



Australian Government
Attorney-General's Department

National Security Knowledge and Lessons Management Workshop Report

**Held at the
Australian Emergency Management Institute**

29 April – 1 May 2014

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Executive Summary

The National Security Knowledge and Lessons Management Workshop was a three-day workshop divided into two parts. Firstly, lessons identified from operational experiences during the 2013-14 season and, secondly, opportunities to enhance the management of knowledge and lessons.

Lessons management processes were used to capture observations then analyse and theme those observations to produce insights. The key insights are summarised below. The detail of the observations and themes used to develop the insights can be found in the appendices to this report.

Insights

1. Political expectations are increasing
2. Strategic foresight is key
3. Capability and capacity are difficult to define
4. Plans and planning remains challenging
5. Command and control arrangements need to be scalable
6. Impact assessment is improving
7. Interagency and national collaboration is improving
8. Social media remains difficult to keep in front of
9. Public information has improved but the community's response varies
10. Situational awareness still poses challenges
11. Naming conventions can lead to confusion
12. Need to understand the community
13. Predictive modelling has improved
14. Personnel management is still an issue
15. Growing difficulties with volunteer retention

The way forward

The outcomes from the workshop will be used by the Attorney-General's Department to consider needs and possible approaches to knowledge and lessons management in national security and emergency management sectors.

The insights developed will also be used to inform the Australia-New Zealand Emergency Management Committee (ANZEMC) Capability Development Sub-Committee's National Emergency Management Capability Prioritisation Guide. The Draft Capability Prioritisation Guide can be found at **Appendix A**.

Background

The National Strategy for Disaster Resilience, endorsed by Council of Australian Governments (COAG) in February 2011, highlights the significance of sharing knowledge in promoting innovation and best practice, including lessons identified from previous events. As a result, the Attorney-General's Department (AGD) established the National Security Knowledge and Lessons Management Workshop to provide local, national and international agencies with an opportunity to share their lessons identified. The insights from the two previous Workshops (2011 and 2013) have informed the development of lessons training and resources, which further emphasises the importance of sharing lessons identified to lead improvement and change. Further information on previous workshop lessons / insights can be found in the relevant Workshop reports.

Since the 2011 Workshop, significant progress has been made in developing consistent approaches to knowledge and lessons management. The work has two key focuses:

- supporting the development of capability and processes for knowledge and lessons management
- identifying and understanding lessons and then using those lessons to inform policy and decision making for implementing change.

In relation to capability development, the following key milestones have been achieved:

- completion of the Australian Emergency Management Handbook – Lessons Management in February 2014 (developed by the National Security Knowledge and Lessons Management Workgroup and partly funded through the National Emergency Management Projects)
- development of the Conduct and Manage Evaluations course, which had its inaugural delivery at the Australian Emergency Management Institute (AEMI) on 4-7 March 2014
- developing Lessons Management training with the assistance of the Australian Defence Force, including the North Atlantic Treaty Organisation (NATO) Lessons Learned Staff Officers course (which took place at HMAS Harman in March 2014) and the Lessons Management Course, which was delivered by the Army at AEMI on 21-23 May 2014.

In relation to identifying lessons:

- three national Security Knowledge and Lessons Management Workshops, hosted by AGD, leading to the identification of insights and national themes
- the National Security Knowledge and Lessons Management Workgroup (the Work Group) conducting two coding workshops, with the assistance of the Centre for Army

Lessons, to develop and trial processes to collate and analyse lessons and produce insights.

Introduction

The 2014 National Security Knowledge and Lessons Management Workshop was a three-day workshop to share lessons and consider how organisations might improve knowledge and lessons management. The workshop included presentations identifying lessons that had come out of diverse emergency operations across Australia in 2013-2014. This included operational experiences from the Tasmanian bushfires, Queensland cyclones and New South Wales bushfires. The workshop program can be found at **Appendix B** of this report.

Aim

The aim of the workshop was to collect and theme lessons identified from recent operations and inform the development of approaches to the management of national security knowledge and lessons across all hazards.

Objectives

The objectives for the workshop were to:

- identify and confirm national themes
- identify lessons from operations across Australia in 2013-2014
- establish an ongoing mechanism to share lessons and identify themes on an annual basis
- maintain and enhance a national lessons management network
- promote the outputs of the lessons management community, being the Lessons Management Handbook and the accredited Conduct and Manage Evaluations course
- explore other tools and techniques to enhance lessons management
- identify requirements and options to develop consistent approaches to lessons analysis to inform strategic decision making and priority setting at all levels of government.

Participants

Presenters and participants were drawn from a broad spectrum of emergency management agencies across Australia.

A list of organisations represented at the workshop can be found at **Appendix C**.

Location

The workshop was held at the Australian Emergency Management Institute at Mt Macedon, Victoria.

Workshop structure

The workshop was comprised of several components; presentations from key speakers and various agency representatives, analysis of lessons identified to produce insights and open discussions about future direction of lessons.

The presentations from various agency representatives focused on case studies and experiences of recent operations at the national, jurisdictional and agency level, including the lessons identified from response, coordination, investigation and recovery activities. The presentations were an opportunity to share knowledge and compare information from experiences in an operational context. Presentations from key speakers focused on approaches for implementing a learning culture within organisations as a means of addressing the enduring problems organisation face in learning lessons.

Analysing lessons identified involved the participation of all workshop attendees in two activities. The first activity saw all attendees work together to theme the observations from recent activities or operations. Those observations form the basis of identifying national themes, both new and enduring. The second activity comprised of syndicate discussions on 'Next Steps' that were required to be taken in order to enhance knowledge and lessons management at the agency, state and national levels.

Part One - Lessons Identified and Insights

The key objectives for Part One of the workshop were to:

- identify lessons from operations across Australia in 2013-14
- Theme lessons identified to produce insights
- identify and confirm recurring national themes/trends.

A summary of the lessons identified from individual presentations can be found at **Appendix D**. The table at **Appendix E** summarises the themes identified. Insights were developed for each of the key themes and these are listed below.

Ordinarily, the Commissioners and Chief Officers Lessons Learned Roundtable would precede this Workshop and the outcomes of the meeting would inform Workshop discussions. Due to unforeseen circumstances this year, the Roundtable meeting was postponed and took place after the Workshop. A summary of the 2013-14 Roundtable outcomes are attached at **Appendix F**.

Insights

The key insights are listed below.

1 Political expectations are increasing

There is an increasing expectation from Ministers and public officials for real-time updates on the situation. This is partly driven by increased community expectations for accurate and timely information during events and the immediacy of social media. Agencies need to consider the resourcing implication of these demands.

2 Strategic foresight is key

Contemporary risk frameworks can discount high impact events due to their low likelihood. Planning efforts may be focused on events that are more likely to occur. The need to utilise imagination to look beyond what has happened during past events and plan/prepare for catastrophic events beyond those seen or experienced remains.

3 Capability and capacity are difficult to define

At the national and jurisdictional level there are difficulties accurately quantifying resource capabilities and limitations. Only once this is known can resources be utilised optimally. A lack of information on capability and capacity hinders the ability to resource prolonged events and share resources across agencies and jurisdictions.

4 Plans and planning remains challenging

Maintaining the currency of the number of emergency plans that exist across all hazards and all levels of arrangements is challenging. People's ability to gain and maintain a working knowledge of all relevant plans is even more challenging. Well documented plans, with measures attached are important for success. Developing, aligning and understanding multi-agency/jurisdiction plans and planning is complex.

5 Command and control arrangements need to be scalable

With increasingly complex events there is a need to ensure there is flexibility in command and control structures and systems. This will enable arrangements to be agile, adaptable and scalable to better suit the unique needs of non-routine events.

6 Impact assessment is improving

Agencies are conducting rapid impact / damage assessments following events. This provides information to help inform response, recovery, the community and government. Challenges remain on the use of a consistent approach for impact / damage assessment, common terminology and associated training. As a result, information may be conflicting and/or inaccurate, as well as time consuming to gather and interpret.

7 Interagency and national collaboration is improving

There have been improvements in interagency collaboration during events. The establishment of national arrangements for interstate deployments will aid in formalising the existing processes. However, there still remain variations in Incident Management Team (IMT) structures and the way different agencies apply IMT roles and responsibilities which can lead to confusion for deployed personnel.

8 Social media remains difficult to keep in front of

There is a growing recognition of social media as an important tool for communicating with affected communities and the broader public during events. The use of social media has increased across agencies and has resulted in improved monitoring and updating during events. Web map products are also being better utilised by agencies to inform the public. The growing importance of social media as a communication tool and its high visibility has led to a need for agencies to provide leaders with future focussed assessments to ensure they are prepared to counter adverse social media and remain a point of truth.

9 Public information has improved, but the community's response varies

The importance of accurate and timely public information is well understood by agencies and this has been reinforced by lessons identified from events over the last decade. Significant effort has been invested to improve the information provided to the public before, during and after events. Indications are that major improvements have been achieved in this area. Agencies need to continue to enhance their understanding of the type of information communities want, the preferred media for receiving it and how they utilise it.

10 Situational awareness still poses challenges

A common operating picture continues to be recognised as essential for effective situational awareness within and across agencies and jurisdictions. Information management and information sharing across agencies continues to pose challenges with issues relating to interoperability and compatibility of systems and processes; effective timing of reporting and consistent understanding of terminology across agencies.

11 Naming conventions lead to confusion

Events are often named after their point of origin which can cause confusion for responding agencies and the community. The point of origin for large scale events may be a long way away from communities that could eventually be impacted. This can result in warnings being disregarded by the community as they do not necessarily associate their location with an event that started many kilometres away from them. Narrow naming conventions are no longer suitable as events are dynamic and can have a larger impact geographically in an increasingly networked society.

12 Need to understand the community

A better understanding of community composition, including awareness of vulnerable people within the community, is essential to planning how and when to communicate with the community before, during and after an event. Harnessing local knowledge to tailor education and communication to prepare the community on their role during an event is essential.

13 Modelling has improved

Predictive modelling for weather events and fire behaviour has improved significantly. There is more confidence in the planning models being used by agencies. This assists agencies to pre-plan and pre-deploy resources which results in a more effective and efficient response.

14 Personnel management is still an issue

Managing personnel issues and complying with workplace health and safety legislation and policies during events remains a challenge. Fatigue management remains an issue which may be exacerbated by other factors such as increased demand for emergency services, particularly volunteers, with more frequent and longer duration events.

15 Growing difficulties with volunteer retention

Agencies are experiencing growing difficulties with volunteer recruitment, retention and availability for operations. Agencies continue to work on strategies to attract and retain members. One gap identified is in strategies and programs to encourage employers to release volunteers during events and to protect their employment when they respond.

Recurring national themes

Although presenters noted progress had been made in relation to certain issues, such as the more effective use of social media in public messaging, it was acknowledged that further improvements could still be made. An analysis was conducted to compare issues identified at this workshop with the nationally recurring themes identified from previous workshops. The updated map of the National Themes can be found at **Appendix G**.

It is acknowledged that many of the themes identified are likely to continue occurring as they are “wicked problems”¹ and unlikely to be fully resolved. Issues such as multi-agency communication, coordination and interoperability in times of crisis are complex and will remain challenging. Most wicked problems occur at the strategic, multi-jurisdiction and multi-agency level and are unlikely to ever be learned. However, the risks associated with these wicked problems can be effectively managed and this can be seen in the increase of effective inter-agency collaboration.

If we are to improve our ability to learn from experience, we need to change the perception that wicked problems are lessons that can be learned.

The National Themes mapped at **Appendix G** aims to provide a high level and consistent schema for lessons managers to use when theming observations or lessons in support of multi-agency analysis.

¹ A wicked problem is one for which each attempt to create a solution changes the understanding of the problem. Wicked problems cannot be solved in a traditional linear fashion, because the problem definition evolves as new possible solutions are considered and/or implemented. The term was originally coined by Horst Rittel. H. W. J. Rittel and M. M. Webber, ‘Dilemmas in a General Theory of Planning’, *Policy Sciences*, Vol. 4, No. 2, June 1973,

Part Two – Managing Knowledge and Lessons

The key objectives for Part Two of the workshop were to;

- maintain and enhance the national lessons management capability and network
- explore other tools and techniques to enhance national lessons management
- identify requirements and options to develop consistent approaches to lessons analysis to inform strategic decision making and priority setting at all levels of government
- identify ongoing mechanisms to share lessons and identify themes on an annual basis.

Presentations from key speakers during this part of the workshop focussed on lessons management capability, including implementing a learning culture and reviewing methodologies for extracting lessons. There were also short presentations from participants on their agency's lessons process and a presentation on the Capability Guide currently being developed by the ANZEMC Capability Development Sub-Committee.

Knowledge and lessons management themes

The workshop highlighted a number of significant themes in relation to knowledge and lessons management. Participants also developed suggestions for the way forward.

1 Thinking around learning from experience

Many of the recurring issues at the strategic, multi-jurisdictional level are not lessons and are not likely to ever be “learned”. The workshop highlighted that a number of the issues / themes identified are likely to continue to occur as many are “wicked problems” and are unlikely to ever be solved. Issues such as multi-agency communication, coordination and interoperability in times of crisis, will remain challenging and during a catastrophe will never be perfect, particularly in hindsight.

One of the key challenges is to change the perceptions and expectations that all issues identified from operations and exercises are lessons and can be learned. Whilst there are some lessons that can be identified and learned these are mostly at the tactical and operational level.

There is a need to continue to focus on these recurring issues but with a view of mitigating the associated risks rather than finalising a perfect solution. For some issues the best that may be achieved is to continue to strive for incremental improvements to what is often already equal to world's best practice.

2 Measures of success

Evaluation is critical to learning from experience. In order for evaluation to be effective, measures of success need to be agreed so there is something to evaluate against and to ensure progress can be measured. Perceptions of what success looks like can vary between agencies, communities, officials and Royal Commissioners.

Peer reviews of plans and operations are being used effectively to address this concern in the absence of agreed documented measures.

3 Real-time / developmental evaluation during events

Evaluation has largely been focussed on being judgemental post event. Royal Commissions and formal inquiries are extreme examples. Terms of reference for inquiries are not necessarily focused on learning and there are now questions if formal inquiries are helping or hindering learning particularly during the period where inquiries are pending.

Developmental evaluation could be used much more effectively in real-time during events to identify lessons and highlight issues that might be improved in real time thus preventing situations that result in a Royal Commission. The Victorian Strategic Emergency Management Assurance Team (SEMAT) concept is one example of how this concept is being used effectively.

4 Targeted exercising

Exercises are an effective way to train, explore or test. With the current operational tempo there are numerous opportunities to identify lessons from events. The identification of recurring issues from operations can be used to inform efficient exercises targeted at answering evaluation questions. Large exercises have not been required recently due to the number of large operations.

Numerous exercises are still occurring but the lack of visibility of a national exercise schedule is hampering opportunities to collaborate and leverage off other agencies exercises. Better coordinated exercising could be used more effectively to explore issues and identify points of failure in a safe fail environment.

6 Learning culture

In order to enact lasting and meaningful change, lessons must be adopted at the values and beliefs level within the organisation. The authorising environment is key to implementing and sustaining any cultural change in regard to learning within the organisation.

The development of a lessons culture in an organisation needs to have buy-in from all levels within the organisation. There still needs to be a true shift from a blame culture, to a just learning culture where individuals feel they can share their experience without fear of reprimand. There is still a long way to go to make this cultural shift.

7 Maintain focus on lessons

Significant effort has been invested in recent years to develop lessons management capability and improve learning from experience. There is the potential for lessons management to lose momentum in the current budgetary environment and for that progress to be lost. There is an ongoing need to maintain the focus on and momentum of lessons management at all levels of government.

8 Lessons management capability

Developing training and new techniques to up-skill lessons practitioners and further develop the national lessons management capability is essential to success. The power of storytelling as a technique for passing on knowledge is valuable. The staff ride concept, where the storytelling is accompanied by a site visit, allows the opportunity for participants to relate to and more fully understand the context in which decisions were made during an event.

9 Lessons management community

The lessons management community of practice that is growing across the country has contributed more to the development of agency and national lessons management capability than any other aspect. It is important to ensure consistency of approaches and collaboration between agencies and jurisdictions to support national analysis and sharing of lessons. There have been improvements in the willingness to share lessons and knowledge gained from experience, but further work is required to ensure the community of practice continues to grow.

Next steps for Lessons Management

The Workshop participants worked in syndicate groups to consider the next steps required for lessons management capability development and the actions needed at the agency, jurisdictional, and national levels. A summary of these findings is at **Appendix H**.

Conclusion

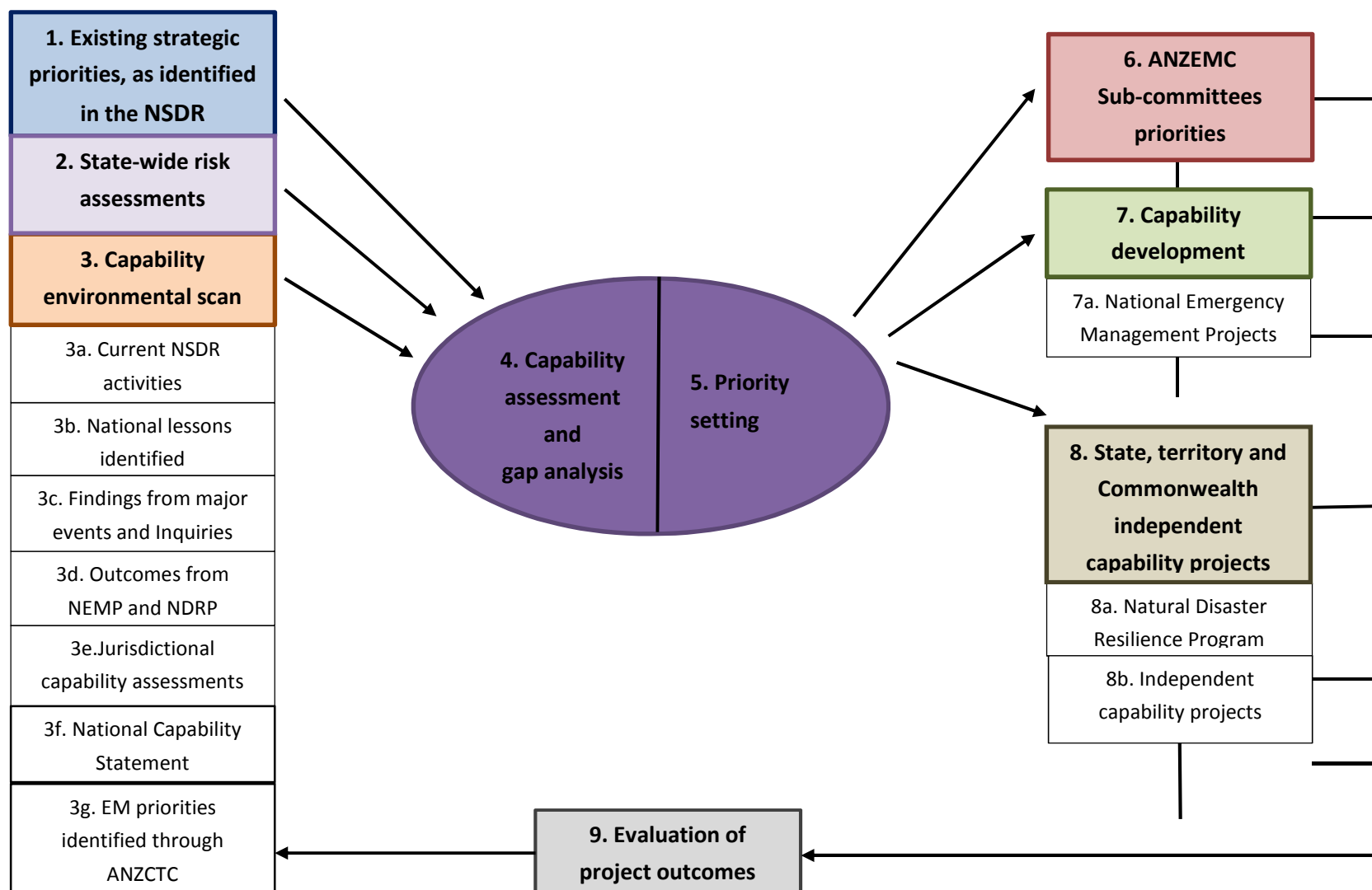
The workshop was a valuable experience for identifying and exchanging lessons, insights and methodologies. The themes identified at the workshop will assist in the identification of capability gaps and priorities and assist to inform the future allocation of resources.

Participants agreed that the management of knowledge and lessons across all-hazards and across the prevention, preparedness, response and recovery spectrum is a priority. It was agreed that it was important to maintain the momentum developed by the workshop.

Appendix A – Draft Capability Prioritisation Guide

Draft National Emergency Management Capability Prioritisation Guide

A cyclic decision support tool to inform strategic priorities of ANZEMC and its Sub-committees



Appendix B – Workshop program

TIME	TOPIC	PRESENTER
TUESDAY, APRIL 29 2014		
0930	Participant arrival and registration	
1015	Welcome and Introduction	Raelene Thompson Executive Director – AEMI
1030	KEYNOTE ADDRESS: Future, present, past – Learning from experience in emergency management	Mark Crosweller – Director General, Emergency Management Australia
1130	Lessons and the Annual Lessons Cycle – An update on progress	Mark Cuthbert – Attorney General’s Department
1330	Strategic lessons from the Tasmanian fires	Scott Tilyard – Tasmania Police
1415	Lessons from the NSW Fires	Steve Yorke – NSW Rural Fire Service
1515	Jurisdictional update - Queensland	Rowena Richardson – Queensland IGEM Steve Grant – Queensland Fire & Emergency Services
1930	Persistent lessons identified from emergencies and major incidents in the United Kingdom	Dr Kevin Pollock – Pollock Ferguson Resilience
WEDNESDAY, April 30 2014		
0800	US approach to lessons	Laureen Daly – US Federal Emergency Management Agency
0830	Jurisdictional report – Victoria	Tony Murphy – Victoria Office of the Fire Services Commissioner
0900	Defence lesson from recent operations	Major Darren Kaehne - HQJOC
1030	Lessons from South Australia Fires	Mark Thomason - CFS
1115	Lessons from EMA	Matt Harper - EMA
1200	Living a learning culture in the workplace	Sandra Whight – Tasmania Fire Service
1330	The future of post event reviews	Michael Eburn - ANU
1415	Utilising lessons – Queensland case study	Steve Grant – Queensland Fire & Emergency Services
1515	WA season review and emergency preparedness report progress	Rob Horridge – WA Police
1600	Thematic analysis	Mark Cuthbert & Cameron Scott – Attorney General’s Department
THURSDAY, May 1 2014		
0830	Queensland Inspector General of Emergency Management – The way forward	Rowena Richardson – Queensland IGEM Steve Grant – Queensland Fire & Emergency Services
0915	Thematic analysis and development of insights	
1030	Thematic analysis and development of insights	
1330	Next steps at the: <ul style="list-style-type: none"> • Organisational level • Jurisdictional level • National level 	

Appendix C – List of participants

Andrew Blades	Department of Transport, Planning & Local Infrastructure Victoria	Principal Advisor
Genevieve Chan	Attorney-General's Department – National Security Law & Policy Division	Capability Officer
Geoffrey Cooper	Department of Defence – Centre for Army Lessons	Senior Analyst
Mark Crosweller	Attorney-General's Department – Emergency Management Australia	Director General
John Davis	NSW Rural Fire Service – Corporate Planning, Research & Knowledge	Manager
Michael Eburn	Australian National University	Associate Professor
Robert Flett	Office of the Emergency Services Commissioner Victoria	Manager
Neil Gallant	Queensland Fire and Emergency Services	Manager
Steve Grant	Queensland Fire and Emergency Services	Executive Director
Kirsten Halmarick	Victoria Police	Regional Emergency Management Inspector
Matthew Harper	Attorney-General's Department – Emergency Management Australia	Director
Wade Harrison	Rowland – Risk Services	Manager
Robert Horridge	Western Australia Police	Senior Policy Officer
Michael Howard	Attorney-General's Department – National Security Law & Policy Division	Director
Julie Hoy	Department of Justice Victoria	Manager
Darren Kaehne	Department of Defence	Staff Officer
Monique Kardos	Defence Science and Technology Organisation	Senior Scientist
Erin Liston-Abel	Australian Fire and Emergency Services Authorities Council	Director
Nicole Lott	Office of the Inspector General Emergency Management Queensland	Executive Manager
Kate Mannion	Department of Agriculture – National Exercise & Evaluation Program	Assistant Director
Fiona May	Department of Agriculture – Biosecurity Emergency Management	Assistant Director
Jon Mitchell	Joint Centre for Disaster Research (New Zealand)	Project Manager
Helen Palmer	RHX Group	Director
David Patterson	Country Fire Authority Victoria	Business Continuity Manager
Dr Kevin Pollock	Pollock Ferguson Resilience UK	Consultant
Susan Pritchard	New South Wales State Emergency Service	Research Analyst
Terri Reid	Attorney-General's Department – National Security Resilience Policy Division	Secretariat
Rowena Richardson	Office of the Inspector General Emergency Management Queensland	Director
Dee Sayer	Attorney-General's Department - National Security Law & Policy Division	Senior Capability Officer
Cameron Scott	Attorney-General's Department – Emergency Management Australia	Assistant Director
Mark Searcy	South Australia Metropolitan Fire Service	Commander
Keith Simpson	Department of Justice & Community Safety ACT	Manager
Robert Stevenson	South Australia State Emergency Service	State Planning Officer
Heather Stuart	New South Wales State Emergency Service	Advisor
Robert Stevenson	South Australia State Emergency Service	Planning Officer
Heather Stuart	New South Wales State Emergency Service	Manager
Mark Thomason	South Australia Country Fire Service	Operational Officer
Scott Tilyard	Tasmania Police	Deputy Commissioner
Sandra White	Tasmania Fire Service – State Fire Management Council	Manager

Appendix D – Lessons identified

The following is a summary of issues and lessons identified from presentations at the 2014 National Security Knowledge and Lessons Management Workshop.

Mark Crosweller, Director General Emergency Management Australia

Future, present past: Learning from experience in emergency management

- There is a need to maintain focus on the primacy of life in emergency management.
- Pressure for immediate ministers' briefings on the impact of disasters means there is a need to improve how rapid impact assessments are done.
- We can be limited by our imagination when planning or preparing for future catastrophes and we need to move beyond standard assumptions.
- We need to look more closely at what is required for higher level responses.
- Problems with including valuable information about potential disasters, especially information arising from predictive modelling and simulations, need to be addressed.
- There is a need to consider the potential for catastrophic disasters.
- There is a need to understand and manage the emotional space associated with different types of disasters.
- A national awareness of capability and capacity for emergency management resources is required.
- A national situational awareness tool is being developed for multi-jurisdiction incidents occurring simultaneously in several locations.
- There are issues arising from a lack of volunteers in regional areas.
- A blame culture affects peoples' ability to remain humble in the face of emergencies.

Mark Cuthbert, Attorney-General's Department

Lessons and the Annual Lessons Cycle: An update on progress

- Identifying lessons is easy. Learning them is much more difficult
- Lessons should build knowledge and experience so as to make people more, not less, flexible.
- Our ability to identify and learn lessons is often affected by our cognitive biases.
- Our world's increasing pace of change has exceeded our ability to learn, meaning that learning from the past does not necessary better prepare us for the future.
- Due to the rapid pace of change developing people and organisations that are flexible enough to adapt to emerging situations becomes key.
- Knowledge management needs to move to experience management. There are multiple sources of information but experience is required to connect the dots to support effective, proactive management of events.

Scott Tilyard, Tasmania Police
Strategic lessons from the Tasmanian fires

- Pre-positioning of resources and proactive action was done well but there is still room for improvement in this area.
- During response and recovery, the police uniform became a potential barrier to inter-agency collaboration as it prompted an assumption of police 'taking over' the operation
- There were positive and negative effects in limiting public access to and from the fire area. There were also issues with abandoned cars affecting site access.
- Problems occurring across management of evacuation centres included consistency of information, frequency of briefings, power supply and capacity.
- Due to the location of the fires, there was limited ability to evacuate residents and boats were required.
- There is a need for better control of public information, including through social media; the false report of a death caused a large and unnecessary investigation to confirm it was not true.
- Naming conventions for fires based on their point of origin causes issues when the fire moves to other locations.
- Predictive modelling is improving and confidence in this method is increasing.
- There is a need to prepare for media interest in modelling predictions and to base plans around these predictions, particularly where communities will be impacted.
- Information management deficiencies need to be addressed.
- There is a need to create a common incident management system that can be understood and used by all responding agencies.
- Capacity for national registration and enquiry systems need to be increased to avoid shutdowns due to information overload.
- There is a need to action and follow through with recommendations arising from incidents.

Steve York, New South Wales Rural Fire Service
Lessons from the NSW Fires

- Preparedness has been enhanced due to improvements in relevant areas, such as alert levels, planning and liaison officers.
- Deployment of aircraft needs to be more effective and efficient.
- Issues were identified regarding the interoperability of equipment.
- There is a need to understand expectations of other agencies involved in the incident and a need to seek clarity on tasks when instructions are issued from other agencies.
- There is a critical requirement for a resource management system during an inter-agency response.

- Naming conventions based on the ignition point of a fire caused problems due to the fire's ability to travel as far as 30 kilometres in one afternoon.
- There is a need to coordinate daily media briefings.
- Critical messaging to the public needs to be more effective; there were issues arising from residents staying to defend their properties. A national warning and information program to develop new messaging for next season is currently underway.
- Content and timing of message is critical – what is being said, how it is being said and when it is said. After a public message was issued, the Bushfire Information Line received numerous phone calls to clarify the details of that message.
- There is a need to use Australian Sign Language personnel during briefings.
- The impact of emergency alerts on communities needs to be understood and it is important that the community is educated about the terminology that is used.
- Access to critical infrastructure information needs to be expanded.
- There were issues around access to RFS ICT systems for non-NSW RFS personnel.
- Fatigue management needs to be addressed at the tactical, operational and management levels.
- Consistent language across all agencies needs to be used when gathering intelligence.
- Interstate crews are provided with limited information and the provision of maps and street directories is not adequate. Base camp arrangements also need to be made clearer to interstate teams.
- There were issues arising from interoperability of communications in connecting with support agencies and lack of capability.
- There is a need to manage the demands on the Bureau of Meteorology.
- Early establishment of the joint taskforce is needed to avoid confusion.
- There needs to more clarity on medical support / assistance for interstate crews.

***Rowena Richardson, Office of the Inspector General Emergency Management, and Steve Grant,
Queensland Fire and Emergency Services
Jurisdictional Update - Queensland***

- A central point of understanding and situational awareness is needed, agencies need to communicate and all activities need to be visible to the central point.
- There is a political thirst for information; however, operational decision makers need to be a priority for information.
- There needs to an understanding of roles and political and authorising environments across all agencies.
- Risk identification and escalation should occur at all levels of planning.

- There is a need for a consistent understanding of command, control and coordination concepts, and associated roles and responsibilities, across all agencies.
- Volunteers from outside the normal volunteer system (i.e. 'mud army') pose problems, such as lack of OHS training and unprofessional behaviour.
- The transition from response to recovery needs to be improved, as well as recovery planning and coordination.
- Consistent information needs to be provided to high profile figures and the media for public dissemination.
- There needs to be consistent methods / approaches for damage and impact assessments.
- A management structure needs to be implemented for aircraft deployment and resident evacuation. A system also needs to be implemented for services provided during these incidents that are not a part of normal processes to manage the small number who may try to 'cash in' after an event.
- Arrangements need to be exercised to identify flaws or gaps, rather than exercising on an ad hoc basis. Gaps identified in exercise need to be rectified.
- The integrity of information is important; it is necessary to identify a method for managing stories that arise from an event as these are a powerful, but not necessarily correct, source of knowledge.

Dr Kevin Pollock, Pollock Ferguson Resilience

Persistent Lessons Identified from Emergencies and Major Incidents in the United Kingdom

- There were four major findings from the research:
 1. There is an overall failure of organisations to implement lessons and there is a need to monitor implementation of lessons.
 2. There is a lack of leadership in organisations, which leads to organisations' failure to lead by example. This is due to inadequate leadership training for leaders.
 3. There is a failure of organisations to assume responsibility by seeking consensus from other agencies. This is exacerbated by the blame culture that still exists and affects an organisation's ability to learn.
 4. Organisation's response structures are complex; communications within and between organisations is inadequate and there is a need for clarity appropriate to the means of communications.
- The accumulation of these research findings leads to an organisation's inherent failure to learn lessons, which is exacerbated by the blame culture. There is currently an absence of monitoring lessons to conclusion and no incentive for organisation to seek out and implement changes.
- New legislation introduced in response to lessons needs to be monitored and evaluated.

Laureen Daly, Federal Emergency Management Agency (FEMA)
US Approach to Lessons

- In February 2013, a FEMA directive was signed to establish a standard process for resolving issues, incorporating solutions into programs and sharing lessons.
- This directive is comprised of four key tasks:
 1. Establish and implement a lessons learned and continuous improvement policy.
 2. Run two lessons learned programs.
 3. Implement information sharing on lessons learned.
 4. Implement a core capability research initiative.

After an incident, it is not mandatory to share lessons and the directive aims to introduce the concept of continuous improvement through the sharing of lessons.

- The rule of thumb is to resolve issues at the lowest level possible.
- Embed a subject matter expert within incident support to collect and search for helpful past events to support the sharing of lessons learned.
- Key outcomes from Hurricane Sandy:
 1. There is a need to better address survivors with disabilities with regards to access and function needs. This is being done by:
 - introducing a training course on including people with disabilities in response and recovery
 - increasing the number of integration advisors during response and implementing them as a permanent fixture in incident management teams (IMTs).
 2. Improve clarity in roles and responsibilities during response.
 3. Technology needs to be more mobile.
 4. Enhance collaboration with municipal partners by including big city officials in the coordination group during response and recovery.
 5. Integrate tribal partners into the operation command group during response.
- Public messaging and coordination continues to be a recurring issue across national exercising.

Tony Murphy, Victoria Fire Services Commissioner
Jurisdictional Report - Victoria

- Well documented plans with attached measures and expert peers to evaluate those plans are important for success.
- It is important to ensure that inductions, specification of personnel and tasking for interstate support personnel is correct.
- Processes for resourcing multi-agency responses are complex and need to be improved.
- There is a need to ensure the right people, with the relevant experience and up to date information, are present at community meetings.

- Public messaging methods need to be improved, especially in relation to messaging for large groups of people.
- There is a need to source and utilise community intelligence from community meetings to feed back into the system.
- Resources are an issue, especially with regard to fatigue management.
- Early identification of the impact of an event is important; data and evidence is required to ensure this happens.

***Major Darren Kaehne, Headquarters Joint Operation Command
Defence Lessons from Recent Operations***

- There is a need for effects-based planning that has flexibility with regard to command and control.
- The Defence planning processes often outstrips civilian agencies' planning processes and, as a result, Defence are constantly requesting more information / intelligence from the civilian agencies with the tendency to make assumptions. This information / intelligence gap can result in the formation of plans that are not useful or helpful for the event.
- Liaison officers from military and other agencies need to be deployed to each other's headquarters / agencies.
- No interoperability of radios with external agencies.
- As a learning organisation, the military has a tendency to learn the same lessons over and over again.
- It has been noted that progress has been made by the Centre for Army Lessons.
- Military use of social media is limited or non-existent.
- Early establishment of the joint taskforce and combined joint taskforce is required to avoid confusion in relation to roles and responsibilities.

***Mark Thomason, Country Fire Service
Lessons from South Australia Fires***

- Clarity regarding the difference between incident management and emergency management is required as regions do not manage incidents.
- Projection of the common operating picture, in terms of the perception and comprehension of CFS components, needs to be improved.
- Plans for enabling interstate assistance are problematic or ineffective.
- In terms of state plans, there is a lack of detailed orders, especially with regards to interstate support teams.
- Roles and responsibilities are not well understood within state plans.

- Interagency cooperation has improved and there is currently work underway on a joint structure fire standard operation procedure.
- There is a need for improvement in resource management, particularly in relation to confirming resources are available.
- Resources are ordered using the 'just in time' philosophy which makes last minute orders problematic.
- There is a lack of state level oversight and strategic planning in relation to staff rosters which can create issues with fatigue management.
- Social media is a lesson to sustain; it has been effectively used and has good capacity.
- Naming conventions are problematic.
- The media now has unprecedented access to the coordination centre and can provide directly hourly updates on events, including interviews.
- A better scheduled timeframe is required for media management of what is seen, what information is released to the public and when.
- Public information is another lesson to sustain and has proven to be effective, especially during the heatwave.
- Warnings are still somewhat problematic; there have been times where we have gone outside of the mandated system to achieve public warnings through social media. There is a need for new rules to cater for larger scale and complex event.

Matt Harper, Emergency Management Australia
Lessons from Emergency Management Australia

- There is an increased need for national cooperation, but it remains difficult to share information with confidence in an open and honest way that is respected.
- Significant differences between jurisdictions thresholds for emergency assistance.
- Expectations of agencies are increasing.
- There is no universal knowledge of plans, procedures and resources; this is especially the case in relation to requesting resources.
- Plans are not communicated clearly to responding agencies which results in a loss of understanding during operations.
- National level plans are being reviewed and made more useful.
- There are issues in relation to agency assumptions about other agencies during response and recovery.
- Data sources need to be cited in reports to verify the accuracy of information.
- There needs to be a more proactive deployment of liaison officers to events and when deploying liaison officers, it is important to ensure they are aware of the location and situations they are travelling to.

- National IMTs are being formed much earlier.

Sandra Whight, Tasmania Fire Service
Living a Learning Culture in the Workplace

- When reviewing decisions made during response, the impact of human factors and operation priorities on decision making need to be considered.
- The effectiveness of command structures on the fire ground is problematic.
- Communication flows during response are not optimal.
- Management buy-in to the staff ride method of learning is crucial to ensuring the allocation of time and resources.
- Implementation of the staff ride method assists in studying leader, decisions and alternatives, as well as providing a rich learning environment for staff.
- A willingness to set aside the blame culture is needed for optimum effectiveness of the staff ride.
- Providing only debriefs and reports following an incident are not sufficient to effectively change the culture of the organisation.

Michael Eburn, Australian National University
The Future of Post Event Reviews – Royal Commissions

- Laws are not necessarily the problem, but rather that measures of success are not clearly defined. What was meant to be achieved? What does success look like?
- Inefficiencies may lie in using the same method to review events and expecting different results.
- Royal Commissions are quasi-judicial in that they are staffed with people of legal backgrounds who fall back on their biases and adopt court procedures and/or behaviours.
- Royal Commissions have coercive powers to compel the provision of answers and/or documents. In this respect, there is already an assumption of guilt which reinforces the blame culture and affects an organisation's ability to learn. This results in the circular movement of lessons not being learnt.
- There is political pressure to act on recommendations made by a Royal Commission regardless of the level of usefulness or relevance those recommendations may provide.
- It is not mandatory for those recommendations to be followed through to conclusion.
- An incident may be reviewed multiple times and each review may come to different conclusions. This creates difficulties in understanding the incident and the lessons that may arise from that incident. Furthermore, multiple reviews of the same incident may come to the same conclusions but prolong the process.

Steve Grant, Queensland Fire & Emergency Services

Utilising Lessons: Queensland Case Study

- There is a need to move towards a risk based planning approach to better plan for and respond to aggregated residual risk.
- There is a need for improvement with regard to information and data communication. Sector wide sharing and protection of data has been recommended.
- Exercises should be risk-based.
- Lessons in their current form only outline issues / problems and often without solution strategies.
- Accountability mechanisms are crucial to solution implementation.
- Solutions for identified problems rarely sit within one agency.
- The endorsement of the authorising environment is essential to lesson ownership.

Rob Horridge, Western Australia Police

WA Season Review and Emergency Preparedness Report

- A surge capacity is needed for response and recovery support.
- There is a need for two way engagement with communities.
- A need for local level recovery plans has been identified.
- Technical difficulties with communications have been encountered.
- Problems occurred with downlinks from air support during cloudy weather.
- A common platform of IMT tools for interstate assistance is required for the Incident Management Support Group.
- Training is required to facilitate an understanding of roles and functions during an incident; this is especially evident when private enterprise is involved and additional issues arise.
- There is a need to improve exercise coordination, such as implementing a central exercise writing team.
- There has been an improvement in lessons sharing between agencies through collaboration.
- Solutions are required for site-related traffic management issues.
- Although the unified command model is often mentioned, there is rarely a need for unified control during incidents.

Appendix E – Themes

Social Media (enduring)
Use of social media and web map products
Enhanced monitoring and updating of social media during incidents
Need to be able to provide future focused assessments to leaders to overcome influence of social media, public media, etc.
Interagency Collaboration (enduring)
Willingness to work together
Agencies are working more collaboratively
Better agency cooperation and support
MOU for large scale interstate support
IMT – agency differences in operational roles and responsibilities causes confusion and decreases productivity.
Situational Awareness (enduring)
Situational awareness – lack of common operating picture, e.g. software systems
Inability to form a seamless common operating picture
Recognising solutions need multi-entity implementation to achieve the designed outcome
Interoperability of systems
Compatible systems and processes creating confusion across multi-agency operations and engagement
Exchange of information between jurisdictions (interoperability)
Ensure single source of truth
Provision of local knowledge to interstate support teams
Delay of accurate information
Terminology – misunderstanding / misinterpretation across agencies
Speed of reporting, deficiency of priority rating of issues to meet operation requirements and impact change
Public Information (enduring)
Warnings need to be timely and accurate
Timely engagement of appropriate community members
Public Communications – interagency, systems and messages
Public Information management at all levels that is timely, accurate, scalable and targeted
Communities understanding of significance of extreme / catastrophic events and ignoring related messaging
Responsible agency is single point of truth for public information
Communication extends beyond the media
Effectiveness of warnings
Community (enduring)
Need to broaden definition of vulnerable people / communities
Understand local need for appropriate comms, i.e. mediums and personnel
Community – knowledge, beliefs, education
Prepare / educate the community on their role in an emergency
Uncertainty of evacuation protocol
Traffic management / access during and post event
Spontaneous volunteer issues
Volunteer Retention
Retention of volunteers
Declining number of volunteers – policies to encourage volunteers & employers

Capability Planning
No jurisdiction is able to identify all of its capabilities and their limitations
Need to know capabilities but be honest about your limitations and then prepare appropriately
Capabilities – understanding what we have; pre-position; share
Resource capacity understanding and management
Can't optimise what you can't quantify
Maintaining resources for prolonged events
Better define and understand capacity
Operational Planning
Predictive modelling is improving and confidence in this method is increasing
Pre-planning and pre-deployment as soon as aware of significant events
Proactive and pre-emptive skills, experience and attitude
Impact Assessment
Rapid impact assessment protocol – need consistency and training
Rapid damage / impact assessment – no consistent approach or resources
Political Needs
Impact of politics and validated up-to-date intelligence keeping pace
Political thirst for information distracts from primacy of operation situational awareness
Managing increasing expectations – government, community, media
Personnel Management / Fatigue Management (enduring)
Fatigue management
Agreed best practice for fatigue management
Foresight / Risk
Retention and capture of corporate knowledge
Moving from risk to consequent management
Inadequate connection between risk analysis, preparedness, response and recovery
Major incidents require knowledge, experience and skills; catastrophic incidents also require imagination
Command and Control
Need to be adaptable and flexible for changing environment
Cultural change innovation
Outmoded command and control models in complex/catastrophic emergencies
Approach IMT as a process not just a structure
EM flexibility in response
Exercising
National exercise schedule to allow participation across borders and agencies
Exercise more for worst case scenario
Basing exercising on lessons, training and education
Recovery
Better understanding of transition from response to recovery
Planning for recovery not commencing early enough
Post event rubbish removal management and finance
Recovery support
Naming Conventions
Incident / emergency naming conventions based on location can be problematic – not just fire

Point of origin naming convention causes confusion
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Incident naming confuses warnings

Appendix F - Lessons Learned 2013-14 Summer Season Roundtable Outcomes

The Lessons Learned Summer Season Roundtable is a meeting of Emergency Management Commissioners and First Ministers' representatives from each state and territory which is chaired by the Secretary AGD to share observations and lessons identified during the preceding year. The 2013-14 Roundtable was held in Canberra 15 May 2014. The key themes and outcome identified are listed below.

Key themes

1. An increasing confluence of significant events (heatwave/storm/flood/bushfire) is leading to:
 - Increasing pressure on Incident Management Teams and other resources
 - Increasing pressure on needing to provide public warnings and to resource the capability
 - Propensity towards warnings fatigue

2. There is increasing complexity on the rural / urban interface whereby people have a city mentality but are facing rural hazards

3. Unprecedented weather behaviour

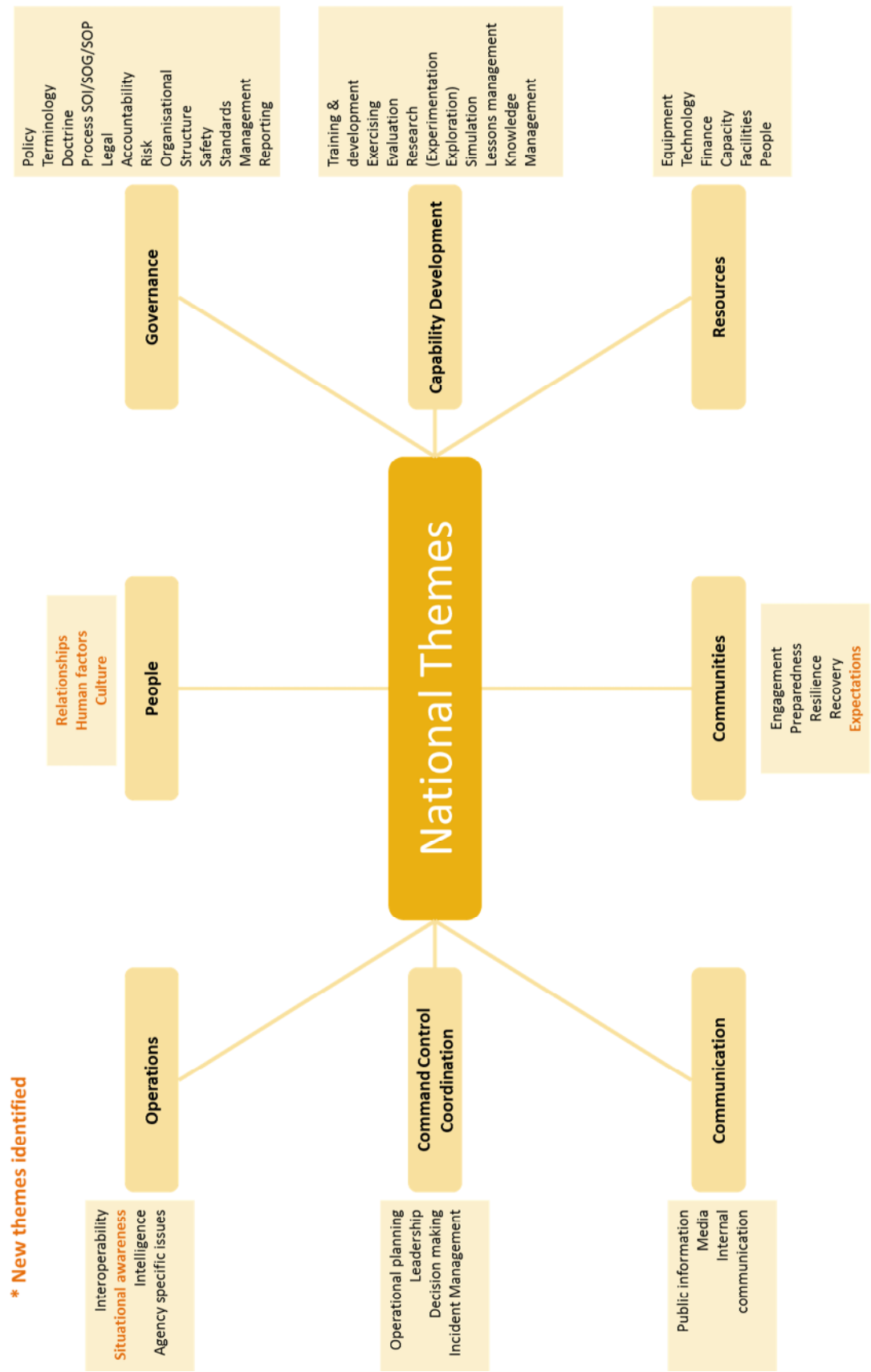
Unprecedented fire behaviour under relatively normal weather conditions (Extreme to Severe fire weather but not Catastrophic). Challenges with cyclones doing the opposite of what was predicted. The aspects, costs and resources required were unknown.

4. Significant reliance on Interstate resources for several major events (bushfires in SA/Victoria/NSW as well as the Morwell Coal Mine Fire)
5. There is an increasing need for Bureau of Meteorology products and services
6. There is a need for a more integrated approach to planning before, during and after events that are pushing into the severe to catastrophic range.
7. Consistent messaging across jurisdictions by Commissioners / Chief Officers worked well and presented well in the media.
8. The seamless transfer of responsibilities within IMTs that were resourced by different jurisdictions working on the same fire was a credit to the AIIMS system of management.
9. The Peer review approach used in Tasmania last year was used in WA this year to good effect.

Key outcomes

1. There is a need to undertake further work across the sector to continue building in social media to assist in developing timelier and fuller situational awareness.
2. There is a need to undertake further work on building an agreed framework for Situational Awareness that can be utilised at the operational and strategic levels of incident management (i.e. beyond IMTs)

Appendix G – National Themes



Appendix H – Next steps

Next Steps	
Agency Level	
<ul style="list-style-type: none"> • Build a greater understanding of lessons management and develop a sustainable lessons management culture within each agency - people and systems should change together –needs to be vertical through the chain of command as well as horizontal across the organisation. • Continue to develop and mature lessons management capability within each agency by creating a shared and agreed understanding that is consistent within and across each agency. • Gain and maintain momentum of lessons management by: <ul style="list-style-type: none"> ○ connecting and utilising those who are dedicated to lessons management – provide support to those who are new to this area ○ utilising executive specialists and systems that are sustainable ○ gaining quick wins – getting some “runs on the board” while not forgetting the big picture and continuing to develop and mature - be realistic about what <i>can</i> be done vs what <i>should</i> be done ○ utilising existing evaluation communities – collaborate with others to further mature systems and approaches ○ establishing buy-in at senior agency levels in order to influence action - a sponsored approach (champions - not necessarily funding) ○ training and education to assist with buy in – the objectives of lessons management ○ creating better linkages at higher levels between agencies ○ seeking continuous support and sponsorship at national level ○ program in/understand formal and informal decision making processes for best chance to establish a ‘rhythm’ of identifying and actioning lessons 	
Recommendations:	
<ul style="list-style-type: none"> • Recommendations regarding what needs to take place at the agency level regarding lessons management needs to be fed up to the highest levels of government through relevant committees (e.g. CDSC/ANZEMC) - seek endorsement, sponsorship and support – this is seen as necessary to gain traction at the agency level and achieve desired outcomes. • Participants should provide a status report regarding “Next Steps” which have already been actioned within/by their agencies in order to capture progress that has been made – this would demonstrate the value of workshops, support the cause and validate efforts being put into this area. 	
State Level	
<ul style="list-style-type: none"> • Provide continued encouragement and support for those who are dedicated to lessons management as well as encouragement for new supporters (even if they are individuals in an agency) in order to maintain momentum and grow further in this area • Encourage and develop lessons management capability via the champions in our own organisations • Develop networks to share lessons, identify knowledge with local and district/regional EM committees – the level will vary with each state • Continue to develop a common operating picture amongst lessons managers and build this with particular emphasis on agencies not yet involved • Maintain contact and inform the NSKLM working group to identify major themes and priorities and activities 	

Next Steps

- Ensure issues raised and insights shared in NSKLM workshop (shared vision of lessons/knowledge management agenda etc) are made known to the Director General of Emergency Management Australia for discussion at the Commissioners' Roundtable
- Seek senior level commitment to address issues (ANZEMC through to SEMC through to all agencies)
- Establish high-level support from SEMC to share cross-agency lessons and authorise development and implementation of strategies to address these supported by/through sub-group (practitioners)
- Engage agencies and other organisations such as AFAC, Universities, Industry and CRC to do research on our behalf – identify key areas of research in order to provide solutions/inform policy changes – feed key information back to NSKLM working group, Commissioners' Roundtable and relevant committees such as ANZEMC and CDSC for endorsement – use endorsed agreement to inform development of SOPs, training and exercising.
- Get buy-in from higher senior levels by demonstrating the value of lessons management and implementing change in relation to optimising the use of resources, financial savings etc.

National Level

- Identify a national driver (individual or agency) to reinforce the importance and need for lessons management (Commissioners' Roundtable a first step?)
- Ensure that the issues and insights established at the NSKLM workshop are fed back to AGD – need to be recognised, endorsed, prioritised, tasked, actioned, reported on etc.
- Ensure information provided to higher level committees is specific and includes recommendations beyond insights
- Wicked problems identified at the local level which are not adequately addressed at the state level need to be addressed at the national level
- Develop a coordinated national approach to lessons management/review process leveraging off work by partner agencies (for example, look at what other agencies such as AFAC are doing around peer review processes)
- Foster a philosophy/school of thought that is accepting of a wide variety of stakeholders (e.g. industry, academia, research, NGOs) who can make a contribution in this area
- Use key findings and priorities to set research agenda and gain funding
- Aggregate across jurisdictions – national think tank (in/out/who?)
- Proactive foresight and planning – also about opportunities to identify and develop tools
- Define concept of lessons management/evaluation and identify lessons capability - enable agency personnel (at all levels) to have a clear and accurate understanding of what these mean
- Identify leading practice from international sources and synthesise to Australian context and draw on lessons from assisting nationally
- Identify a national body with the appropriate authority to endorse, sign-off, drive change, and report on lessons, establish measures etc.
- Various issues surrounding identifying a national body with the appropriate authority to endorse, sign-off, drive change, establish measures etc. were discussed – the primary one being that presently no one such authority exists - this is a shared responsibility.
- While there was significant discussion around the various emergency management bodies/committees which exist at state and national levels (including COAG, ANZEMC, CDSC), no clear pathway was established through which endorsement, sign-off, establishing measures and holding organisations accountable to implement change could be achieved.

