drafted a strategic policy for mass rescue and is working on the development of a plan for coordinating an all-of-government response to a mass rescue. The review assesses there is some way to go before the required procedures are developed fully and can be trialed. Until that work is completed there will remain a gap in preparedness and a risk to the sector, the Council and the Government. It is recommended the SAR Council encourages the NZ SAR Secretariat to complete the planning for a mass rescue operation.

Governance Arrangements

22. The current structure for the governance of national SAR was agreed by Cabinet in 2003 in the wake of the Maritime Patrol Review and resulted in the establishment of the SAR Council, the NZ SAR Secretariat (in the Ministry of Transport) and the NZ SAR Consultative Committee. It aimed to provide strong strategic co-ordination and governance of all modes of SAR.
23. The revised structure was intended to provide strategic policy advice on SAR to government and strong strategic co-ordination of operational aspects of SAR. The SAR Council was expected to provide the vision, mission and goals for SAR, expressed through a New Zealand SAR Plan. The Council was expected to link with the Domestic and External Security Co-ordination (DESC) system through the Officials' Domestic and External Security Co-ordination (ODESC) group. Terms of Reference were developed by the SAR Council for the three governance levels and have been implemented.
24. The Terms of Reference for the SAR Council provides for the following objectives:
- To provide strategic SAR policy advice to government.
 - To provide strong strategic co-ordination and leadership for all SAR strategies (land, sea and air) within the NZSRR.
 - To provide a centralised public voice for strategic SAR issues.
 - To monitor New Zealand's international SAR obligations and provide strategic advice to government when needed.
 - To establish and maintain New Zealand's SAR vision, mission, goals and plan and monitor performance agreements and goals within the plan.
25. The membership of the Council is restricted to the Chief Executives or their delegated representative of the Ministry of Transport, the New Zealand Police,

New Zealand Defence Force, Maritime New Zealand, the Civil Aviation Authority and the Department of Conservation. The Council is intended to operate as a board of directors and the Terms of Reference encourages members “to examine issues before the council from a strategic viewpoint not withstanding individual agency responsibilities”. The Council is expected to meet at least three times each year.

Effectiveness of Governance Arrangements

26. In order to assess the effectiveness of the Council the review looked for evidence that showed its involvement in providing strategic direction and leadership of the SAR sector; the way it provided oversight and coordination of the sector; how it assured government of the readiness, capabilities and risks in SAR; and how it managed relationships with the wide range of stakeholders involved in SAR.
27. The SAR Council is to be commended for its introduction of a Strategic Plan and an Annual Report. The Strategic Plan provides statements of the vision, values, concept of operations and is critical to providing the sector with direction and coordination. The Plan sets the sector the following four goals:
- To maintain a robust and integrated SAR system;
 - To ensure efficient and sustainable SAR organizations;
 - To provide capable SAR people; and,
 - Reduce the demand for SAR services.
28. The plan also identifies a number of risks faced by the SAR sector and the risks are reviewed regularly by the Council. The strategic planning for SAR is robust and effective and as the engine room working for the Council, the small SAR Secretariat staff has done an excellent job in assisting the Council to meet its role of providing strategic direction. The review has identified four aspects that could be developed further:
- SAR Council reporting to Government;
 - SAR Council representation;
 - Emphasis on preventative strategies; and
 - Performance measures.
29. The reviewer notes that in comparison to Civil Defence Emergency Management (CDEM), which like the SAR sector is also a federated system that relies heavily on local government and community involvement, there is no legislated requirement for a SAR national strategy or plan, and no legislated requirement for reporting to government. In comparison to the governance of CDEM, the legislation for SAR is permissive rather than specific.
30. The Civil Defence Emergency Management Act states the requirement for a national strategy, the national plan and reviewing and reporting as well as the authorities for those holding key positions in civil defence emergency management. While detailed SAR legislation is probably not required, the SAR Council should consider having the mandate for the current arrangements as agreed by Cabinet in 2003 affirmed by the Minister of Transport and Cabinet

including the role of the Ministry of Transport as the lead agency and host of the NZ SAR Secretariat, and the delegations to Maritime NZ for the RCCNZ and the establishment of the SAR Council, NZ SAR Secretariat and NZ SAR Consultative Committee. As a follow-on, it is the SAR Council that has established the Terms of Reference for itself and its subordinate governance arrangements and these too should be noted by the Minister and Cabinet.

31. Nevertheless the Council's annual report is passed to the Minister of Transport and the Chair's routine meetings with the Minister provide opportunities for SAR issues to be discussed. Reporting therefore is on an exception basis. But that process might not be enough to provide the assurance to Ministers that the SAR arrangements are appropriate, ready and capable.
32. In 2013 the revision of the ODESC system was agreed by Cabinet and saw the establishment of the ODESC Readiness and Response Board (RRB), which has the responsibility for ensuring government is ready to respond to major national emergencies, identifying capability gaps, monitoring performance of response and readiness systems maintained by agencies and considering readiness and response investment proposals. The role of the SAR Council pre-dates the establishment of the RRB and it currently operates independently of it although three members of the SAR Council are also members of the RRB. There is an opportunity now for SAR to be included in the scope of capabilities monitored by the RRB. This would provide a more formal reporting mechanism to government, achieve greater alignment with the ODESC processes for national security and resilience, increase the awareness in partner agencies of the capabilities and risks associated with SAR, and enhance co-operation between agencies, which is essential in a large scale response. It is recommended that the SAR Council report at least annually to the RRB on the status of SAR capabilities and risks, and that a SAR summary is included in the ODESC reporting to Cabinet.
33. The ODESC process for managing an all-of-government response to a crisis has evolved and improved during the last 10 years. The concept of "lead agency" is well accepted by government departments and agencies as is the value of co-ordination between departments to ensure resources are available for a large scale response. The role of ODESC in ensuring co-operation occurs across agencies and that government is well informed is a critical part in an all-of-government response to a crisis. In SAR there has not yet been a large scale emergency response in recent times that has required all-of-government co-ordination and the current understandings have not been tested. Yet there is the potential for a SAR response in the NZSRR that involving large numbers of people in distress, high numbers of casualties and in a remote part of the NZSRR, which would generate high political interest. Such a scenario would call for coordination of support at the strategic level across many agencies using the ODESC processes but the scenario has not been exercised fully and therefore presents some risk. As identified earlier, the NZ SAR Secretariat has drafted a strategic policy for mass rescue operations which should provide the base for developing inter-agency co-operation that would be required in that type of SAROP. The Council could mitigate some of the risk by having the mass rescue coordination procedures developed fully.

34. The NZ SAR Secretariat plays a critical role on behalf of the SAR Council in coordinating activities across the SAR sector's stakeholders and through the NZ SAR Consultative Committee, maintaining the relationship with its many diverse participants. This task is both critical to the effectiveness of the sector and is most demanding of the small Secretariat. The NZ SAR Secretariat has been effective in establishing the doctrinal guidance for SAR that informs training and provides for standardization of procedures. The stakeholders have been involved in those developments and the NZ SAR Secretariat has successfully gained their trust and participation.
35. The current composition of the SAR Council represents the government's interests well because it is comprised only of representatives of government agencies. But there remains some risk that the reliance on the participation by Non-Governmental Organizations (NGO) for the effectiveness of the SAR sector is not matched by representation on the SAR Council and they lack an ability to influence strategic decisions. The review was told the NGO participants and partners were heard by the Council from time to time but it was felt their value to the SAR system was not represented properly. If the SAR Council was to act as a board to provide the strategic direction for the SAR sector as a whole, then its membership should be widened to include non-governmental representation. Including one or two NGO representatives on the SAR Council would widen representation, provide additional perspectives in the Council's discussions, and it would enhance the Council's credibility with the sector and recognize the vital part the sector's NGOs play in the SAR arrangements. Wider representation would help to minimize the perception that the government's interest in SAR dominates others'. The challenge lies in developing a process that will provide greater representation from the NGOs. The additional representatives could be selected ex-officio from the organizations contributing to the SAR sector, or the Council Chair could invite one or two affiliated to SAR to become Council members. Alternatively, the representatives could be Ministerial appointments. Irrespective of the process, the over-riding criteria should be that members of the Council can contribute meaningfully to the Council's strategic policy and advisory function and to do that with a bi-partisan approach. The SAR Council should develop a process through which membership of the SAR Council is enhanced by adding representatives from supporting NGOs.
36. The SAR Strategic Plan includes the Council's goal of reduced demand for SAR services through collaboration and leading public-focused preventative strategies. This approach is aligned with other sectors involved in managing civil contingencies and the use of the four Rs approach of risk reduction, readiness, response and recovery as the basis for managing risk. Traditionally the SAR sector has been about response and conducting searches and rescuing those in distress. Readiness has tended to be related to the responsiveness of the SAR system to a call for assistance and little emphasis has been placed on how to reduce the demand for SAR services. Too much emphasis on response may overlook opportunities for complementary activities that promote awareness of the risks and the value of personal preparedness. To its credit the Council has been involved in developing the Adventuresmart website and its safety codes which inform the public of the value of being prepared and what should be considered. But to meet its own goal of reducing demand for SAR services the Council should use its leadership role to develop, promote and co-ordinate risk

awareness and personal readiness campaigns and messages. The approach should emphasize the implementation of a system of interventions that enhance awareness of risk and better prepare those for outdoor activities. Such a programme would need to be coordinated with other agencies, government and non-government, to ensure there are consistent messages. The “Safer Journeys” road safety campaign provides an excellent model on which a joint SAR programme could be based. “Safer Journeys” is a strategy designed to guide efforts to improve road safety and ultimately reduce road deaths and injuries. It features many partners and multiple action plans that cover the way road users behave on the roads, road design and engineering, vehicle safety, and messages to the public. The “Safer Journeys” strategy is shared and coordinated with a focus on the effect: a road system that is increasingly free of death and serious injury. The SAR situation is not too dissimilar from road safety. It is recommended the SAR Council co-ordinate the development of a joint preventative strategy that will place greater emphasis on preparedness and reduce the demand for SAR services in the future.

37. In conjunction with the public-focused preventative strategies it is considered there would be value in the Council adjusting its reporting of activities undertaken and its measures of success. The annual report currently and appropriately focuses on the sector’s achievements by highlighting the number of SAR incidents undertaken. The 2013/14 report indicates the sector responded to 2348 incidents comprising 1555 Category I and 793 Category II operations, which it reports resulted in 121 lives saved, 738 rescued and 905 assisted, but in smaller print notes that 106 lives were lost before SAR services could help. It is felt the number reported as being at risk (stated as 1870 in 2013/14) is grossly underestimated and therefore does not accurately represent the value for money that the SAR arrangements provide. However it is recognized that providing a better estimate of the number at risk in the New Zealand environment is a significant challenge. How many undertake activities that could put them in a situation requiring SAR services in each of the environments? Reporting the output of the sector (the number of incidents undertaken) is important, there should also be a way of showing the performance of the SAR system as a whole including the response outputs, the responsiveness of the system to a callout, the success of preventative measures and the cost-effectiveness of the system. It is recommended that the SAR Council reviews the system of performance measures used to report progress towards its strategic goals.

International Comparisons

38. In accordance with the Terms of Reference the review compared New Zealand’s SAR governance structure with the models used in Australia, Canada, the United Kingdom and the US using publicly available information. The structures used in the comparable jurisdictions all feature layers to provide for policy advice and co-ordination at the national level, a regional level (be that State, territory or a region) to manage response operations and readiness, and the extensive use of voluntary groups working under the control of a SAR authority. All the jurisdictions have international obligations that are similar to those of New Zealand. They all centralize the co-ordination of the response to marine and

aviation distress at the national level and have a mechanism at that level that co-ordinates activities and government support in the case of a national emergency. In all the jurisdictions the management of land and inland water emergencies tend to be devolved to a more local level. All the jurisdictions have the means to escalate the management of a SAROP if the scale exceeds the capacity of the initial co-coordinating authority. In all the nations reviewed, accountability for SAR lies with a designated department or authority although in the more complex governance environments (such as in the US) there are lead agencies appointed for each of the SAR environments. It is assumed that accountability is linked to the cabinet member responsible for the department designed as the lead agency.

39. The New Zealand structure is well aligned with those used by international partners as it is based on the Canadian model. It is assessed the closest structural alignment is with the arrangements in Canada and the UK although the closest working relationship is with Australia. The NZ SAR Secretariat attends meetings of the National Australian SAR Council as an observer. In addition to the structural arrangements many of the comparable jurisdictions rely heavily on volunteers and appear to share concerns about the challenges ahead. The UK seems to have the more developed preventative strategy and is said to have a database to help manage the effectiveness of the programme. The UK approach could assist New Zealand if a preventative strategy was implemented. Canada on the other hand uses a New Initiatives Fund worth \$CA8.00M per annum to fund research and the development of SAR capability. The operation of the fund might provide lessons for New Zealand. Both Canada and the UK have concerns about attracting and funding SAR volunteers, the competition for community funds, and concerns with liabilities, insurance and workplace safety requirements. In addition Canada identifies the impact of changing climate, increased commercial and tourist activities in remote areas, the availability of new technologies, urbanization resulting in reduced “on land” knowledge, managing false sense of security derived from availability of technologies, and aging populations. These themes and challenges are similar to those likely to be faced by New Zealand and there is an opportunity to share knowledge, experiences and approaches.

Future Trends and Challenges in SAR

40. The review was tasked with looking at trends and developments that might have an implication for SAR in New Zealand and the governance arrangements. The following three themes were identified:
- Demographic changes in New Zealand that could change the nature of SAROPS in the future;
 - Changing expectations of the capabilities of the SAR sector;
 - Introduction of technologies that could change the emphasis in SAR and the way SAROPS are conducted; and,
 - Changes that impact SAR volunteers.

Demographic Changes

41. Having access to the outdoors and wilderness areas and taking part in outdoor activities have long been a part of the New Zealand culture. Indeed, visitors to New Zealand are actively encouraged to take advantage of our natural environment and the range of adventures and activities available and international visitors have access to myriads of information extolling the attractiveness of activities on offer. But often the risks involved and the preparations that are prudent for our conditions are not explained adequately. Irrespective of the origin of those using the outdoors, technologies such as the internet, GPS and cellphones will unwittingly induce people to take on more risk. Time spent at the start of popular walking tracks such as the Tongariro Crossing illustrates the risks that are being taken. As visitor numbers increase there is the potential for more inexperienced people to get themselves into difficulties and require SAR support.
42. In addition to increased visitor numbers an increasingly urbanized New Zealand population with high numbers of new immigrants means fewer is likely to be familiar with the outdoors, its risks and how to manage those risks at a personal level. The demand for SAR services is therefore likely to increase in the future. In addition, an aging population will present new challenges for the SAR sector because it will have to respond to an increasing number of “wanderers”, those suffering from dementia and Alzheimer’s, who get lost, often in an urban setting, and need to be found and returned to safety. These operations are different from the traditional SAROPs conducted in the back country and Police as the co-coordinating authority for Category I SAROPs, will need to accommodate this changing demand and encourage the use of technologies that will aid the relocation of patients.
43. Taken together these demographic trends imply we can expect greater numbers to be putting themselves at risk in the future and therefore the demand for SAR is unlikely to diminish and certainly not in Category I SAROPs. On the other side of the coin, a stronger, co-coordinated preventative campaign could help reduce the risk and the demand.

Expectations

44. Many of the New Zealand public is not familiar with the international obligations that form the basis for SAR in New Zealand or of the arrangements in place to affect a SAROP. Nevertheless they have a high expectation that should someone get into distress in any environment, government authorities will quickly activate a mechanism that will assist them. As has been seen overseas recently with the search for flight MH370, large sections of the public have a poor understanding of the challenges involved in some SAROPs but hold an inherent belief that the response will be swift, accurate and cost effective despite the challenges and they will show impatience when their expectations are not met. In addition, the high speed at which information is now communicated and the high volume of information being conveyed does little to dampen expectations of the performance of SAR systems.
45. High and unrealistic public expectations present the SAR sector with a reputational risk. Managing the risk should involve an approach at two levels.

The SAR Council should inform Ministers of the challenges that could be encountered by SAR in the NZSRR, and in parallel it should implement a public communications strategy that would better inform the public of the SAR capabilities and the challenges likely to manage expectations.

Technological Advances

46. Emergency beacons and other tracking technologies play an increasing role in alerting authorities to someone in distress and in helping the co-coordinating authority locate and rescue them. In a SAROP tracking systems do not always provide a real time, accurate and specific location of those in distress and so may not enable a search to home to the exact location. But they are valuable in providing a reliable datum or start point from which a search can be mounted. The advanced electronic emergency beacons on the other hand can provide an alert to a distress as well as a highly accurate and specific location and identification, and a final homing signal to enable searchers to refine the search area to a point location. If the beacon is correctly registered with authorities (a legal requirement in New Zealand) then a wide range of additional information can be held in the database or obtained from the emergency contacts listed with the registration. This information contributes to saving time, money and lives during a SAROP.
47. There are three categories of emergency beacons currently in use in New Zealand, all transmitting on 406Mhz to the global SAR satellite constellation monitored by the RCCNZ. Some devices provide a GPS based location. The technologies fall into the following three categories:
- Personal Locator Beacons (PLB) intended for use by individuals and predominantly in the land environment. They are light, highly portable and quite affordable. They are also used in some very light aircraft and increasingly in recreational boating. PLBs are usually activated by the user.
 - Emergency Position Indicating Radio Beacons (EPIRB) used in the marine environment. EPIRBs are activated by the crew in distress. Some can be activated by immersion in water.
 - Emergency Locator Transmitters (ELT) are required by CAA to be fitted to aircraft with more than one seat, although with some exceptions which allow an ELT to be replaced by a PLB. An ELT can be activated manually or by crash forces.
48. In January 2015 a total of 51,646 beacons were registered with the RCCNZ comprising 29,086 PLB (56%), 18,621 EPIRB (36%) and 3,939 ELT (8%). The highest growth rate in registrations of beacons has occurred in PLBs and is associated primarily with their use in the land environment. However the increasing availability and use of PLBs has a potential downside of generating a false sense of security in the user: if trouble occurs a call can be made and assistance will be on the scene quickly, when in reality it takes some time to locate and dispatch that assistance. The high expectations of beacon users will need to be managed by the SAR sector.

49. RCCNZ data indicates significant growth in the number of beacon activations in the land SAR environment, modest growth in their activations in the maritime setting and a static or perhaps slight decline associated with aviation. In the year ending in January 2015 25% of the activations were attributed to aviation, 24% to land, 35 % to maritime and 16% were of an unknown source. The growth in activations in the land environment can be associated with the increased number of PLBs registered and in use. But in the month of January 2015 only 34% of the beacon activations were for real cases of distress with 30% of the activations being recorded as false or inadvertent. Of the alerts received by the RCCNZ, 30% were resolved to another SRR. It is known that ELTs used in aviation have a high number of false alarms (often attributed to maintenance and inadvertent activations) compared to the number of real alerts. PLBs are at the opposite end of the scale and show a very low false alarm rate and correspondingly high rate of alerts for real cases of distress. Frequently the performance of the ELT in an air crash suffers because the aerial is separated from the transmitter. The CAA has work underway to reduce the false alarm rate and improve the performance of an ELT in a crash.
50. The number of electronic beacons in use will continue to grow as the technology becomes more affordable. The challenge for the SAR sector will be in its ability to respond to beacon alerts quickly and to bear the increased costs associated with those responses. The SAR Council should consider how it can assist CAA in actions that reduce the number of ELT false alarms and increase the reliability of ELTs.
51. Responding to a beacon alert currently involves some searching as well as the rescue. Advances in technologies will provide for better tracking of aircraft and vessels, and through changes in the cellular telecommunications systems, potentially those on land. Better track information should provide a better datum for the search, a shorter search phase and a swifter rescue. Tracking individuals through telecommunications technologies in the future are likely to be limited until privacy concerns and coverage issues are resolved. But there are changes underway in tracking aircraft and marine vessels in the NZSSR.

Aircraft Tracking

52. In the New Zealand Flight Information Region not all aircraft flight tracks are monitored. Tracks of those aircraft operated under Instrument Flight Rules (IFR) and in controlled airspace are monitored by Airways but aircraft operating under Visual Flight Rules (VFR) and outside controlled airspace are not tracked for the purposes of air traffic control. Flight plans submitted to Airways for a VFR flight provide Airways with the intended route of the flight, the estimated arrival time or a nominated SARTIME. Airways will take overdue action when an aircraft on a VFR flight plan has not reported its arrival within 30 minutes of the time nominated on the flight plan or 30 minutes after the nominated SARTIME. That alert is the beginning of a SAROP. An aircraft can be operated outside controlled airspace without any notification to Airways and therefore in the event of an emergency or becoming overdue, there could be some delay in activating SAR services.

53. Increasingly, public perceptions are that all aircraft (and particularly commercial aircraft) are tracked continuously in the NZSRR and there is a belief that authorities know where an aircraft is, often fueled by the publicly available flight tracking services (such as www.flightradar24.com) which partly uses information from air traffic control data, and gives the impression of a perfect 24/7 monitoring of flights. Hence the public impatience with the authorities trying to locate Malaysian Airlines flight MH370. The public assume an authority knows where all the flights are!
54. New technologies will change the way flights are monitored and controlled. In New Zealand CAA has embarked on an implementation programme, New Southern Sky (NSS), to redesign the aviation infrastructure, which will introduce changes to the way airspace is managed taking advantage of new technologies. NSS will be delivered in three stages over the period 2014-2023.
55. The NSS changes are intended to provide for greater navigational accuracy and therefore greater economy and efficiency in the system. But the changes will also have implications for SAR primarily through changes to the way airspace is monitored. By 2021 surveillance of domestic airspace will move from the current use of secondary surveillance radar and aircraft transponders to mandatory use of ADS-B technology for flights above 24,500 feet and in controlled airspace. ADS-B is an Automatic Dependent Surveillance - Broadcast system in which an aircraft's position is determined from GPS satellites and it is then automatically broadcast to other aircraft and air traffic control through a ground based element to give air traffic control a "radar-like" depiction of aircraft positions. Information from aircraft equipped for ADS-B could provide SAR services with data that can help inform search and rescue efforts. However the geographic coverage of the system is likely to be broadly similar to that provided by today's secondary radar based system, which means there could still be some gaps.
56. In the meantime and as a consequence of the loss of flight MH370 in 2014, ICAO in February 2015 recommended states adopt a 15-minute tracking standard for airlines as a step towards the implementation of the Global Aeronautical Distress and Safety System (GADSS) that when fully developed, would provide regular broadcast of position updates to aircraft operators, but also include a tamper-proof distress reporting capability that will transmit identification and position to a global network of rescue co-ordination centres when certain triggering conditions are encountered. The data made available from the aircraft would facilitate SAR activities and the retrieval of cockpit voice recorders and flight data recorders. In the meantime existing technologies such as ACARS (Aircraft Communications and Reporting Systems which are fitted to most large commercial aircraft) and ADS-B, where in use, could provide an interim means of tracking aircraft while aircraft and equipment manufacturers explore the potential to develop a full GADSS capability. These developments are likely to apply only to large commercial aircraft.
57. The operational implication of these developments is that in the future, large commercial aircraft will be tracked continuously and potentially irrespective of their location, by using satellite communications. The data provided could quickly alert SAR authorities of distress and will provide a highly accurate datum

on which a SAROP could be based. The development is unlikely to eliminate the search component completely but it should help hasten the rescue.

58. New Zealand registered aircraft are required to be fitted with ELTs, or in light single seat aircraft, the pilot is required to carry a PLB. The beacons are required to use 406 Mhz, the international SARSAT monitored frequency, and to be registered with the RCCNZ. Registration enables the RCCNZ to identify the beacon signaling distress and to use an associated contact database to ascertain real distress or inadvertent activation. ELTs are likely to remain the CAA's primary technology for locating aircraft in an emergency, but hopefully with better reliability.
59. In addition to the use of ELTs in aviation, there is a number of other flight tracking applications available to operators of aircraft in New Zealand not tracked and controlled by Airways. They include Spidertracks, TracPlus and other commercial cellphone based applications. These systems enable the aircraft's operator and the system provider to monitor tracks and can give them the aircraft's last known position. It can be used to calculate speed and direction and importantly incorporates an alerting function that is monitored by the provider and conveyed to the operator. But the alerts fed to these applications are not continuously monitored by the RCCNZ and these systems have other limitations including reliance on internal batteries, and limited coverage. In the current state of development, these devices are not seen as a replacement for the existing requirement for aircraft to be equipped with an ELT although they can provide a search datum.
60. Future SAROPs related to aviation will still require a search phase and the maintenance of a search capability. But the trend in operations will be to move quickly to the datum established by a flight tracking system and from there to affect the rescue and recovery. But it is important to note that in the domestic Flight Information Region aircraft operating in uncontrolled airspace will not be tracked by Airways and any SAROP for an aircraft in that category will continue to rely on an authority receiving a report of distress or of an aircraft being overdue, or by having the ELT activated and transmitting an identification and position to the RCCNZ.

Maritime Tracking

61. Maritime New Zealand through the Maritime Operations Centre (MOC) at Avalon contributes to meeting New Zealand's obligations to international conventions around distress and safety at sea communications. The MOC delivers messages related to maritime weather and maritime hazards to vessels in its area of responsibility and monitors radio traffic for distress calls and provides maritime communications facilities for use by the RCCNZ during maritime SAR activities.
62. A number of systems are used to monitor marine traffic in the NZSSR, primarily to know the position of vessels that could assist in a SAROP:
 - The Long Range Identification and Tracking (LRIT) system is an IMO initiative that provides authorities with the position, course speed and identification of

commercial vessel's over 500t on international voyages. The system uses satellite communications to provide location data to datacenters four times each day. Coastal states have the right to access the system in relation to vessels planning to call at their ports and SAR authorities can use the system at any time and in any ocean area to support SAROPs at no cost.

- The Automatic Identification System (AIS) is a global system mandated by IMO for all commercial vessels over 300t or with at least 12 fare paying passengers. The system is also used by many other vessels on a voluntary basis. It provides vessel identification, position, course and speed transmitted to shore stations directly or through satellite, and to other vessels nearby equipped with AIS to help prevent collisions. Some recreational users install AIS to help prevent collisions with larger vessels. In New Zealand AIS data is monitored by government agencies to track vessels. RCCNZ has full access to both real-time and historical data held by the system.
- Vessel Monitoring System (VMS) is used by Fisheries to monitor fishing vessels licensed to operate in the EEZ. Under a formal information exchange protocol the positional data available from VMS may be provided to the RCCNZ if required for SAR purposes.

63. Maritime NZ and the Coastguard encourage recreational boaters to notify them of their intentions which provide a rudimentary track plan but the current vessel tracking systems used for the large commercial vessels are not optimized for the recreational users. Recreational users can acquire EPIRBs which through the SARTSAT system will provide the RCCNZ with an alert, identity and position of the vessel. But EPIRBs are not usually found on the smaller inshore recreational vessels although as in aviation, there are a growing number of tracking systems available that make use of advances in GPS and cellphone and satellite technologies. These include Tracplus and Spidertracks which not only provide positional information but also incorporate an alerting function that is monitored by the provider companies in various ways but the alerts are not connected directly to the RCCNZ or a SAR coordinating authority. RCCNZ has formal information exchange protocols in place with the key service providers so that any alert received that cannot be quickly resolved by the provider and operator is escalated to the RCCNZ for the initiation of an appropriate SAR response. RCCNZ also has the ability to see the real-time position information and the historical track data from these system to help determine the location of the alerting party and to assist monitoring the positions and activities of system users supporting a SAROP.

Implications of Technology Developments

64. New technologies will shift the emphasis in SAR from searching for those in distress towards rescue, although the need for a search capability in all three environments will never be dispensed with. Continuing technological developments are likely to enhance the ability of authorities to monitor the position of aircraft and vessels but they are unlikely to be the panacea. Better tracking will provide a more accurate datum from which any search can start but full coverage of New Zealand is unlikely in the shorter term because that would require some form of regulation and compliance. In the land environment uptake in the use of PLBs has been rapid as these systems become more affordable.

Using its leadership role, and in collaboration with CAA and Maritime NZ, the SAR Council should promote research and development of technologies that provide for enhanced tracking and alerting, and the use of systems with higher reliability and lower failure rates. But at the same time it will be important to manage user expectations and minimize the false sense of security that users could derive from having devices available. At the operational level the Council should continue to promote the integrated approach to SAR and consider how it might assist the traditional SAR partners to understand how technologies might adjust SAROPs and therefore their roles and the emphasis moves from search towards assisting the SAR system to execute a swift rescue.

Changes Impacting SAR Volunteers

65. The delivery of effective SAR services in New Zealand relies heavily on volunteers and their parent organizations and particularly in undertaking Category I SAROPs. The volunteers are committed and willingly give their time to training and actual SAR operations. The coordinating authority currently reimburses direct costs incurred by volunteers as part of a SAROP but lost salaries and wages are not reimbursed and the willingness of SAR volunteers can never be taken for granted.
66. Attracting and retaining SAR volunteers is already a challenge as lives get busier and other activities compete for spare time. Inadequate training does not help recruiting or retention and the SAR Council has an interest in ensuring the volunteers have the training and education that ensures competency and effectiveness. Without appropriate training the effectiveness of SAR volunteers is eroded and the risk to co-coordinating authorities increases. The NZ SAR Secretariat has worked diligently to coordinate funding, which contributes to the development of training and the delivery of courses. The SAR Council will need to continue to monitor SAR training and encourage collaboration to provide for procedural standardization across the country.
67. Recent changes in workplace safety legislation have the potential to deter volunteers from taking on leadership responsibilities in SAR. This aspect is common to other areas of volunteering in New Zealand. The SAR Council could collaborate with other organizations such as the Fire Service, MCDEM and the ambulance services to work with Worksafe New Zealand to develop guidelines to show where responsibilities for workplace safety in the SAR sector related to volunteers lie, and how liabilities are to be managed. Such a guide adopted by the SAR Council should serve to allay fears and encourage volunteers to commit to SAR.
68. In some areas of the SAR support provided by volunteers the equipment that is critical to effective SAR is expensive to acquire, maintain and insure. Increasingly SAR supporters will find they are in competition for funding with other voluntary community based organizations. As funding pressures mount there will be a point in the future when it will be necessary to decide if the SAR capability (and primarily in Category I operations) is to continue to be a community based responsibility or if it is to have financial support from either local government and/or central government. Funding pressure will also be felt

by the sector and participating NGOs in updating capabilities and to research developments. The Canadian New Initiatives Fund model which applies central government money to SAR initiatives on a competitive basis might offer an option for New Zealand. The SAR Council will need to monitor the ability of its NGO partners to maintain funding levels for SAR.

Implications of Trends on Governance

69. The trends in demography, expectations, technologies and volunteers identified do not imply that the governance arrangements for SAR need to be changed. But it will be important for the SAR Council to ensure that it keeps abreast of trends and developments in these areas and is well informed of adjustments that might be necessary. Gathering information and conducting research seem to be the key enablers to keeping the Council and the sector well informed of developments. Part of that process could use existing international relationships to access partners' experiences and research and the Council could also consider commissioning research itself on aspects that are specific to the New Zealand setting. Research conducted should be linked back to the goals in the Strategic Plan and in particular to any preventative strategy that is developed. However funding SAR research will be a challenge and the Canadian New Initiatives model could be the basis for a funding model in which government might support SAR research perhaps using existing research funds. It is recommended the SAR Council investigates opportunities to research developments to ensure the SAR sector keeps ahead of changes in demography, expectations, technologies and volunteering associated with SAR that could impact SAR capabilities and responsiveness in the future. .

Conclusion

70. SAR is an important capability that is expected of New Zealand under international obligations, and it is a valued public service that is expected by the public, visitors and the Government. New Zealand's approach to providing SAR services has evolved as the demand for SAR services and the equipment used has evolved. The current operational arrangements for SAR are effective and the use of two co-coordinating authorities, Police for Category I and the RCCNZ for Category II, is a pragmatic arrangement that provides effective control and co-ordination. Government departments and agencies support both categories of SAROPs fully and willingly when required, and a range of community based organizations and their volunteers support many local SAR efforts. The current arrangements provide a highly cost effective capability that meets the international obligations and the obligation to the public, but they carry some risks and are likely to face challenges in the future.

71. The governance arrangements for SAR have been in place since 2003 and the SAR Council, NZ SAR Secretariat and NZ SAR Consultative Committee are assessed as appropriate and effective mechanisms for coordinating the sector's participants and providing governance at the strategic level. The review compared the arrangements with some international partners and the New Zealand operational and governance arrangements are well aligned with those

- used by Australia, Canada and the UK, while taking into account jurisdictional differences. While the arrangements are effective there are some aspects of the approach that could be improved. Some of the risks identified by the SAR Strategic Plan have not yet been mitigated fully and with the recent publicity around the challenges in locating the missing Malaysian Airlines flight MH370, the principle risks for the Council to manage are the appreciation of the capabilities and limitations of SAR in the NZSRR, and the readiness to manage a mass rescue operation. In addition the governance arrangements could be strengthened further by having the arrangements and the mandates affirmed by the Government and the introduction of a more formal process to provide the Minister and Cabinet with assurance of SAR capabilities and readiness. The ODESC RRB process offers a suitable path to improve reporting and would also align SAR with the way other critical all-of-government response capabilities are managed.
72. The SAR Council's leadership and influence in the SAR sector is critical to the integration and effectiveness of a diverse group of supporters, many of them voluntary organizations. Governance by the Council has been effective but its influence and leadership could be enhanced further by inviting one or two non-governmental representatives to become members of the Council on the basis that their personal commitment and attributes to SAR mean that they can contribute meaningfully to the strategic policy and advisory function of the Council.
73. The SAR Council and NZ SAR Secretariat have set the strategic goals for the SAR sector through its planning process and the Secretariat has led an analysis of the risks to the system. It has successfully generated an integrated SAR system with effective procedures, training and staffing. There is scope to make progress towards the goal of reducing demand for SAR services by the Council leading the collaboration with other agencies to develop and promote a preventative strategy. The strategy should aim to enhance awareness of the risks and emphasize the value of preparation.
74. The SAR sector can expect to face a number of challenges in the future arising from changes in demographics, stakeholders' expectations, evolving technologies and its reliance on volunteers. These trends do not imply a need for changes to the SAR governance arrangements but the SAR Council will need to maintain its vigilance of SAR capability and responsiveness in the face of developments. As tracking and alerting technologies develop it is likely the rescue capability will dominate the search component although the requirement to maintain search capabilities will remain. The SAR Council will need to keep ahead of developments by collaborating with international partners and researching developments that could impact capabilities and responsiveness.
75. Those involved in the SAR sector understand what a cost effective service it provides. It will be a challenge to maintain that service and reputation into the future as the sector manages challenges in funding, volunteer staffing, technologies and expectations. It will be important for the SAR Council to explain to the government the performance of the sector, the value it provides New Zealand communities and the return the government gets on its investment and

to ensure the SAR capability New Zealand has been used to, continues to be available in the future.

Recommendations

76. It is recommended that:

- The SAR Council manages expectations by providing key stakeholders with an explanation of the SAR capabilities and the limitations that apply at the extremities of the NZSRR.
- The SAR Council completes the development and trials the coordination procedures for conducting a mass rescue operation in the NZSRR.
- The SAR Council considers having the arrangements and mandates for SAR affirmed by the Minister.
- The SAR Council strengthen its reporting of capability, readiness and risk to Ministers by using the ODESC RRB reporting process and thus align SAR reporting with other all-of-government emergency preparedness and assurance reporting.
- The SAR Council develops a process through which membership of the SAR Council is enhanced by adding representatives from supporting NGOs.
- The SAR Council co-ordinate the development of a joint preventative strategy that will place greater emphasis on preparedness and reduce the demand for SAR services in the future.
- The SAR Council review the performance measures used to report progress towards the strategic goals.
- The SAR Council investigates opportunities to research developments to ensure the SAR sector keeps ahead of changes in demography, expectations, technologies and volunteering associated with SAR that could impact SAR capabilities and responsiveness in the future.

John Hamilton
Wellington
11 May 2015

Annex

A. Organizations Consulted

ORGANIZATIONS CONSULTED

The following organizations and personnel were consulted during the review of the SAR Governance Arrangements:

Ministry of Transport

Martin Matthews CE
Duncan Ferner
SAR Secretariat

Maritime New Zealand

Keith Manch CE
Nigel Clifford
Mike Hill
Rod Bracefield

Civil Aviation Authority

Graeme Harris CE
Steve Smyth

New Zealand Defence Force

Lt Gen Tim Keating CDF
Air Cdre Tony Davies

New Zealand Police

Assistant Commissioner Mike Rusbatch
Superintendent Barry Taylor

Department of the Prime Minister and Cabinet

Howard Broad
Pat Helm

Department of Conservation

Mike Edington

Ministry of Civil Defence & Emergency Management

Sarah Stuart-Black Director

New Zealand Fire Service and Rural Fire

Paul McGill
Kevin O'Connor

Coastguard

Patrick Holmes
Dean Lawrence

Ambulance New Zealand

David Waters

Surf Life Saving New Zealand

Paul Dalton

LandSAR

Harry Maher

Mr Gerry Prins



New Zealand Search and Rescue Secretariat

To: NZSAR Council	MEMORANDUM
From: Duncan Ferner	
Date: 28 May 2015	

SECRETARIAT COMMENT - NZSAR GOVERNANCE REVIEW

1. **Recommendation:** *The SAR Council manages expectations by providing key stakeholders with an explanation of the SAR capabilities and the limitations that apply at the extremities of the NZSRR.*

❖ **Comment:** It is likely that key stakeholders will be largely unaware of our limitations (or capabilities) as no particular effort has recently been made to bring it to their attention. An abnormal flight behaviours walkthrough exercise is planned for 23 July 2015. Possible additional actions:

- Prepare a briefing note for the RRB.
- Include relevant comment in briefs to Ministers.
- Engage with the Ministry of Defence as they develop the Defence white paper.
- Place this facet onto the NZSAR risk matrix.

2. **Recommendation:** *The SAR Council completes the development and trials the coordination procedures for conducting a mass rescue operation in the NZSRR.*

❖ **Comment:** Mass rescue is an identified NZSAR Council risk. An MRO policy (working draft) and national level MRO plans have been developed. Police District plans are currently under development. The Rauora series of desktop exercises (intended to test and synchronise Police District MRO planning) is underway. The Secretariat and RCCNZ are engaging with international partners around MRO planning and actions. Possible additional actions:

- Prepare a paper for the RRB regarding a full scale MRO SAREX as part of the national exercise plan (pencilled in for April 2019).
- Seek resources for a full scale four yearly mass rescue exercise.

- Conduct a study to determine if any additional resources, skills or equipment should be considered to de-risk NZ should a mass rescue event occur within the NZSRR.
 - RCCNZ continues work with other jurisdictions within the NZSRR to improve their capacity to undertake or assist with a MRO.
3. **Recommendation:** *The SAR Council considers having the arrangements and mandates for SAR affirmed by the Minister.*
- ❖ **Comment:** This could be useful as the Cabinet minute establishing the NZSAR Council is now over ten years old. It may also assist in promoting participation in the NZSAR Council by member organisations.
4. **Recommendation:** *The SAR Council strengthen its reporting of capability, readiness and risk to Ministers by using the ODESC RRB reporting process and thus align SAR reporting with other all-of-government emergency preparedness and assurance reporting.*
- ❖ **Comment:** The Secretariat has established working relationships with relevant DPM&C staff and is a member of the Incident Management Reference Group. We also attend the national exercise planning and writing group on occasion. Formal reporting of SAR capabilities, readiness and risks to the ODESC RRB would serve to better inform the RRB of SAR matters, support the NZSAR Council Chair (a member of the RRB in his capacity as Chair of the MSOC) and raise the profile of SAR within a key government forum. The NZSAR Council is not currently shown as one of the ODESC/RRB clusters. Formal endorsement of the NZSAR Council would seem sensible. This could be proposed to the RRB in the first instance.
5. **Recommendation:** *The SAR Council develops a process through which membership of the SAR Council is enhanced by adding representatives from supporting NGOs.*
- ❖ **Comment:** Effective engagement between the Council and the major SAR NGOs has proved challenging over the years so this recommendation will be welcomed by the SAR NGOs. As a core funder of four major SAR NGOs, the Council will need to consider carefully how this recommendation might be implemented to manage conflicts of interest or the perceptions of bias that might arise if any of the four SAR NGOs are not on the Council. This will need to be considered in any advice to Ministers/Cabinet for decisions as per recommendation 3 above.

6. **Recommendation:** *The SAR Council co-ordinate the development of a joint preventative strategy that will place greater emphasis on preparedness and reduce the demand for SAR services in the future.*

❖ **Comment:** Most agencies involved with preventative work have a narrow, self adopted focus which is often not well aligned with how people engage in outdoor activities. An evidence based and measured NZ Inc preventative strategy would support decision making and improved prioritisation of funding. In time, this should lead to a reduction of SAR incidents and outdoor fatalities and injuries. It may also further enhance NZ's international reputation as a safe place to visit and recreate. The role of leading such a development is likely to require reprioritisation of effort by the Secretariat and the use of resources available to the Council.

7. **Recommendation:** *The SAR Council review the performance measures used to report progress towards the strategic goals.*

❖ **Comment:** SAR jurisdictions worldwide have struggled to develop effective and useful operational performance measures as the performance of the SAR mission is significantly influenced by external factors. However, systems level SAR performance measures should be viable and would be most useful for both the Council and other key stakeholders. A possible next step would be to look at measures used by other SAR jurisdictions and similar industries as a basis for determining what might be useful for incorporating into an NZSAR measurement framework. This research exercise would need to be resourced in some way.

8. **Recommendation:** *The SAR Council investigates opportunities to research developments to ensure the SAR sector keeps ahead of changes in demography, expectations, technologies and volunteering associated with SAR that could impact SAR capabilities and responsiveness in the future.*

❖ **Comment:** The Secretariat attempts to stay abreast of technological developments relevant to SAR but we are significantly challenged due to the span and speed of technological capacity and change. Due to paucity of resources, the Secretariat currently invests very little into technological research or innovation. In contrast, a major function of the Canadian SAR Secretariat is to administer their contestable (and generously resourced) new initiative fund. This could be picked up in the next Section 9(1) funding review or consideration could be given to the reprioritisation of currently available resources.

General Comment: The response to the recommendations will have implications on the operation of the NZSAR Secretariat. Assuming the Council will adopt most or all of the recommendations to some degree, the Council may wish to consider the prioritisation of the Secretariat's workload and/or review its available resources.

Duncan Ferner
Manager
NZSAR Secretariat

21 May 2015

NZSAR RISK MATRIX

Risk #	Risk Description	Reasons or Causes	Consequences	Likelihood	Consequences	Risk Level (reviewed)	Risk Treatment(s)	Post Treatment	Comments/Examples
2015/01	SAR Information Search and rescue information is inadequate or unreliable for future planning.	SAR data collection is fragmented, lacks cohesion and is typically collected to meet the requirements of individual organisations. Properly analysed longitudinal information is difficult for decision makers to access. Data gaps and omissions render sound analysis difficult. In some instances, excessive detail is being collected. Insufficient focus is placed on the analysis of existing data. Drivers of SAR demand such as activity participation is not well understood.	Without reliable information, NZSAR will be unable to identify strategic changes and opportunities for the SAR community. Effective decision making is compromised by the lack of reliable, analysed data. Information can also be hard to access as it can reside within silos.	Certain	Moderate	(May 14)	Risk treatment 2015/01/A: SAR Data Standard In consultation with operational SAR agencies, develop and document an agreed SAR data standard for collection, collation and analysis.		Changing patterns in, for example, society, demographics, tourism, recreational activities, participation rates and technology is likely to impact on SAR needs and resources.
						(May 14)	Risk treatment 2015/01/B: Data exchange and storage Establish and maintain a single repository for all SAR data.		
						(May 14)	Risk treatment 2015/01/C: Data analysis Analyse SAR data to identify trends and patterns in SAR events. Such analyses should be used in conjunction with other data to show broader trends and patterns. The resultant products will be made available to decision makers and stakeholders.		
						(May 14)	Risk treatment 2015/01/D: SAR Operational Analysis Conduct an operational analysis of SAR need mapped to SAR resources. Assist SAR providing agencies to reshape their organisations to match proven SAR need.		
2015/02	SAR funding The sector experiences funding sufficiency and volatility risks.	Sufficiency. Funding for the wider SAR sector has a variety of sources. Funders may choose to lessen or withdraw their funding support. Volatility. The funding levels for SAR agencies can be volatile due to profit variances with key gaming or lotteries trusts & boards. Grants policies also frequently change which can affect eligibility. Public appeals & donations are susceptible to change.	Inadequate funding for part or some of the sector may limit investment in training or equipment and lead to inadequate operational responses. Volatile funding inhibits long term planning and investment. It also degrades sector effectiveness and efficiency.	Possible	Moderate	(March 15)	Risk treatment 2015/02/A: SAR Funding Maintain an overall SAR funding picture. Work with other key SAR funders to sustain adequate supply. Maintain adequate PLA funding to meet Council goals.		
				Possible	Moderate	(March 15)	Risk treatment 2015/02/B: Funded SAR SLAs Continue to support key SAR providing agencies with appropriately funded three year Service Level Agreements.		

21 May 2015

Risk #	Risk Description	Reasons or Causes	Consequences	Probability	Impact	Risk Level (reviewed)	Risk Treatment(s)	Post Treatment (Planned for)	Comments/Examples
2015/03	Cohesive SAR Training The SAR sectors training lacks cohesion and a sector focussed integrated training framework.	SAR training has evolved, developed and is often delivered within organisational silos. The perspectives of individual organisations have frequently taken precedence over the needs and goals of the wider sector.	Training variances can impact on sector collaboration and degrade inter agency and internal cohesion. Training divergence can lead to incompatible incident management systems, different understanding of language and incompatible expectations, SAR processes and priorities. These factors can contribute to deficient SAR services, inefficiencies and potentially avoidable loss of life.	High	Moderate	(May 14)	Risk treatment 2015/03/A: Redevelop NZSAR Core Training Curriculum Redevelop the 2009 NZSAR Core Training Curriculum and update its content. Include process and procedures around SAR Adult and Community Education options.		Development of the NZSAR Training Framework commenced in 2013.
						(May 14)	Risk treatment 2015/03/B: Collaborative SAR training and exercising Continue cooperative and collaborative training, exercising and relationship building. See treatment option 2014/04/A for a treatment option based on cross-agency training.		NZSAR supports the conduct of Police District SAREXs
2015/04	Risks exist around volunteer recruitment, retention and training.	Changing demographics and attitudes, increasing work demands impact on volunteer recruitment, availability and longevity with the SAR sector.	<p>The SAR sector is highly reliant on volunteers for the safe delivery of effective SAR services.</p> <ul style="list-style-type: none"> Insufficient numbers of volunteers in the right locations is likely to impact on the safe delivery of effective SAR services. Volunteer turbulence increases the training burden and inhibits the formation of SAR leaders. Excessive training demands, poor or infrequent exercises and/or onerous administrative requirements deter people from volunteering and discourage existing volunteers from remaining. Infrequent utilisation for SAROPs can be dispiriting and discourage long term engagement. 	Unlikely	Moderate	(May 14)	Risk treatment 2015/04/A: Maintain good information on SAR volunteers <ul style="list-style-type: none"> Maintain good information about SAR volunteers and their expectations. Assist SAR organisations with information around recruitment and retention of volunteers to help ensure a sufficient number in areas and types of need. Ensure administrative requirements are not excessive. 		NZSAR supports the conduct of Police District SAREXs
		Growing public and legal expectations of SAR performance and competence impacts upon the training and commitment levels of SAR volunteers.				(May 14)	Risk treatment 2014/05/B: Support SAR training alignment to the NZ Qualifications Framework (NZQF) When and where agreed by SAR agencies, NZSAR will actively Support and assist aligning SAR training to the NZQF.		
		Trained SAR Volunteers can be difficult to retain and motivate in areas where little SAR activity occurs.				(May 14)	Risk treatment 2015/04/C: Quality SAR Exercises The conduct of good quality, appropriately focussed and well evaluated SAR exercises is important as they enhance readiness, reinforce training and build cohesiveness and morale within the SAR sector.		

Risk #	Risk Description	Reasons or Causes	Consequences	Probability	Impact	Risk Level (Reviewed)	Risk Treatment(s)	Post Treatment (Planned for)	Comments/Examples
2015/05	Recreational Knowledge Inadequate public understanding of personal risks taken during recreational activities.	A significant number of the public demonstrate a lack of understanding or underestimation of the risks involved with the recreational activity they are undertaking. Due to: <ul style="list-style-type: none"> Decrease in public knowledge about recreational safety. Increase in the range of recreational activities. Little investment in proactive safety message promotion – particularly land, snow and avalanche safety information. Lack of understanding by inbound tourists about New Zealand’s conditions and weather. Poor coordination and cohesion between the plethora of competing agencies which provide safety advice. 	<ul style="list-style-type: none"> Individuals fail to take adequate precautions and/or responsibility for their own safety. Unacceptable levels of harm to New Zealand residents and foreign tourists. Harm to the reputation of New Zealand as a tourist destination. Unrealistic public expectations of the SAR sector. 	Likely	Moderate	(May 14)	Risk treatment 2015/05/A: Ensure the public has access to good quality, consistent safety advice. Maintain the NZSAR Adventure Smart website (http://adventuresmart.org.nz/) and support the promulgation of consistent sector messaging.	Green	Example - Safety Code material. Example: Safety Partnership.
						(May 14)	Treatment option 2015/05/B: Recreational safety - provision of consistent information to the media. Support the relevant agencies to provide timely information to the media on personal responsibilities and better preparation when undertaking outdoor recreational activities.	Yellow	
						(May 14)	Treatment option 2015/05/C: Support domestic safety organisations. Support the SAR prevention efforts of domestic safety information providing agencies. Encourage and harmonise collaborative action.	Green	
2015/06	Mass Rescue Event Catastrophic mass rescue event overwhelms SAR capabilities.	New Zealand’s SAR sector has very limited capacity to respond to large scale SAR events. New Zealand has a very large SAR region with little or no SAR assets in much of the region. Significant numbers of vessels and aircraft with large amounts of passengers transit the NZSRR.	<ul style="list-style-type: none"> Significant numbers of people injured or killed that could have been rescued. Severe reputational damage to SAR agencies. Severe reputational harm to New Zealand as a tourist destination. 	Rare	Severe	(May 15)	Treatment option 2015/06/A: Develop mass rescue policy and plans. In conjunction with partner agencies, develop appropriate mass rescue policies and plans.	Yellow	This risk is seen as high consequence but low likelihood. It is mainly controlled by the professionalism of ships officers and pilots together with advanced technology to help navigate such ships.
						(May 15)	Treatment option 2015/06/B: Conduct regular mass rescue exercises. In conjunction with partner agencies, exercise the mass rescue plans in all Police districts to validate and refine them.	Yellow	

Risk #	Risk Description	Reasons or Causes	Consequences	Probability	Impact	Risk Level (Reviewed)	Risk Treatment(s)	Post Treatment (planned for)	Comments/Examples
2015/07	MEOSAR Delay Delay in development of the new MEOSAR ground station	A substantial delay in the development of the new ground station for receipt of satellite data from emergency locator beacons is likely to result in an inability to receive distress signals from the new medium-altitude satellites. Due to: <ul style="list-style-type: none"> Lack of or insufficient funding; Poor project management; and, Technical faults. 	Consequences include: <ul style="list-style-type: none"> Failure to meet international aviation and maritime agreements Damage to the international reputation of New Zealand. 	Rare	Major	(May 14)	Treatment option 2015/07/A: Build and commission a ground station suitable for the MEOSAR satellites Joint planning with Australia is ongoing. Capital finance has been approved and operational finance approved in principle. Tenders have been requested. The project is tracking well.	(Underway)	Existing low-altitude and high-altitude satellites are being replaced by medium-altitude satellites. In 2016-2017 the existing ground station will no longer be reliable and the aviation and maritime SAR capabilities will reduce.
2015/08	Health and Safety Incident or audit exposes SAR sector health and safety deficiencies.	NZ's H&S regulatory environment is changing. The SAR sector needs to adapt to the new requirements and implement the required changes for the SAR context.	SAR organisations fail to implement appropriate / necessary H&S processes and procedures and in the event of an audit or plans to mitigate severely negative H&S incident are: <ul style="list-style-type: none"> Exposed to risk of prosecution. Suffer reputational damage. Experience an outflow of personnel due to perceived risk. 	Unlikely	Major	(May 15)	Treatment Option 2015/08/A: Implement sound H&S processes and procedures NZSAR Council H&S processes and procedures for the SAR sector have been approved and are being implemented. The four SLA documents include H&S provisions from Jul 2014. SAR sector H&S monitoring and reporting has commenced.	(13/14 and 14/15 NSSP)	
		SAROPs and SAREXs often expose SAR people to an array of hazardous environments and situations. The sector is likely to experience a significant H&S related incident at some point.	<ul style="list-style-type: none"> Experience an outflow of personnel due to excessive H&S process requirements. Likely to expect significant external pressure / investigation / regulation / over watch following the trigger event. 	Rare	Severe	(May 15)	Treatment Option 2015/08/B: H&S incident contingency planning SAR providing agencies and coordinating authorities are encouraged to develop contingency plans for use in the event of a SAR related severe H&S incident. Plans may include media, internal personnel and SAR partner engagement as well as grief & trauma counselling etc.	(14/15 NSSP)	



New Zealand Search and Rescue Strategic Occupational Health and Safety Committee Meeting

Tuesday 21 April 2015
10:30 am – 12:00 pm
Ministry of Transport
Level 6, 89 The Terrace
Wellington

DRAFT MINUTES

Attendees:

Helen Parkes – Health and Safety Consultant CosmanParkes
Paul Dalton – CEO, SLSNZ
Lloyd Matheson – Aviation NZ
Alan Lloyd – Australian Maritime Safety Authority
Carl van der Meulen - NZSAR
Patrick Holmes – Coastguard NZ
Mike Ambrose – LandSAR NZ
Geoff Logan – NZ Police
Duncan Ferner – NZSAR
Mike Hill – RCCNZ

1. Welcome and introduction

Duncan opened the meeting and welcomed attendees. Previous minutes are affirmed. To be signed by Duncan Ferner.

2. Apologies

Joe Green - Police
Harry Maher - LandSAR
Samantha Sharif – Aviation NZ
David Waters - Ambulance NZ (w/out replacement)

3. Previous minutes (meeting of 21 August 2014)

- Key issues will be discussed at the Helicopter workshop in Mid May 2015. Helen and NASO will attend. RCNZ has sought a legal opinion regarding H&S from an RCC outward point of view. Concerns have flagged with helicopter operations, but more broadly with whole system. Once permitted to do so, Mike Hill will brief on outcome of review.

- The meeting discussed changes to the proposed H&S legislation. It is believed that it will be modelled on Australian legislation with few changes being made by the select committee. Now most likely to be before Parliament for its third reading in March 2016.

4. The SAR sector's health and safety performance (past 6 months).

a. Report by Mike Ambrose - LandSAR

- LSAR Safety Management System (SMS) up and operative prior to Christmas 2014. Early months of this year have been process of introducing system. Good feedback but tweaking is required. Hammering home message about reporting accidents and near-misses. An audit system developed to go with SMS.
- Discussion about the cultural acceptance of SMS into organisations. Accepted that it will take time.
- Discussion between Geoff Logan (NZ Police) and Mike about whether the risk analysis component of LandSAR training / exercises is realistic enough.

b. Report by Patrick Holmes – Coastguard NZ

- Precis of the work that has been going on over the last six months, including the roll-out of MOSS. Briefed on the progress of implementing Health and Safety systems in CG and noted employment of 'The Vault' as an online system to keep health and safety records.
- Discussion about MOSS, its focus, and where it sat alongside Health and Safety. MOSS has been introduced by Maritime NZ and is being rolled out across the Coastguard, with 82 vessels across 70 locations. Its implementation is absorbing significant CG effort and delaying progress on H&S matters somewhat.

c. Report by Paul Dalton – SLSNZ

- Helen (from Cossman Parkes) has assisted with auditing process for all clubs (who are actively patrolling). The focus of reporting has been on the casual staff over summer months which are a potential H&S concern.
- SLSNZ is at point where it has to update its policy manual and is also trying to create a hazard register for each worksite. SLSNZ plans to use that template to give out to clubs as something they can adopt. Aim: to have that in place for coming summer (2015/16).
- Brief discussion around SLSNZ's decentralised health and safety model as a contrast to the more centralised arrangements being adopted by other agencies.

d. Report by Lloyd Matheson – Aviation NZ

- A health and safety bulletin was released for blade separation for R44s following a fatal in Queenstown.
- Noted that the dispersed and separate nature of the industry makes it hard to collate H&S incidents.
- Concerns raised about whose responsibility is it to report SAR aviation H&S incidents/near misses. CAA role is not fully clear. Duncan observed that, at present, there appears to be a reluctance to adopt a standards based approach to aspects such as rescue swimming and hoist operations.
- Lloyd observed St John medics typically do not have the same level of training for operating in hazardous environments as SAR people do. There is also a lot of change medics provided making it difficult for them to acquire the skills sets they need for SAR operations.
- There is no independent audit for small air operators at present. Perhaps an opportunity for Police to educate/inform Air Ambulance.
- Further work needs to be done to integrate SMS content into training.

5. Review of health and safety objectives

Meeting discussed the document 'NZSAR Secretariat and Coordinating Authority Approach to Health and Safety Management', dated 17 May 2013. The meeting noted:

- The sector had sound foundation documentation and processes. Agencies were moving in the same direction but at different speeds with some concerns around the Aviation sector.
- Geoff Logan has a suggestion of amendment to the H&S clauses in the SLA agreement which he will bring to the next meeting.
- The desirability of a "SAR Sector" approach to H&S to simplify compliance and share knowledge.

Action: Update and re date the *NZSAR Secretariat and Coordinating Authority Approach to Health and Safety Management* document. Responsibility: Duncan

6. Health and safety objectives for the next 6 months.

a. Near miss reporting

The meeting discussed/noted:

- The varying nature of near-miss reporting.
- The desirability of reporting incidents internally within organisation, and if they may affect more than one organisation, sharing it laterally.

- The nature of SAROPs created multi organisational H&S risks.
- Discussed the possibility of using the NZSAR Link Newsletter as a vehicle for sharing information and publishing accidents and near misses. Noted that this publication is available to the public and media which may discourage reporting/participation.
- One of the implications of the proposed new legislative framework is a focus on reporting near misses to the relevant regulator.
- Concerns were expressed when regulators prosecute people for near misses. Preference for learning/education from such incidents. Prosecution may be a disincentive to good near miss reporting.
- Agency specific H&S information, reporting and learning is an internal matter

Action: Once approved, notes of these meetings will be distributed by NZSAR to members and may be internally circulated for learning purposes.

i. SAR Aviation H&S developments

- Lloyd briefed on a new risk-based project around identifying farm airstrip accidents. The aim is to identify risk and to help farmers improve the safety of their airstrip.
- CAA has contracted Navigatus, an Auckland based auditor, to help develop the project and industry identified various agencies to help collate information.
- Noted that SAR aviation H&S will be a major topic of discussion at upcoming helicopter workshop.

Action: Helen will try to arrange a meeting between Duncan and Kevin from Navigatus. (Since completed)

ii. Non-standard SAR resource H&S

- The meeting discussed the H&S aspect of the use of non- standard SAR resources including ways to deal with next-of-kin/public wanting to help with SAR tasks.
- Noted the desirability of keeping these people engaged but without putting them at risk or jeopardising the SAROP.
- Mike Hill /Helen noted the extensive MNZ experience (and learnings from) in this type of situation with the Rena incident.
- Noted the desirability for a specific SAR resource to assist SAR authorities when they might be obliged to utilise non- standard SAR resources.

Actions:

- Mike Hill to circulate Post-Rena related information and learnings around the use of non- standard SAR resources.
- NZSAR to develop a SAR Sector document or aide memoire for the use of non-standard SAR resources.

7. Actions and / or resources required to improve health and safety performance:

- Individual entities are getting up to speed at various levels. Sector wide H&S maturation is needed.
- Non-standard SAR resource will be worked on collectively.

8. Agency approaches and development update

i. Integration of H&S into SAR training

- Coastguard, LandSAR and SLSNZ all briefed, and have made excellent progress of integrating H&S into their training.
- Health and Safety is increasingly topical. It will be discussed again at the Police SAR Coordinators Seminar in late May 2015.

ii. H&S opinion – RCCNZ

- Noted the challenges of RCC being part of Maritime NZ, along side MNZs responsibility as a regulator, enforcing MOSS etc.
- Currently seeking permission to share H&S legal opinion with the sector.
- Looking at a specific H&S tab for SAROs to use as part of the RCCNZ Incident Management System.
- Noted the desirability of a specific H&S section for the IAMSAR manual. And for this to flow into the relevant national level documentation. Appreciated the challenges of working such a change through the IMO.
- RCCNZ looking at a bundle of “pre-nup” style agreements which would include H&S components. Intent would be to make clear ahead of any operation where specific responsibilities lie.
- NZSAR noted the desirability of joint/similar/same approach/agreements for both coordinating authorities.
- Alan (AMSA) briefed on the Carrington Falls paramedic death case in NSW. While sound processes were in place, a fatality still occurred. The coroner is apparently placing a higher level of accountability for H&S during a SAROP onto SAR Coordinating authorities in Australia.
- Improved engagement with the NZ coronial service was suggested.

Actions:

- Circulate the relevant Carrington Falls review/learnings. Responsibility : Alan
- Initiate engagement with the NZ coronial service re SAR. Responsibility: RCCNZ/Police

9. Frequency of SAR H&S meetings

Duncan observed that it's important to make sure these meetings have genuine meaning, and preferably they should be held ahead of NZSAR Consultative Committee meetings.

The meeting agreed that two per year was the right amount but noted that given the proposed legislative changes, they may need to be more frequent for a period.

A sub group to look at H&S compliance was suggested.

Action: Mike Hill to develop a draft compliance sub- group TOR.

10. Other business

Nil.

Meeting ended 12:00 pm.

Next Meeting: 10am-12 pm, 27 August 2015

Duncan Ferner
Chair
NZSAR Strategic H&S Committee

Action Table

Ser	Action	Responsibility
5	Update and re date the <i>NZSAR Secretariat and Coordinating Authority Approach to Health and Safety Management</i> document	NZSAR
6	Arrange a meeting between NZSAR and Navigatus. (since completed)	Helen
6	Circulate Post-Rena related information and learnings around the use of non- standard SAR resources.	Mike Hill

6	Develop a SAR Sector document or aide memoire for the use of non-standard SAR resources.	NZSAR/Helen
8	Circulate the relevant Carrington Falls review/learnings.	AMSA
8	Initiate engagement with the NZ coronial service re SAR.	RCCNZ/Police
9	Develop a draft compliance sub- group TOR	RCCNZ



MOSR5-3

17 May 2013

NZSAR SECRETARIAT AND COORDINATING AUTHORITY APPROACH TO HEALTH AND SAFETY MANAGEMENT

The Search and Rescue (SAR) sector is invaluable in New Zealand. Operated predominantly by volunteers, the SAR sector is responsible for the search and rescue of nearly 2,400 people annually.

Those involved with the SAR sector – our volunteers and the paid employees from the SAR organisations, are critical to the success of the SAR sector. We the coordinating authorities (Rescue Co-ordination Centre New Zealand (RCCNZ) and the New Zealand Police) recognize that ensuring the health and safety of those in the SAR sector is essential for our long-term sustainability.

Our commitment

We are committed to ensuring all people working in the SAR sector, whether on a paid or voluntary basis, are kept healthy and safe during their activities with us.

We are in the business of searching for and rescuing people – often from dangerous situations or locations. We require all SAR organisations – formal or informal, who provide us with people and expertise to have the capability to manage the health and safety of their people (volunteers or otherwise).

We will not put SAR peoples' lives at unacceptable and unnecessary risk while they are carrying out activities for us, and we will therefore not tolerate or engage the services of SAR organisations or people who are unable to demonstrate that they have the capability to manage health and safety during their activities for us.

To ensure good health and safety performance in the SAR sector, we;

- Support continuous improvement in health and safety performance through the facilitation of information sharing and communication across the sector
- Operate a strategic health and safety committee which meets twice per year to discuss health and safety performance across the sector, and makes recommendations for improvement

Our expectations for all organisations that regularly participate in co-ordinated Search and Rescue Operations (SAROPs)

We have outlined our minimum expectations to ensure all organisations regularly involved in SAROPs co-ordinated by RCCNZ or the NZ Police have the capability to manage health and safety. We expect all SAR organisations to:

- Know the limits of their expertise and capability, and to only take on SAR tasks or activities which will not put the lives of their volunteers, employees or others at unacceptable risk.
- Meet all legal requirements for the management of health and safety that apply in the circumstances
- Systematically manage health and safety. This may involve having set processes or procedures, for example:
 - Health and safety policy.
 - Procedures for the systematic identification of hazards and the assessment and control of associated risk, elimination of risks to health and safety, so far as is reasonable practicable, or that apply in the circumstances;
 - Accident reporting, recording and investigation procedures.
 - Training and supervision procedures for employees and volunteers.
 - Methods to stay up to date with health and safety information and developments.
 - Emergency procedures and plans.
 - Contractor health and safety management procedures – if you contract or subcontract any work to other parties.
- Train volunteers and employees in health and safety principles and application, as relevant to their activities.
- Ensure volunteers and employees maintain licenses, qualifications or certification as required for their SAR role.
- Report and record all serious harm injuries which occur during a coordinated SAR operation to the enforcing authority in line with statutory requirements.
- Report and record all serious harm injuries and incidents which involve their volunteers or employees to the NZSAR Secretariat.
- Require the SAR organisations that provide SAR services on a regular basis to report their performance against key indicators annually or on request.
- Require all regular volunteer organisations in the SAR sector to provide us with verification of their health and safety management capability and compliance with the duty to manage risk on request.

Nigel Clifford
Group Manager Safety and
Response Services
Maritime New Zealand

Duncan Ferner
Secretariat Manager
NZ Search and Rescue

Inspector Joe Green
Manager Emergency Management
NZ Police



MOSR5-3

17 May 2013

NZSAR STRATEGIC OCCUPATIONAL HEALTH & SAFETY COMMITTEE TERMS OF REFERENCE

The SAR sector is diverse both geographically and in terms of operations and expertise. With over 90 organisations (formal and informal) providing SAR expertise and people during coordinated SAROPs, ensuring the health and safety performance of the sector is complex.

To provide oversight of health and safety performance, and to ensure consistency, continual improvement and support, a NZSAR Strategic Occupational Health and Safety (OHS) steering committee has been implemented.

The Terms of Reference (ToR) sets out the operating processes for the Committee including:

1. How the Chair and Secretary are identified
2. How representatives are identified
3. The roles and responsibilities of the representatives with respect to the committee
4. The roles and responsibilities of the committee
5. Meeting procedures including the agenda and minutes
6. Reports to be sent to the committee prior to the meetings
7. Outputs from the committee

The ToR document for the committee is reviewed on an annual basis.

Purpose

The purpose of the OHS committee is to encourage a planned and structured discussion about health and safety management across the sector enabling opportunities for improvement to be identified.

The aim is to encourage a cooperative approach between the coordinating authorities and the SAR organisations, their volunteers and employees.

The members of the committee are ambassadors for health and safety. They work in partnership with the NZSAR Secretariat to endorse and provide feedback on the strategic direction of health and safety in the sector, and assist to plan and implement health and safety actions and initiatives.

The strategic health and safety committee will consider and make recommendations to the NZSAR Council and to SAR Organisations on:

- Methods for improving the way health and safety is managed in the SAR Sector, or within specific SAR organisations.
- Any matter relevant to health and safety raised by employees, volunteers or others.
- Ways to communicate health and safety issues to the sector.
- Any incidents or near miss events.
- Health and safety training requirements.
- Potential health and safety issues associated with changes to operational practices or new equipment / assets.
- Actual or potential issues relating to hazard management.

Membership of the committee

The number and composition of the committee is agreed with the SAR organisations, and modified from time to time to reflect operational or sector changes. The members of the committee include:

1. NZSAR Secretariat
2. RCCNZ
3. NZ Police
4. Surf Lifesaving
5. Coastguard
6. LandSAR
7. Ambulance NZ

Other representatives may be invited to a meeting by the NZSAR Secretariat, or as agreed at the previous meeting.

1.1.1 Meeting procedures

- The Committee will meet twice per calendar year.
- Three representatives must be present to make up a quorum for meetings.
- An agenda will be sent out two weeks prior to the meeting by the NZSAR Secretariat. The agenda will include as a minimum:
 - The sectors health and safety performance.
 - Health and safety objectives for the following 6 months.
 - Review of previous health and safety objectives.
 - Actions and resources required to improve health and safety performance.

- Prior to each meeting a progress and performance report will be sent to all representatives. This report will outline as a minimum:
 - The health and safety performance information required through SLA / MoU agreements, as well as from those organisations specifically requested to provide data.
 - Results of health and safety visits or audits undertaken since the previous meeting.
 - Health and safety incident reports for the sector.
 - Progress against pre-determined objectives.
- Minutes will be taken at each meeting, and these will be sent out to all representatives within 4 weeks of the meeting.
- The minutes of each meeting will be sent to the next NZSAR Council meeting for their information and consideration.
- The committee will review the health and safety committees' terms of reference each year.
- If there is a failure to agree on any item brought before the committee, or where the proposed resolution of any matter has cost implications beyond the authority of those present, the committee will refer the matter to the Council for determination and the Councils' decision on the matter will be final.

1.1.2 Responsibilities of SAR organisation representatives:

The roles and responsibilities for the representatives are:

- Promoting a safe and healthy working environment by championing the health and safety message throughout their organisations.
- Disseminating information from the strategic health and safety committee to their organisations.
- Being an essential point of contact for NZSAR Secretariat and the strategic health and safety committee to discuss their health and safety concerns and ideas relating to their SAR organisation.
- Attending the strategic health and safety committee meetings and arranging a replacement in their absence.
- Assisting or participating in health and safety management system reviews and audits where required.
- Setting health and safety objectives for the sector.
- Preparation and readiness for committee meetings to ensure constructive contribution.
- Completion of agreed action points assigned to them.

1.1.3 Responsibilities of the strategic health and safety committee Chairperson

The Chair of the committee is responsible for:

- Planning and running all meetings.

- Ensuring that meeting goals are achieved.
- Being the official representative of the group at NZSAR Council meetings as required.
- Liaising with the secretary concerning arrangements and agendas for the meetings.
- Starting the meeting on time and keeping to time limits allowing reasonable time for each agenda item.
- Facilitating discussion during the meeting encouraging all members to participate.
- Bringing items on the agenda to a conclusion with a brief review of points (may involve inviting proposals/decisions from the committee).
- If a vote has to be taken the chair clarifies the voting procedure and in the event of a tie the chairperson may have the casting vote.

1.1.4 Responsibilities of the strategic health and safety committee Secretary

The responsibilities of the secretary are:

- Noting all correspondence (in and out) on the agenda for the forthcoming meeting.
- Collating and maintaining an up to date membership list and changing the email distribution list to reflect this.
- Writing up and distributing the minutes as soon as possible following meetings.
- Convening meetings and prepare agendas.
- Consulting with committee members over items to be included on the agenda.
- Recording the names of those in attendance and apologies for non attendance.
- Ensuring there is a quorum.

1.2 Training for the health and safety committee members

- Each Representative will be provided with health and safety principles and practice training that is agreed as beneficial and relevant to the role.

Nigel Clifford
Group Manager Safety and
Response Services
Maritime New Zealand

Duncan Ferner
Secretariat Manager
NZ Search and Rescue

Inspector Joe Green
Manager Emergency Management
NZ Police

Modified Health and Safety Clause - Joint SLA Agreements

Police and Rescue Co-ordination Centre New Zealand (RCCNZ)

- Will, when advised of a SAR incident within the New Zealand Search and Rescue Region, determine whether RCCNZ or Police will coordinate the response and ensure an appropriately qualified Incident Controller or SAR Mission Coordinator coordinates the response
- Require the operator to verify their capability to manage health and safety during Search and Rescue (SAR) activities
- May periodically assess or re-verify the health and safety management capability of the operator and any contractors or subcontractors to the operator, through any means they deem appropriate
- Will provide the operator with any health and safety information specific to the particular SAR operation for which the operator's services are being engaged. This information, where relevant, will be provided at the time of engagement to enable the operator to determine whether they have the capability to undertake the activity safely

SLA PARTNER **XXXX**

- Agree to comply with all legal requirements and standards that apply to the provision of the services or assets provided during co-ordinated SAR activities
- Will develop and maintain systems to manage the health and safety of employees, volunteers, contractors and subcontractors during co-ordinated SAR activities
- Will ensure that all employees, volunteers, representatives, contractors and subcontractors are properly trained and have the necessary competence to undertake their tasks in a healthy and safe way
- Will report all serious harm incidents sustained in the course of activities provided under this agreement to the enforcing authority in line with statutory reporting requirements
- Will report all serious harm incidents sustained in the course of activities provided under this agreement to the NZSAR Secretariat as soon as possible after the event
- Agree to permit access at a mutually agreed time to the Police, RCCNZ or their nominated representative for the purpose of verifying any aspect of the operators' activities or systems relevant to meeting the health and safety requirements of this agreement
- Will report health and safety performance data to NZSAR annually or on request
- Will participate in the NZSAR Strategic Health and Safety Committee on request

Performance reporting

The operator agrees to report the following information to NZSAR on an annual basis or on request:

- Number of health and safety incidents recorded over the past 12 months
- Any health and safety enforcement activity which has occurred over the past 12 months
- The number of people provided with health and safety training over the past 12 months
- The results of any internal or external health and safety audits.



New Zealand Search and Rescue

11 June 2015

NZSAR4-4

Jeff Sayer
AREC
767 Upper Plain Road
Masterton 5888

Dear Jeff,

NZSAR COUNCIL SERVICE LEVEL AGREEMENT EXPECTATIONS FOR 2015-16

The NZSAR Council seeks the adequate provision of safe and competent search and rescue services for all areas of New Zealand. The joint Service Level Agreement (SLA) is intended to assist AREC maintain a robust organisation, as well as developing and sustaining your search and rescue capabilities for use by the coordinating authorities. It is also our desire that the SLA contributes directly to the achievement of NZSAR Council goals.

NZSAR Council (Crown) SLA payments are to be applied toward those activities where the benefits are widely felt and/or less tangible in nature and, hence, less amenable to funding by third parties. Examples of the sorts of activities that could fall into this category include the following:

- The governance and management of AREC.
- Research and analysis aimed at making AREC, and the system as a whole, as efficient and effective as possible.
- Cross agency initiatives, because of the benefits that such initiatives potentially have for the sustainability of the system as a whole.

As part of our leadership role, the Council seeks to shape and direct the sector and would like to see AREC focus its SLA funding in 2015-16 on these areas:

1. Assisting AREC to meet SAR Health and Safety and other legal obligations.
2. Supporting the NZSAR review of communications for SAR in the land environment.
3. Implementing IT changes resulting from the (yet to be finalised) NZSAR data standard.
4. Supporting AREC develop robust governance and financial management arrangements.
5. Supporting AREC's active participation in multi-agency forums, SAR exercises and collective training events.

With these priorities in mind, the Council would be grateful if AREC could respond in writing by Wednesday 8 July 2015 outlining ARECs 2015/16 planned expenditure of SLA funding.

The Council is pleased with the relationship we have with AREC and trusts this is reciprocated. We are especially impressed by the dedication and commitment of AREC's volunteers as they provide search and rescue services to the coordinating authorities.

Martin Matthews
Chair
New Zealand Search and Rescue Council



New Zealand Search and Rescue

11 June 2015

NZSAR4-1

Patrick Holmes
Coastguard New Zealand
PO Box 33559
Takapuna
Auckland 0740

Dear Patrick,

NZSAR COUNCIL SERVICE LEVEL AGREEMENT EXPECTATIONS FOR 2015-16

The NZSAR Council seeks the adequate provision of safe and competent search and rescue services for all areas of New Zealand. The joint Service Level Agreement (SLA) is intended to assist Coastguard maintain a robust organisation, as well as developing and sustaining your search and rescue capabilities for use by the coordinating authorities. It is also our desire that the SLA contributes directly to the achievement of NZSAR Council goals.

NZSAR Council (Crown) SLA payments are to be applied toward those activities where the benefits are widely felt and/or less tangible in nature and, hence, less amenable to funding by third parties. Examples of the sorts of activities that could fall into this category include the following:

- The governance and management of Coastguard NZ.
- Research and analysis aimed at making Coastguard, and the system as a whole, as efficient and effective as possible.
- Cross agency initiatives, because of the benefits that such initiatives potentially have for the sustainability of the system as a whole.

As part of our leadership role, the Council seeks to shape and direct the sector and would like to see Coastguard focus its SLA funding in 2015-16 on these areas:

1. Assisting Coastguard to meet SAR Health and Safety and other legal obligations.
2. Assisting Coastguard transition its communications arrangements to the new channels.
3. Implementing IT changes resulting from the (yet to be finalised) NZSAR data standard.

4. To support Coastguard's continued work to rationalise its governance and management arrangements to be as effective and financially efficient as possible.
5. Supporting Coastguard's active participation in multi-agency forums, SAR exercises and collective training events.

The NZSAR Council remains concerned with Coastguard's federated governance model. While we recognise these arrangements are for Coastguard to determine, we remain of the view that no SLA funds may be used to support the operation of the four regional Coastguard Governance Boards.

With the listed priorities in mind, the Council would be grateful if Coastguard NZ could respond in writing by Wednesday 8 July 2015 outlining Coastguards 2015/16 planned expenditure of SLA funding.

The Council is pleased with the relationship we have with Coastguard and trusts this is reciprocated. We are especially impressed by the dedication and commitment of Coastguard's professional volunteers as they provide search and rescue services to the coordinating authorities.

Martin Matthews
Chair
New Zealand Search and Rescue Council



New Zealand Search and Rescue

11 June 2015

NZSAR4-2

Harry Maher
LandSAR New Zealand
PO Box 29082
Christchurch 8053

Dear Harry,

NZSAR COUNCIL SERVICE LEVEL AGREEMENT EXPECTATIONS FOR 2015-16

The NZSAR Council seeks the adequate provision of safe and competent search and rescue services for all areas of New Zealand. The joint service level agreement (SLA) is intended to assist LandSAR maintain a robust organisation, as well as developing and sustaining your search and rescue capabilities for use by the coordinating authorities. It is also our desire that the SLA contributes directly to the achievement of NZSAR Council goals.

NZSAR Council (Crown) SLA payments are to be applied toward those activities where the benefits are widely felt and/or less tangible in nature and, hence, less amenable to funding by third parties. Examples of the sorts of activities that could fall into this category include the following:

- The governance and management of LandSAR.
- Research and analysis aimed at making LandSAR, and the system as a whole, as efficient and effective as possible.
- Cross agency initiatives, because of the benefits that such initiatives potentially have for the sustainability of the system as a whole.

As part of our leadership role, the Council seeks to shape and direct the sector and would like to see LandSAR focus its SLA funding in 2015-16 on these areas:

1. Assisting LandSAR to meet SAR Health and Safety and other legal obligations.
2. Supporting the NZSAR review of communications for SAR in the land environment.
3. Leading the implementation of the Wander framework.
4. Implementing IT changes resulting from the (yet to be finalised) NZSAR data standard.
5. Supporting LandSAR's Governance, management and financial requirements.
6. Supporting LandSAR's active participation in multi-agency forums, SAR exercises and collective training events.

With these priorities in mind, the Council would be grateful if LandSAR could respond in writing by Wednesday 8 July 2015 outlining LandSAR's 2015/16 planned expenditure of SLA funding.

The Council is pleased with the relationship we have with LandSAR and trusts this is reciprocated. We are especially impressed by the dedication and commitment of LandSAR's professional volunteers as they provide search and rescue services to the coordinating authorities.

Martin Matthews
Chair
New Zealand Search and Rescue Council



New Zealand Search and Rescue

11 June 2015

NZSAR4-3

Paul Dalton
Surf Life Saving New Zealand
PO Box 39129
Wellington Mail Centre
Lower Hutt 5045

Dear Paul,

NZSAR COUNCIL SERVICE LEVEL AGREEMENT EXPECTATIONS FOR 2015-16

The NZSAR Council seeks the adequate provision of safe and competent search and rescue services for all areas of New Zealand. The joint Service Level Agreement (SLA) is intended to assist Surf Life Saving New Zealand (SLSNZ) maintain a robust organisation, as well as developing and sustaining your search and rescue capabilities for use by the coordinating authorities. It is also our desire that the SLA contributes directly to the achievement of NZSAR Council goals.

NZSAR Council SLA payments are to be applied toward those activities where the benefits are widely felt and/or less tangible in nature and, hence, less amenable to funding by third parties. Examples of the sorts of activities that could fall into this category include the following:

- The governance and management of SLSNZ.
- Research and analysis aimed at making SLSNZ, and the system as a whole, as efficient and effective as possible.
- Cross agency initiatives, because of the benefits that such initiatives potentially have for the sustainability of the system as a whole.

As part of our leadership role, the Council seeks to shape and direct the sector and would like to see SLSNZ focus its SLA funding in 2015-16 on these areas:

1. Assisting SLSNZ to meet SAR Health and Safety and other legal obligations.
2. Implementing IT changes resulting from the (yet to be finalised) NZSAR data standard.
3. Supporting SLSNZ's Governance, management and financial requirements (excluding the SLSNZ Northern Region Board).
4. Supporting SLSNZ's active participation in multi-agency forums, SAR exercises and collective training events.

With these priorities in mind, the Council would be grateful if LandSAR could respond in writing by Wednesday 8 July 2015 outlining SLSNZ's 2015/16 planned expenditure of SLA funding.

The Council is pleased with the relationship we have with SLSNZ and trusts this is reciprocated. We are especially impressed by the dedication and commitment of SLSNZ's professional volunteers as they provide search and rescue services to the coordinating authorities.

Martin Matthews
Chair
New Zealand Search and Rescue Council



New Zealand Search and Rescue Secretariat

To: NZSAR Council Members	MEMORANDUM
From: Duncan Ferner	
Date: 21 May 2015	

NZSAR SECRETARIAT PERFORMANCE 2014/15

The Ministry of Transport requires performance evidence about the NZSAR Secretariat for its annual report. The Secretariat is required to provide to the satisfaction of the NZSAR Council:

- *effective leadership and strategic coordination to the New Zealand search and rescue sector; and*
- *effective support services and policy advice.*

To assess and report on this, I would be grateful if you could indicate your assessments for the following questions:

Most dissatisfied		Scale		Very satisfied
1	2	3	4	5

<i>The NZSAR Secretariat supports the NZSAR Council by providing effective leadership to the New Zealand search and rescue sector.</i>				
1	2	3	4	5

<i>The NZSAR Secretariat supports the NZSAR Council by providing effective strategic coordination to the New Zealand search and rescue sector.</i>				
1	2	3	4	5

<i>The NZSAR Secretariat provides effective support services to the NZSAR Council.</i>				
1	2	3	4	5

<i>The NZSAR Secretariat provides effective policy advice to the NZSAR Council.</i>				
1	2	3	4	5

Duncan Ferner
Secretariat Manager
New Zealand Search and Rescue

Summary Report for the January – March 2015 Quarter

1. Brochure Activity

- Sep – Oct 2014 4,480 brochures distributed
- Jan - Mar 2015 37,230 brochures distributed

2. Website Maintenance and Analytics

AdventureSmart main site:

- Jul – Sep 2014 = 4,239 visitors
- Sep – Oct 2014 = 5,791 visitors
- Jan - Mar 2015 = 6,856 visitors

AdventureSmart main plus mobile

- Jul – Sep 2014 = 4,750 visitors
- Sep – Oct 2014 = 6,385 visitors
- Jan - Mar 2015 = 9,101 visitors

- Main site visitors are mainly from New Zealand, followed by the USA, Australia and the UK.
- Mobile visitors are predominantly from New Zealand, Russia, USA, Australia, China, Germany, UK, Japan, India and Singapore

3. Social Media Activity

- Social media interest in and activity around AdventureSmart is very small. Considerable investment would be required to increase interest and activity.

4. Other Marketing Activity

- Tourism Radio are advertising AdventureSmart in motorhomes throughout the country (as from July 2014).
- AdventureSmart had a presence at the Crankworx mountain biking festival in Rotorua in March (banner and brochures were displayed next to a coffee cart).
- The Injury Prevention Steering Group, which is made up of representatives from SAANZ, ACC, NZMSC, Snow Sports NZ and the NZ Snowsports Instructors Alliance, is currently developing a 5 year injury prevention strategy for the industry, including interventions, promotions and research in the future and hope to include AdventureSmart in this. Also, 30 NZSIF retail outlets will be sent AdventureSmart brochures this winter season.



Summary Report
for
AdventureSmart

1 January 2015 – 31 March 2015

Brochure Activity

1. Brochure movement:

- As at 29 December 2014 there were 24,230 brochures in Jasons' warehouses.
- In January 100,000 new brochures were printed and distributed to Jasons.
- As at 30 March 2015 this number had reduced to 87,000
- A total of 37,230 brochures were distributed during this period, compared to 4,480 during the last quarter.

Website Maintenance and Analytics

Main Site

- 1.1 Bearing in mind that any comparison with the same period last year is skewed by the Google advertising we undertook in 2014, visitor numbers to the main site remain strong and are certainly up compared to the last quarter, with the bounce rate dropping by almost 2 per cent. The first quarter of the 2014/15 financial year saw **4,239** visitors, the second saw **5,791** visitors and this third quarter saw **6,856** visitors, so traffic is consistently increasing. Add mobile site visitors to these numbers and the overall visitor number for the first quarter rises to **4750**, the second to **6385** and the third to **9101**.
- 1.2 The bounce rate and the time spent viewing pages and the amount of pages viewed have all improved considerably compared to last year – people are taking more time on the site and looking at more.
- 1.3 Visitors are mainly from New Zealand, followed by the USA, Australia and the UK. The top five have changed compared to the same period last year, mainly due to dropping Google advertising – Iraq and Egypt were #2 and #3. Brazil, Germany, France, Canada and Singapore have now replaced Iraq, Egypt, Pakistan, Algeria and Indonesia in the top 10. Visits from most countries have increased, especially Brazil (up 221.74%) and the USA (up 158.75%), apart from a slight drop from New Zealand traffic and a substantial drop from India traffic (down 81.59%).
- 1.4 The pages that received the most traffic were the home page, Outdoor Intentions (including all sub-pages), Land, Water and Walking & Hiking, Boating and Swimming, in line with the summer season, and similar to previous quarters (although these also featured Snow).
- 1.5 DOC continues to be the top referral site for traffic and the AdventureSmart mobile site has climbed to #2, followed by Great Walks, MSC, GWRC, Camping Our Way, Water Safety NZ and Wilderness Magazine.
- 1.6 Top non-paid key words continue to feature 'safety' as well as various versions of adventure and smart.

Mobile Site

- 1.7 Visitors and sessions for the mobile site have climbed considerably compared to last year, with 1215 visitors for the period, and March saw the highest volume of traffic to date with 561 visitors.
- 1.8 Mobile visitors are predominantly from New Zealand, Russia, USA, Australia, China, Germany, UK, Japan, India and Singapore – all are showing considerable growth compared to the same period last year, apart from India (down 76.81%).
- 1.9 The top ten pages remain varied and include more activity pages than the main site. Translations continues to feature strongly for the mobile site only and the Outdoors Intentions Process pages do not feature in the top ten at all – both opposing the main site’s trend.
- 1.10 The top referral sites continues to be DOC, matching the main site, and Facebook, Wilderness Magazine, GWRC, Great Walks, MSC, Lake Wanaka Tourism, Auckland Tramping Club and Water Safety NZ complete the top ten along with the main site.
- 1.11 Apart from various spelling versions of AdventureSmart and its website, top non-paid keywords leading visitors to the site this quarter feature “adventure” rather than “safety” and people are looking for the “5 simple outdoor rules”, along with various versions of “adventure” and “smart”.

Social Media Activity & Facebook

1. The AdventureSmart Facebook had 68 ‘likes’ at 1 January 2015 and 90 at 31 March 2015.
2. The most popular post this quarter was a link to an article on Stuff “Grateful brothers praise rescuers” which reached 48 people.
3. AdventureSmart received 58 referrals from social media sites between January 2015 and March 2015, more than doubling from 26 in the previous quarter. These included 50 from Facebook (up from 23), 4 from Blogger (up 1), 1 from Meetup (down 2), 2 from WordPress, 1 from Naver and 1 from YouTube.
4. The mobile site received 39 referrals from social media during the same period – a jump up from 2 last quarter: 36 from Facebook and 3 from Blogger.

Section 4: Other Marketing Activity

1. Tourism Radio are advertising AdventureSmart in motorhomes throughout the country (as from July 2014).
2. AdventureSmart had a presence at the Crankworx mountain biking festival in Rotorua in March (banner and brochures were displayed next to a coffee cart).
3. Sharon made contact with Miles Davidson from Ski Areas Association New Zealand (SAANZ) who has promised to keep AdventureSmart in mind as there may be a way to incorporate it into the resources of the Injury Prevention Steering Group, which is made up of representatives from SAANZ, ACC, NZMSC, Snow Sports NZ and the NZ Snowsports Instructors Alliance. This group is currently developing a 5 year injury prevention strategy for the industry, including interventions, promotions and research in the future. This is in addition to Miles providing contact details for the 30 NZSIF retail outlets so Sharon can organise sending AdventureSmart brochures to each of them.
4. Explore the prospect of gaining an article about AdventureSmart in the popular weekly NZ tourism industry publication *Inside Tourism*.



NZSAR Secretariat and National SAR Support Programme

2015 / 2016 Work Plan

NZSAR11-2

Impact: Support the provision of effective search and rescue services for people in distress throughout the NZSRR

Item	Outputs	Responsibility	Finance	NZSAR Goals	NZSAR Risks
NZSAR Workshops and Seminars					
SAR Evaluation seminar	One day seminar to decide on the sector evaluation requirements and possible training needs	NZSAR Secretariat	██████	2,3,	03, 04
SAREX planning (+Police) meeting	Three day Police and SAR partner meeting to plan SAREXs and other SAR issues. April 2016	NZSAR Secretariat	██████	1,2,3	08,06,03,01
Workshop organising support	Event planning and administrative support for significant NZSAR events including workshops, training and awards	NZSAR Secretariat	██████	1,2	
SAR Information and IT					
Maintain NZSAR IT infrastructure	Maintain and service, Cloud servers, SARNET, NZSAR Website and the START knowledge library.	NZSAR Secretariat / IT Rescue Solutions	██████	2,3,4	01
SAR Dashboard and	Create online SAR dashboard able to represent key SAR statistics and data.	NZSAR Secretariat / IT Rescue Solutions	██████	2,3,4	01
Incident Management Team timeline	Develop a timeline for use by SAR IMT's	NZSAR Secretariat / IT Rescue Solutions	██████	1,3	01
NZSAR Data store maintenance and operation	Maintain, update and query the NZSAR Data store	Contractor	██████	1,3,4	01, 08, 05, 04, 03, 02
SAR Data Standard	Complete the preparation of a sector wide SAR data standard	Contractor	██████	1,3,4	01, 08, 05, 04, 03, 02
SAR Documentation					
SAR Forms and guidelines	Maintain SAR sector forms and guidelines		██████	1,3	03
Training and Training Development					
Training advice and support	Training advice and support	Contractor	██████	1,2,3	03,04,08
Air observer training	Air observer training events	RCCNZ	██████	1,2,3	03,04,08
Marine Formal search planning	Gap analysis followed by the development Marine formal search planning course material	Contractor	██████	1,2,3	03,04,08
Formal Search Planning (Land)	Complete the developments of the Formal Search Planning (Land) course	Contractor	██████	1,2,3	03,04,08
Air Observer Training material	Complete the development of the on-line air observer training material for START	Contractor	██████	1,2,3	03,04,08

Item	Outputs	Responsibility	Finance	NZSAR Goals	NZSAR Risks
SAR Research and Reviews					
Fatality Analysis	Research into SAR related fatalities to better understand their causal factors and possible mitigating actions	Contract		2,4	01,02,05
Outdoor Safety Code Evidence	Evidence based research to support or adjust the Outdoor Safety Code	Contract		2,4	01,05
SAR Supply and Demand Study - Marine	Study into SAR demand and related SAR sector capabilities in the Land environment	Contract		1,2	01
Prevention knowledge research	Research into public knowledge of SAR prevention measures and optimal delivery channels	Contract		2,4	05
SAR Expectations research	Research into expectations and experiences of SAR service delivery	Contract		1,2	01,02,05
SAR Supply and Demand Study - Land	Study into SAR demand and related SAR sector capabilities in the Land environment	Contract		1,2	01,02,03,04,08
SAR Communications – Land	Determine the communications needs and delivery mechanisms for SAR in the land environment	Contract		1,2	06,08
Prevention Initiatives					
AdventureSmart Communications	Maintain and update AdventureSmart, Promote linkages, Support the prevention partnership including social media	Turn of Phrase		4	05
AdventureSmart site maintenance	Technical AdventureSmart website maintenance	Wired IT Solutions		4	05
AdventureSmart graphic design	AdventureSmart graphic design tasks as required	Bunkhouse		4	05
AdventureSmart printing and advertising	Limited printing and placement of AdventureSmart material. Tourism radio advertising	Contract		4	05
Visitor intentions process maintenance	Maintain and promote the visitor intentions	MSC (contract)		2,4	05
Safety Code storage and distribution	Safety Code storage and distribution targeting inbound tourists	Jasons		4	05
Wander Support	Support LandSAR to develop wander entities	LandSAR		1,2,4	05
NZ Recreational Safety Strategy	Develop an 'all of NZ' recreational safety strategy to coordinate responsibilities, linkages, activity, funding, measures and expectations	Contract		1,2,4	05

Item	Outputs	Responsibility	Finance	NZSAR Goals	NZSAR Risks
Search and Rescue Exercises			██████		
NZSAR support for Police SAREX's	SAREX development, monitoring and debrief support for 10 Police Districts. (\$5k per SAREX)	NZ Police / Secretariat	██████	1,2,3,4	03,06
Mass rescue SAREXs	Run seven Raoura desktop mass rescue SAREXs in seven NZ Police Districts	NZSAR Secretariat	██████	1,2,3,4	03,06
Abnormal flight behaviours workshop and exercise	Abnormal flight behaviours workshop and exercise	NZSAR Secretariat	██████	1,2,3,4	03,06
NZSAR Secretariat			██████		
Strategic Communications	Communications advice incl Link Newsletters, Annual report, prevention activity & knowledge management	Secretariat	██████	1,2,3,4	
NZSAR Awards and various catering	Host the 2015 NZSAR Awards	Secretariat	██████	4	
Printing and graphic design Link/AR	Printing and graphic design costs for Link, annual report, prevention activity and miscellaneous.	Secretariat	██████	1,2,3,4	
International Travel	Attend the Australian NATSAR, Black Swan MRO SAREX, Nestoc meetings and possibly the EuroSAR or MRO G4 conference	Secretariat	██████	1,2,3,4	
Domestic travel	Secretariat domestic travel costs plus sector travel support	Secretariat	██████	1,2,3,4	
Conference fees	Secretariat conference fees	Secretariat	██████	4	
NZSAR miscellaneous	Secretariat costs for individual training, phones, IT etc	Secretariat	██████	4	
Health and Safety advice	Technical H & S advice to implement NZSAR H&S strategy	Secretariat/Contractor	██████	1,3,4	08
Risk Management advice	Technical risk management advice as required	Secretariat/Contractor	██████	1,3,4	08

Item	Outputs	Responsibility	Finance	NZSAR Goals	NZSAR Risks
Deferred Activities			██████		
<i>START Material</i>	<i>Develop START material</i>	<i>Contract</i>	██████	3	03,04
<i>SAR documentation gap analysis</i>	<i>Determine if there is a need for centralised sector operational documentation</i>	<i>Contract</i>	██████	2	03
<i>Technology workshop</i>	<i>One day workshop multi agency to discuss SAR Technology and land communication issues</i>	<i>NZSAR Secretariat</i>	██████	1,2,3	03
<i>Hoist workshop</i>	<i>Two day workshop to discuss hoist and long line helicopter operations</i>	<i>NZSAR Secretariat</i>	██████	1,2,3	03,08
<i>SAR Performance Management</i>	<i>Advice to create a SAR performance management framework and system</i>	<i>Contract</i>	██████	1,2	01
<i>Guide to SAR</i>	<i>Public facing communications to explain how the SAR system works and what might be expected.</i>	<i>Contract</i>	██████	4	04

<p>NZSAR Council Goals</p> <ol style="list-style-type: none"> 1. A robust and integrated SAR system 2. Efficient and sustainable SAR organisations 3. Capable SAR people 4. Reduced demand for SAR services 	<p>NZSAR Risks as at May 2015</p> <ul style="list-style-type: none"> 01 - SAR Information 02 - SAR Funding 03 - Cohesive SAR Training 04 - Volunteerism 05 - Recreational Knowledge 06 - Mass Rescue Event 07 - MEOSAR Delay 08 - Health and Safety
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Funding Support Proposal to NZSAR

PURPOSE:

Coastguard has to change 43 VHF Repeater and 23 NowCasting site frequencies by 1 October 2016 at an estimated overall cost of [REDACTED]. This proposal seeks financial support for all phases of the Radio Spectrum Management (RSM) Frequency Change Project.

BACKGROUND:

At the last International Telecommunications Union (ITU) World Radio Conference (WRC) in 2012, changes were made to the International Radio Regulations in regards to the allocation of VHF frequencies for maritime use. These changes, directed by the International Maritime Organisation (IMO), will provide more radio spectrum for Automatic Identification System (AIS) and VHF Data Exchange System (VDES).

The changes made by the ITU come into force in two parts, on 1 January 2017 and 1 January 2019. . As a consequence of the changes, New Zealand will lose 10 of its existing maritime repeater channels, reducing the number of channels from 24 to 14. Further decisions on the use of these channels will be made at the WRC in 2015 (WRC15). The proposed frequency changes are outlined in more detail in Appendix One. The existing distress, safety and calling channel 16 will not change.

The repeater sites and NowCasting services are both critical in providing safety services to the boating public.

The repeaters are used for:

- Search and Rescue coordination of Police, Coastguard, Rescue Helicopter and other assets in delivery of NZSAR services
- Trip Reporting
- Bar Crossing safety services
- Good Samaritan calls

The NowCasting service provides:

- Communication of up-to-the-minute weather Tidal information
- Marine weather forecasts
- Marine Safety Notices

The NowCasting service improves marine safety by providing commercial and recreational mariners, with a valuable 24 hour continuous automatic information stream of the latest environmental information.

In simple terms this means Coastguard has to change 43 VHF Repeater and 23 NowCasting site frequencies by 1 October 2016 at an estimated overall cost of [REDACTED]

THE DETAIL:

The project consists of three phases:

Phase One:

To understand, prepare and cost the implementation of this change visits will be required to 66 transmitter sites. Each site will be physically audited to review what equipment is currently on each site included aerials, radios and filters. Consideration has been given to a desktop exercise only for this phase, however as the transmitters utilise equipment from a range of manufacturers, all with several different models, and the age of the equipment varies, it has been concluded that a site visit is a necessity.

The estimated cost range for Phase One is [REDACTED] to [REDACTED]. By commencing as early as possible and forward planning, the site audits can be included with routine maintenance visits, fault call outs, or with other jobs when sites are being visited in the area.

As any equipment for Phase Two will have to be ordered and manufactured by overseas suppliers the sooner Phase One is completed, the more lead time can be provided to obtain the necessary equipment and plan for its set up and fitting at sites.

Phase Two:

Phases two and three are assumptions until Phase one is completed.

Finalise the audit detail/plan and obtain all equipment ready for installation by April 2016.

Phase Three:

Installation of new equipment where required.

General overview of the project: The sites will be numbered and broken down into three different categories.

1. Easy sites:

- Road access is good
- Not weather dependant
- Few other services on site
- Equipment is compatible with the changes and does not need to be replaced or removed for modification.

Two visits required to audit and later change the channel.

Estimated average cost (not including equipment) [REDACTED]

2. Medium sites:

- Road access is weather dependant
- Moderate number of other services on site
- Equipment may need modification or replacement

More than two visits may be required to modify the antennas, radio sets, and filtering.

Estimated average cost (not including equipment) [REDACTED]

3. Difficult sites:

- Helicopter only access
- High number of other services on site
- Equipment may need modification or replacement

More than two visits may be required to modify the antennas, radio sets, and filtering.

Estimated average cost (not including equipment) [REDACTED]

An estimation based on the overall category rating of the sites provides the following:

Category 1	Repeater sites x 6	NowCasting x 6	
		Total number	12 = [REDACTED]
Category 2	Repeater sites x 29	NowCasting x 14	
		Total number	43 = [REDACTED]
Category 3	Repeater sites x 11	NowCasting x 3	
		Total number	14 = [REDACTED]

Overall estimate (not including equipment) [REDACTED]

Radio equipment for a high usage site is estimated at \$7,500.00 and the filters \$2,500.00, resulting in \$10,000.00 per high usage site. At a low usage site new radio equipment is estimated at \$3,500 and the filtering \$1,500.00, resulting in \$5,000.00 per site.

10 x High usage sites
10 x Low usage sites

[REDACTED]

Funding needs recap:

Overall Estimated Cost: [REDACTED]

Which includes:

Phase One
Phase Two
Phase Three

[REDACTED]

Which could be funded on a phase by phase basis.

A Communications Plan is being established and funded by Radio Spectrum Management with the support of the Ministry of Business, Innovation and Employment and will have input from Coastguard, Maritime NZ and Radio Spectrum Management.

Project Sponsor: Patrick Holmes – Chief Executive Officer

Project Manager: Phil Pollero – National Operations Manager

CONCLUSION:

Given Coastguard's voluntary nature, providing New Zealand's only maritime search and rescue response, and whom operates on limited budget; financial support is sought to complete all phases of the project particularly when the need for change is as a result of an international legislative change that was unforeseen and effects Coastguards ability to provide these safety services.

If further information is required, please contact the National Operations Manager

Phil Pollero
National Operations Manager
27 May 2015

12 May 2015

Martin Mathews
Chair of the NZSAR Council
Ministry of Transport
PO Box 3175
WELLINGTON 6140

Dear Martin

This letter is to bring to the attention of the SAR Council that the Department of Conservation is undertaking a review of systems and processes that currently support its alpine Search and Rescue team functions at Aoraki / Mt Cook. In addition the Department is interested in a high level interagency discussion about the best long-term arrangement for SAR activity at Aoraki / Mt Cook.

The Aoraki SAR team is the only professional SAR team (outside of Police SAR teams) in the country and it is timely to consider whether the current arrangement for Aoraki is the one that best suits the needs of SAR and the various stakeholders. While the delivery of operational SAR at one location is not necessarily of strategic importance it is relatively high profile issue and it would be good to keep the stakeholders in the SAR community informed from the outset. This is due to the Aoraki / Mt Cook Alpine Rescue team systems and operations establishing the basis of best practice for other Alpine Rescue teams.

The system and process review is underway in order to improve the function of the DOC SAR operation at Aoraki / Mt Cook, and this work is well supported by LandSAR and the NZ Police. The DOC SAR team is a service currently provided under an MOU between the NZ Police South Canterbury District and DOC and is funded by DOC via Vote Conservation with some additional support from NZ Police. The SAR team is also responsible for delivery of rescue for RCCNZ in the Aoraki / Mt Cook area. This review commences with an independently facilitated workshop of key people on 27-28 May at Twizel. One of the key objectives is to re-set systems and processes so that the seasonal SAR team at Aoraki can be established with plenty of time for the 2015/16 season to ensure that operations run effectively and efficiently. This workshop will have Police, Land SAR, and DOC staff attending. The SAR team needs to be running well for next season regardless of any determination of the best long-term solution.

As background it had been decided prior to the start of the 2014/15 SAR season that we would undertake a post season review of our systems and process. In December 2014 one of our seasonal mountaineer staff died in a climb on Aoraki / Mt Cook, also there has been turnover in the team since the end of the SAR season at Aoraki and we are in a recruitment phase therefore a system review is timely.

The Department is keen to discuss with the SAR Council over the next 6 - 9 months the SAR function at Aoraki leading to a determination about what might be the best long

term arrangement for the delivery of SAR operations. There is currently no fixed view within the Department about the future of our role in SAR, other than we are fully committed to undertaking the role to the best possible level for as long as we are requested to. I am aware that there have been some questions raised about who might be the provider of the SAR function at Aoraki it seems best to raise this topic with the SAR Council in the first instance. It is also worth noting that twice in the past two decades two different Ministers of Conservation have directed the Department to provide this SAR service as a public good and as the best way of providing a SAR function at Aoraki. The Department is interested in a whole of sector view especially in the area of best practice for Alpine Rescue teams to address health and safety responsibilities and this is the motivation for writing to you.

If you are interested in have a wider discussion about the future of the operational SAR function at Aoraki please don't hesitate to get back in touch.

Yours sincerely

Andy Roberts
Director Conservation Services
Eastern South Island.

NZSAR

New Zealand Search
and Rescue



NZSAR Council Meeting

11 June 2015



2. Apologies

- Commissioner Mike Bush – NZ Police
- Air Cdre Tony Davies – NZDF
- Keith Manch – MNZ
- Mike Edginton – DOC

Welcomes

- Superintendent Chris Scahill – NZ Police
- Air Cdre Kevin McEvoy – NZDF
- Nigel Clifford – MNZ
- Richard Davies – DOC
- John Hamilton – Kestrel Group



3. Minutes

Minutes of the NZSAR Council meeting 5 March 2015 to be *approved*.

4. Matters Arising

Item 2 SAR Sector Funding

Secretariat

Send SLA letters of intent to attendees.

Meet with and/or share information with funders with a view to assisting their funding/grant decision making.

Letters of intent sent to other funders.

Met with Lottery Outdoor Safety Committee Coordinator.



5. SLA Monitoring Report

Outputs	Coastguard	LandSAR	AREC	SLSNZ
Provision of expert services to CA				
Provision of expert advice to CA				
Provision of IM Team Members				
Summary of non-SAR activity				
Up to date details available for CA				
Participation in joint SAREX				
Attendance at Forums				
Nominations for NZSAR Awards				



5. SLA Monitoring Report

Summary for the 1 January – 31 March 2015 Quarter

Measures	Police	RCCNZ	Totals
SAROPs	409	233	642
Lives at Risk	189	597	786
Lives Saved	12	4	16
People Rescued	75	26	101
People Assisted	95	90	185
LandSAR Taskings	82	3	85
Coastguard Taskings	103	0	103
AREC Taskings	47	0	47
SLSNZ Taskings	15	0	15
Performance of SLA Partners	Satisfactory	Satisfactory	Satisfactory



5. SLA Monitoring Report

Summary for the 1 January - 31 March 2015 Quarter

Reporting requirements for the Quarter have been met by all of the SLA partners

Outputs	Coastguard	LandSAR	AREC	SLSNZ	Totals
SAROPs Attended	121	117	15	34	--
Volunteers Involved	933	371	39	160	1,503
Volunteer Hours	7,890	2,158	188	390	10,626

2,282 Coastguard volunteers responded to 914 non-SAR related calls for assistance during the quarter.



5. SLA Monitoring Report

AREC

- Have no issues or updates to report for the quarter.

SLSNZ

- Work is continuing on the two new communications networks, to enable them to be ready for the 2015/16 season.
- SLSNZ has signed an MoU with MNZ to clarify invoicing arrangements for support provided to Category II SAROPs.



5. SLA Monitoring Report

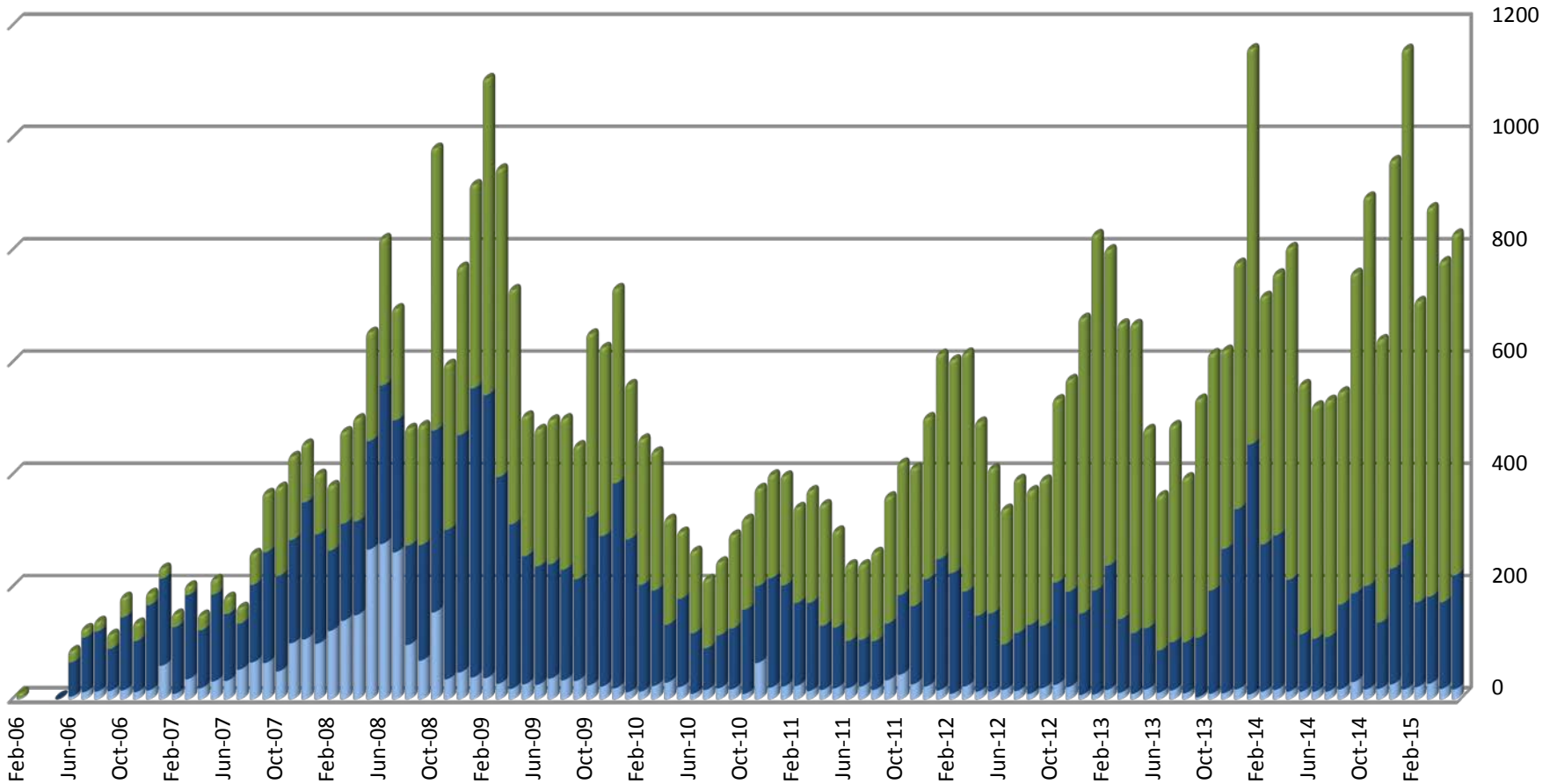
Coastguard

- Coastguard is preparing for their annual MayDay appeal.
- Changes to international VHF channel allocations will affect Coastguard, as they will need to migrate services to alternate channels. [agenda item 13]

LandSAR

- During the quarter LandSAR has focussed on:
 - Bedding in the Safety Management System which was deployed organisation-wide in December 2014.
 - Initiating the trial of the new Competencies Framework assessment system, to be trialled May to August and planned for wider deployment in late-2015

5. Beacon Registrations (54,122)



6. SAR Governance Review

1. The SAR Council manages expectations by providing key stakeholders with an explanation of the SAR capabilities and the limitations that apply at the extremities of the NZSRR.
2. The SAR Council completes the development and trials the coordination procedures for conducting a mass rescue operation in the NZSRR.
3. The SAR Council considers having the arrangements and mandates for SAR affirmed by the Minister.



6. SAR Governance Review

4. The SAR Council strengthen its reporting of capability, readiness and risk to Ministers by using the ODESC RRB reporting process and thus align SAR reporting with other all-of-government emergency preparedness and assurance reporting.
5. The SAR Council develops a process through which membership of the SAR Council is enhanced by adding representatives from supporting NGOs.

6. SAR Governance Review

6. The SAR Council co-ordinate the development of a joint preventative strategy that will place greater emphasis on preparedness and reduce the demand for SAR services in the future.
7. The SAR Council review the performance measures used to report progress towards the strategic goals.
8. The SAR Council investigates opportunities to research developments to ensure the SAR sector keeps ahead of changes in demography, expectations, technologies and volunteering associated with SAR that could impact SAR capabilities and responsiveness in the future



7. Risk: Mass Rescue Operations

- **Treatment option 2015/06/A:** Develop mass rescue policy and plans.

In conjunction with partner agencies, develop appropriate mass rescue policies and plans.

- **Treatment option 2015/06/B:** Conduct regular mass rescue exercises.

In conjunction with partner agencies, exercise the mass rescue plans in all Police districts to validate and refine them.



7. Risk: Mass Rescue Operations

- The Strategic Policy (working draft) to be updated:
 - Alignment with CIMS 2nd Edition and MRO Plans, including a section on Unified Command
 - Addition of a section on Abnormal Flight Behaviours (workshop on 23 July)
- Exercise series RAUORA underway
 - Highlighting the need for closer alignment between RCCNZ/PNHQ/District MRO Plans
- On the NEP as the 'run' activity for 2019



8. Risk: Health & Safety

- **Treatment Option 2015/08/A:** Implement sound H&S processes and procedures
- **Treatment Option 2015/08/B:** H&S incident contingency planning
 - Process development (less aviation) progressing well
 - Strat H&S minutes incl for reference
 - H&S for SAR ops involving aviation is complex and the sector is not coherent. A 'standards' based approach could raise costs and impact on co-ord choice.



9. SLA Letters of Intent 2015/16

- Addition of a new clause to Schedule 4 – Health & Safety (All)
- Support NZSAR review of communications in land environment (AREC & LandSAR)
- Assist Coastguard with transition to new VHF Channels (CNZ) [agenda item 13]
- Softened the wording about Coastguard's governance model (CNZ)
- Leading the implementation of the wander framework (LandSAR)

10. Assessment of NZSAR Secretariat

- Please ID, complete and return

Evaluation

OUTSTANDING

Excellent

Very Good

Average

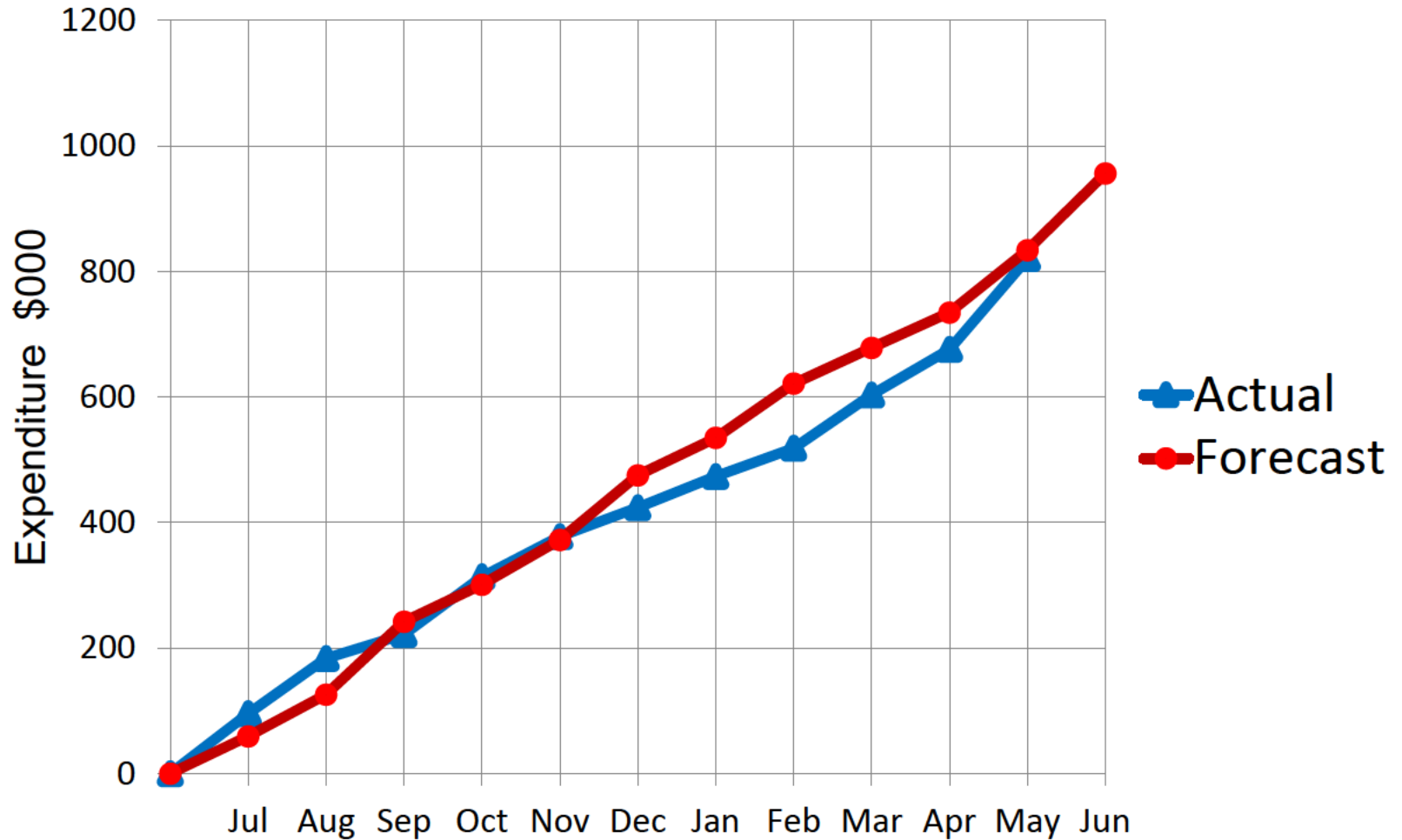
Below Average

11. 2014/15 NSSP Plan

Workshops & Seminars	SAR Training
• Wander Symposium	• Training Support and Advice
• Land Search Seminar	• Air Observer on line material
• SAREX Planning	• Air Observer training
• Helicopter workshop	• Land Formal Search Planning
• SAR Partner Wksp support	• Marine Formal Search Planning
• Organisational Support	• START material
SAR Data management and IT	Prevention
• Data Store and analysis tools	• AdventureSmart Comms & website maint
• Data Extractions	• Visitor Intentions
• SAR Data Standard	• Wander
• Operational Analysis	• Jasons / Tourism Radio
• Resource database enhancements	• Safety Code Partnership
• Maint - SARNET, Website, START, RDB etc	Exercises
SAR Documentation	• Police SAREX support
• SAR Forms and Guidelines	• MRO SAREXs
Secretariat	SAR Research
• Communications and publications	• Governance Review of SAR in NZ
• NZSAR Awards	• Avalanche Advisory Independent review
• Travel, meetings, advice etc	• SAR Funding part II

11. 2014/15 NSSP Plan

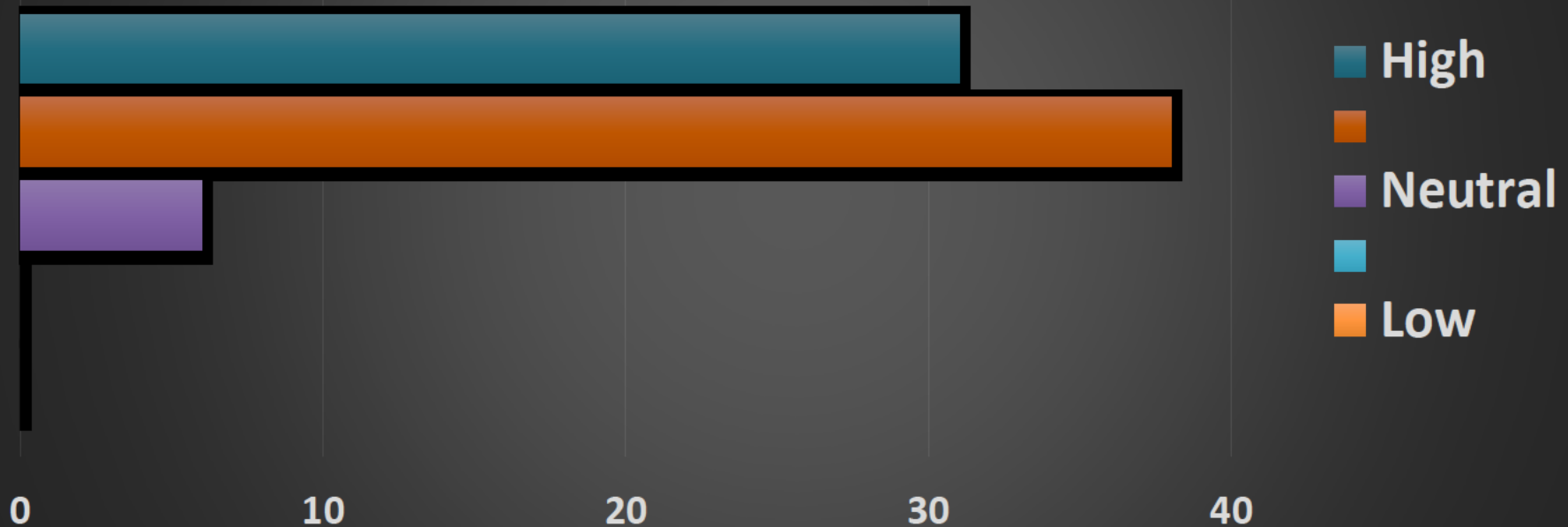
Total SARS Expenses to 31 May Actuals vs Forecast



11. SAR (ACE) Training Update

Course	Registered	Attended	EFTS	Total course count	YTD course count	Cancelled courses
Total	554	486	49.31	115	39	17

To what degree do you feel you have achieved the learning outcomes of this course?



11. Prevention Update (14/15)



- 650,000+ Tourism Radio advert plays
- 120,000+ AdventureSmart brochures distributed
- Jasons sponsorship
- Partnership arrangement with:
 - Coastguard
 - Mountain Safety Council
 - Water Safety NZ

12. 2015/16 NSSP & Budget

Workshops & Seminars	SAR Training
<ul style="list-style-type: none"> • SAR Evaluation Seminar 	<ul style="list-style-type: none"> • Training Support and Advice
<ul style="list-style-type: none"> • Organisational Support 	<ul style="list-style-type: none"> • Air Observer training & Training material
<ul style="list-style-type: none"> • SAREX Planning (+Police) Meeting 	<ul style="list-style-type: none"> • Marine Formal Search Planning (aft gap analysis)
SAR Data management and IT	<ul style="list-style-type: none"> • START material
<ul style="list-style-type: none"> • Maintain SARNET, Website, START, RDB etc 	<ul style="list-style-type: none"> • Formal Search planning Land (Complete)
<ul style="list-style-type: none"> • SAR Dashboard 	Prevention
<ul style="list-style-type: none"> • IMT Time Line 	<ul style="list-style-type: none"> • AdventureSmart & Rec Safety Partnership
<ul style="list-style-type: none"> • Data Store maintenance and operation 	<ul style="list-style-type: none"> • Visitor Intentions
<ul style="list-style-type: none"> • SAR Data Standard (Continues) 	<ul style="list-style-type: none"> • Safety codes, printing and advertising
SAR Documentation	<ul style="list-style-type: none"> • Wander Support
<ul style="list-style-type: none"> • SAR Forms and Guidelines 	<ul style="list-style-type: none"> • NZ Inc Recreational Safety Strategy
Exercises	SAR Research
<ul style="list-style-type: none"> • Support Police SAREXs 	<ul style="list-style-type: none"> • Fatality Analysis
<ul style="list-style-type: none"> • MRO SAREXs 	<ul style="list-style-type: none"> • Outdoor Safety Code – evidence base
<ul style="list-style-type: none"> • Abnormal Flight Behaviours 	<ul style="list-style-type: none"> • SAR Demand and Supply Study – Marine
Secretariat	<ul style="list-style-type: none"> • Prevention knowledge research
<ul style="list-style-type: none"> • Communications and publications 	<ul style="list-style-type: none"> • SAR Expectations
<ul style="list-style-type: none"> • NZSAR Awards 	<ul style="list-style-type: none"> • Impact – SAR Prevention messaging
<ul style="list-style-type: none"> • Travel, meetings, advice, administration etc 	<ul style="list-style-type: none"> • SAR Demand and Supply study – land
<ul style="list-style-type: none"> • Advice 	<ul style="list-style-type: none"> • SAR Communications - Land

13. Coastguard Repeater changes

- ❖ Request from CNZ for financial assistance.
- ❖ OK to proceed with a Section 9(1) application?

14. Aoraki/Mt Cook provision of SAR

- ❖ DOC review of SAR systems & processes at Aoraki/Mt Cook.
- ❖ Seeking a discussion about the operational SAR function at Aoraki/Mt Cook.

15. General Business

- a) Defence White Paper
- b) Avalanche Advisory SLA with MSC
- c) Coastguard air patrol reduction (Kaikoura, Northland, Auckland)



NZSAR

New Zealand Search
and Rescue



Council meeting dates for 2015:

- Thursday 27 August – Combined (workshop?)
- Thursday 19 November

ENDS

