

27 February 2019

**NZSAR RISK MATRIX**

Risk #	Risk Description	Reasons or Causes	Consequences	Likelihood	Impact	Risk Level (reviewed)	Risk Treatment(s)	Post Treatment (Effective from...)	Comments/Examples
2019/01	<b>SAR Information</b>  The collection and analysis of Search and rescue information is inadequate or insufficiently reliable 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.  The sector is significantly limited in its ability to respond or adjust with sufficient speed to identified trends or risks.	Possible	Moderate	(Sep 17)	<b>Risk treatment 2019/01/A: SAR Data Standard</b>  In consultation with operational SAR agencies, develop and document an agreed SAR data standard for collection, collation and analysis.	2017	Changing patterns in, for example, society, demographics, tourism, recreational activities, participation rates and technology is likely to impact on SAR needs and resources.
						(Sep 17)	<b>Risk treatment 2019/01/B: Data exchange and storage</b>  Establish and maintain a single repository for all SAR data.	2018 (Project SARdonyx)	
						(Sep 17)	<b>Risk treatment 2019/01/C: Data analysis</b>  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.	2019	
						(Sep 17)	<b>Risk treatment 2019/01/D: SAR Operational Analysis</b>  Conduct an operational analysis of SAR need mapped to SAR resources. Assist SAR providing agencies to reshape their organisations to match proven SAR need.	2018/19	
2019/02	The sector experiences funding sufficiency and volatility risks.	<b>Sufficiency.</b> Funding for the wider SAR sector has a variety of sources. Funders may choose to lessen or withdraw their funding support.  <b>Insufficient funding is available for organisational infrastructure, support, back-office capabilities.</b>	Inadequate funding for part or some of the sector may limit investment in training or equipment and lead to inadequate operational responses.	Possible	Moderate	(June 18)	<b>Risk treatment 2019/02/A: SAR Funding</b>  Maintain an overall SAR funding picture. Work with other key SAR funders to sustain adequate supply. Maintain adequate PLA funding to NZSAR to meet Council goals.	Ongoing	
						(June 18)	<b>Risk treatment 2019/02/B: Funded SAR SLAs</b>  Continue to support key SAR providing agencies with appropriately funded three-year Service Level Agreements.	Ongoing	
		<b>Volatility.</b> 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.	Volatile funding inhibits long term planning and investment. It also degrades sector effectiveness and efficiency.	Possible	Moderate		(June 18)	<b>Risk treatment 2019/02/C: Monitor and Report</b>  Monitor sector capabilities and outputs and report on observed manifestations of funding sufficiency / volatility related changes to capabilities or outputs.	

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2019/03	<p><b>Cohesive and effective SAR Training</b></p> <p>The competence and capability of SAR individuals is dependent on effective training and assessment. SAR training is largely decentralised and varies significantly.</p>	<p>SAR training can be delivered within organisational silos and can differ within organisations. The perspectives of individual organisations have frequently taken precedence over the needs and goals of the wider sector.</p> <p>Continuation or refresher training is often absent allowing skills to degrade over time</p> <p>Search management arrangements and skills can be deficient resulting in inadequate search effectiveness and potentially external investigation and/or criticism.</p> <p>The SAR sector's training is largely conducted within organisational silos and is not united by collectively agreed doctrine.</p> <p>Funding sufficiency and/or volatility (see Risk 2018/02)</p>	<p>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.</p> <p>These factors can contribute to deficient SAR services, inefficiencies and potentially avoidable loss of life.</p> <p>They can also lead to damage to the reputation of the NZ Search and Rescue community. And harm New Zealand's international reputation as a safe destination for adventure tourism.</p>	High	Moderate	(May 17)	<p><b>Risk treatment 2019/03/A: Suitable individual SAR skill acquisition training is available, funded and sound.</b></p> <p>SAR (ACE) funded skill acquisition training is made available for SAR people so that they may achieve the relevant SAR competencies at no cost to themselves.</p>	Ongoing	Skill acquisition training is effective. SAR(ACE) arrangements are problematic
						(May 17)	<p><b>Risk treatment 2019/03/B: Collaborative SAR training and exercising</b></p> <p>Undertake cooperative and collaborative training, exercising and relationship building.</p>	Ongoing	NZSAR supports the conduct of Police District SAREXs and the Raoura Mass Rescue Exercise series
						(May 17)	<p><b>Treatment Option 2019/03/C: IMTEX.</b> Undertake independently planned, delivered and assessed regional IMTEX's involving multiple agencies to broaden, update and standardise search management practices. Also to maximise the pool of competent and current regional search managers.</p>	2019	
						(May 17)	<p><b>Risk Treatment 2019/03/D: Continuation/Refresher Training</b></p> <p>Encourage all SAR agencies to plan and undertake continuation or refresher training in order to retain skills and maintain engagement with SAR.</p>	Ongoing	Continuation or refresher training is the responsibility of the SAR sector as an "industry".
						(May 17)	<p><b>Risk Treatment 2019/03/E: Revalidation</b></p> <p>Work with Police to develop a SAR coordinator revalidation system.</p>	2019-2020	
						(May 17)	<p><b>Risk Treatment 2019/03/F: Incident Review</b></p> <p>Independent review of randomly or targeted SAROPs. Use the results to inform and update SAR doctrine and training material</p>	2019	
						(May 17)	<p><b>Risk Treatment 2019/03/G: Doctrinal Basis</b></p> <p>Develop and maintain agreed, unified doctrinal documentation for the conduct of SAR in New Zealand.</p>	2018	New Zealand SAR Guidelines

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2019/04	<b>Volunteerism</b>  Risks exist around the long-term sustainability of the SAR volunteer model.	Changing demographics and attitudes, work and family 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"> <li>Insufficient numbers of volunteers in the right locations is likely to impact on the safe delivery of effective SAR services.</li> <li>Volunteer turbulence increases the training burden and inhibits the formation of SAR leaders.</li> <li>Excessive demands on, and/or onerous administrative requirements deter people from volunteering and discourage existing volunteers from remaining.</li> <li>Infrequent utilisation for SAROPs can be dispiriting and discourage long term engagement.</li> <li>Volunteer disengagement can lead to them to leave SAR organisations.</li> <li>Stressful SAR events may cause harm to SAR personnel mental health and wellbeing.</li> <li>Non - engaged coordinating authorities, poor or inaccessible skill acquisition training, poor or infrequent SAR exercises can discourage existing volunteers from remaining.</li> </ul>	Possible	Major	<p>(Feb 19)</p>	<p><b>Risk treatment 2019/04/A: Maintain sound information on SAR volunteers</b></p> <ul style="list-style-type: none"> <li>In conjunction with the major SAR voluntary agencies, establish and maintain good information about SAR volunteers and their expectations.</li> <li>Update and maintain the 2010 NZSAR Council Volunteer Study.</li> <li>Ensure NZSAR administrative requirements are not excessive.</li> </ul>	2019 - 20	<p>Certain volunteer positions require people with specific technical expertise (i.e. AREC).</p> <p>The NZSAR Environmental Scan includes commentary on the changing nature of volunteerism in NZ society</p>
		Volunteers can be asked to undertake tasks different to what they joined to do i.e. fundraising, administration etc					<p><b>Risk treatment 2019/04/B: Establish and maintain volunteer strategies</b></p> <ul style="list-style-type: none"> <li>Assist Coastguard NZ, LandSAR NZ, SLSNZ and AREC to develop and maintain their own volunteer strategies focussing on the recruitment, retention and engagement of effective SAR volunteers reflective of NZ Society.</li> <li>Work with agencies to develop and maintain appropriate mental health, wellbeing and peer support processes.</li> </ul>	Ongoing	
		Increased compliance, legal responsibilities and other duties					<p><b>Risk treatment 2019/04/D: Quality SAR individual skill acquisition training and collective exercises</b></p> <p>Refer Risk treatments 2019/03. The conduct of good quality, appropriately focussed and well evaluated SAR exercises and relevant skill acquisition training is important as they enhance readiness, reinforce training and build cohesiveness and morale within the SAR sector.</p>	2018 - 19	
		Volunteers can be exposed to situations which affect their mental health and wellbeing.					<p><b>Risk Treatment 2019/04/E: Implement the recommendations from the 2019 NZSAR Volunteer Study</b></p>	2018 - 19	
		Growing public and legal expectations of SAR performance and competence impacts upon the training and commitment levels of SAR volunteers.						Ongoing	
		Trained SAR Volunteers can be difficult to retain and motivate in areas where little SAR activity occurs.						2019 - 20	
	Funding support for volunteers – (particularly back office functions & capabilities) affected by sufficiency and/or volatility (see Risk 2019/02)								

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2019/05	<p><b>Nationally Significant Search and Rescue Event.</b></p> <p>Certain search and/or rescue events may overwhelm normal SAR capabilities and trigger the involvement of the National Security System.</p>	<p>Nationally significant SAR events may: require considerable resources to resolve; involve significant numbers of people and/or fatalities; attract substantial domestic and international attention; introduce reputational risks to SAR agencies and New Zealand.</p> <p>New Zealand's SAR sector has very limited capacity to respond to large scale SAR events and we have a very large SAR region with little or no SAR assets able to cover much of the region.</p> <p>Significant numbers of vessels and aircraft with large amounts of passengers transit the NZSRR.</p>	<ul style="list-style-type: none"> <li>Significant numbers of people injured or killed that could have been rescued.</li> <li>Severe reputational damage to SAR agencies.</li> <li>Severe reputational harm to New Zealand as a tourist destination.</li> </ul>	Rare	Severe	(Mar 17)	<p><b>Treatment option 2019/05/A: Develop mass rescue /abnormal flight policy and plan.</b></p> <p>In conjunction with partner agencies, develop appropriate search and rescue policies, plans and procedures.</p>	<p>SAR Policy Complete</p> <p>MTI Policy under development 2018</p> <p>Unitary Plan under development 2018</p>	This risk is seen as very high consequence but low likelihood.
						(Mar 17)	<p><b>Treatment option 2019/05/B: Conduct regular mass rescue /abnormal flight exercises.</b></p> <p>In conjunction with partner agencies, exercise the relevant plans regularly in order to practise, validate and refine them. (see also risk treatments for Risk 2017/03)</p>	<p>Exercises ongoing. Personnel Turbulence limits progress.</p>	
2019/06	<p><b>Personal Safety</b></p> <p>Inadequate public understanding of personal risks taken during recreational activities.</p>	<p>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:</p> <ul style="list-style-type: none"> <li>Decrease in public knowledge about recreational safety.</li> <li>Increase in the range of recreational activities.</li> <li>Lack of understanding by inbound tourists about New Zealand's conditions and weather.</li> <li>Inadequate coordination and cohesion between the plethora of competing agencies which provide safety advice.</li> </ul>	<ul style="list-style-type: none"> <li>Individuals fail to take adequate precautions and/or responsibility for their own safety.</li> <li>Unacceptable levels of harm to New Zealand residents and foreign tourists.</li> <li>Harm to the reputation of New Zealand as a tourist destination.</li> <li>Unrealistic public expectations of the SAR sector.</li> </ul>	Likely	Moderate	(Sep 17)	<p><b>Risk treatment 2019/06/A: Ensure the public has access to good quality, consistent safety advice.</b></p> <p>Maintain the NZSAR Adventure Smart website (<a href="http://adventuresmart.org.nz/">http://adventuresmart.org.nz/</a>) and support the promulgation of consistent sector messaging.</p>	Ongoing	<p>Treatments must include widespread engagement – incl regional councils, appropriately targeted information, and influence relevant decision makers.</p> <p>Council to be updated on progress for 2018/06/D in Sept 2018 or before.</p>
						(Sep 17)	<p><b>Treatment option 2019/06/B: Recreational safety - provision of consistent information to the media.</b></p> <p>Support the relevant agencies to provide timely information to the media on personal responsibilities and better preparation when undertaking outdoor recreational activities.</p>	2018	
						(Sep 17)	<p><b>Treatment option 2019/06/C: Support domestic safety organisations.</b></p> <p>Support the SAR prevention efforts of domestic safety information providing agencies. Encourage and harmonise collaborative action.</p>	2018	
						(Sep 17)	<p><b>Treatment option 2019/06/D: Implement the NZ Inc Recreational Safety Strategy.</b></p>	2018	

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2019/07	<b>Health and Safety</b> Incident of avoidable harm to one or more SAR persons occurs.	NZ's H&S regulatory environment has changed. The SAR sector needs to adapt to the new requirements and implement the required changes for the SAR context.	SAR organisations, team and individuals fail to implement appropriate / necessary H&S processes and procedures. An Avoidable harm situation results.  Audit or investigation detect and report on seriously deficient H&S arrangements.  For all three circumstances, the sector may be: <ul style="list-style-type: none"> <li>Exposed to risk of prosecution. Audit exposes SAR sector health and safety deficiencies.</li> </ul>	Unlikely	Major	(Mar 17)	<b>Treatment Option 2019/07/A: Implement sound H&amp;S processes and procedures</b>  NZSAR Council H&S processes and procedures for the SAR sector have been approved and are being implemented. The five SLA documents include H&S provisions. SAR sector H&S monitoring and reporting occurs at the SAR strategic H&S Committee and a variety of other interagency SAR forums. H&S experiences and lessons are shared between SAR partner agencies. H&S Advice for the use of non-standard SAR assets is being developed.	Ongoing	
		One or more SAR persons is harmed or killed due to avoidable, and reasonably predictable circumstances.	<ul style="list-style-type: none"> <li>Suffer reputational damage.</li> <li>Experience an outflow of personnel due to perceived risk.</li> <li>Experience an outflow of personnel due to excessive H&amp;S process requirements.</li> <li>Likely to expect significant external pressure / investigation / regulation / over watch following the trigger event.</li> </ul>	Rare	Severe	(Mar 17)	<b>Treatment Option 2019/07/B: H&amp;S incident contingency planning</b>  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.	2018	
2019/08	<b>SAR Expectations</b> Stakeholders and public develop unrealistic expectations of SAR capacity and capabilities	A lack of knowledge about SAR sector capabilities and limitations may lead to unwarranted expectations.	In the event of a mass rescue, mass search or a SAR incident at the extremities of the NZSRR, the media, public and senior stakeholders may unduly criticise SAR agencies and/or demand actions by SAR agencies that are beyond our capabilities.	Rare	Major	(Jul 15)	<b>Treatment Option 2019/08/A: Advise senior stakeholders of SAR Sector capabilities and limitations</b>  Provide update briefs to HRB and Ministers regarding SAR capabilities and limitations.	Ongoing	
		Regular reporting of successful SAR operations may lead to a false sense of SAR capabilities by the media and significant stakeholders.	Inappropriate SAR sector investment due to a misunderstanding of SAR expectations  Members of the public may suffer undue hardship or cause unnecessary cost on the SAR system due to misunderstanding its capabilities and limitations.				(Jul 15)	<b>Treatment Option 2019/08/B: Advise media stakeholders of SAR Sector capabilities and limitations</b>  Distribute the NZSAR annual report to media outlets. RCCNZ and NZ Police hold an annual SAR media briefing and specifically note SAR sector capabilities and limitations.	Ongoing
					Likely	Moderate	(Nov 15)	<b>Treatment Option 2019/08/C: Undertake a benchmarking survey of SAR expectations</b>  Engage with the public on occasions to ascertain what their expectations of SAR are and measure trends in expectations.	Undertaken 2016, next 2018

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2019/09	<b>SAR Technology</b> The SAR community may not know of or be able to acquire technologies that have the capacity to significantly increase SAR effectiveness.	Technology development and change occurs at a very fast pace. Technologies which might aid or transform SAR are difficult to identify and hard to fund.	Non-compatible technologies may hinder our capacity to collaborate and cooperate.	Likely	Moderate	High (Jun 18)	<b>Treatment Option 2019/09/A:</b> Organise occasional SAR technology workshops to identify technological trends and opportunities relevant to SAR.	Planned 2018	
		Different SAR agencies might select different, non-compatible SAR technologies.	Sector may experience non-optimised or reduced operational effectiveness due to an inability to acquire or access relevant technologies.				<b>Treatment Option 2019/09/B:</b> Monitor and report on technologies relevant to SAR.	Ongoing	
		Acquisition, maintenance, training for the use of relevant SAR technologies is affected by funding sufficiency and/or volatility (see Risk 2018/02)	Sector may experience non-optimised or reduced operational effectiveness due to non-compatible technologies.				<b>Treatment Option 2019/09/C:</b> Identification (and possible support) of incident management team support software.	2017/18	
			The sector may be criticised and suffer reputational damage for not utilising the most appropriate and effective technology for an operation.				<b>Treatment Option 2019/09/D:</b> Facilitate engagement and approaches to coordinate the acquisition, use of and compatibility of high value SAR technologies.		
2019/10	<b>SAR Demand</b> Changes to the nature of SAR demand.	Change in SAR demand may be caused by shifts to New Zealand's demographic profile, population growth (or shrinkage), urban spread, tourism growth, climate / meteorological / geological change, new or changed recreational pursuits and/or locations.  Change may also occur in personal risk appetite and/or preparedness to request SAR assistance.	The sector may find itself inadequately prepared and resourced to respond to changes in SAR demand.	Likely	Moderate	High (May 17)	<b>Treatment Option 2019/10/A. Environmental Scan</b> NZSAR will maintain a clear picture of SAR demand and trends. Integrated this picture with demographic, population, recreation and tourism trend projections prepared by other agencies. Information will be shared as appropriate.	Develop and maintain a clear picture of SAR demand. (2018)	Initial focus on: <ul style="list-style-type: none"><li>Wander SAR</li><li>Antarctic SAR</li></ul>
			Resources / capabilities / coordination may not be appropriate nor possess the relevant skills and equipment to effectively respond.				<b>Treatment Option 2019/10/B.</b> The sector will work collectively to recognise and then adapt to observed or likely changes.	Work with SAR sector agencies via existing channels to adapt to change. (ongoing)	
			Conversely – costly existing capabilities may be excessive to meet a changed SAR demand profile.				<b>Treatment Option 2019/10/C.</b> The sector acts rapidly to address sudden or unforeseen changes.		
			Changes to SAR capacity can be very costly. Volunteers in Units / Clubs / groups may be resistant to change.				<b>Treatment Option 2019/10/D.</b> Develop 'demand change' projects to identify, explore and make change recommendations for SAR organisations.		
			The ability of SAR agencies to respond or scale to identify change is limited.				<b>Treatment Option 2019/10/E.</b> NZSAR to shape and influence identified change needs through its work programme and service level agreements.		
The sector has very limited internal capacity to recovery from natural disasters.									
Sector may have the 'right' resources in the 'wrong' locations.									