ACT Government

ACT Emergency Services Agency Operational Review of the Bushfire Season 2019/20

CONTENTS

EXECUTIVE SUMMARY

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The 2019-20 bushfire and storm season produced some of the most unprecedented weather conditions in Australia's history. Large parts of Australia were impacted by significant fires with unpredictable and dangerous fire behaviour fuelled by hot, dry and winding conditions. These conditions meant fires started easily and were difficult to contain with the ACT facing its worst season since the devastating 2003 bushfires.

Since August 2019, unprecedented fire activity heavily impacted large areas along the East Coast of Australia seeing firefighters and specialist emergency management personnel from the ACT deploy interstate to assist. Bushfires to the east of the ACT at Braidwood and on the NSW South Coast caused thick smoke in the ACT and region for a continuous period from late December 2019 through January 2020. A State of Alert was declared for the ACT on 2 January 2020 to assist community preparedness and organizational response and coordination with fires burning near the ACT border and forecasts of extreme weather.

Hot and dry conditions precipitated a record number of Total Fire Ban (TOBAN) days throughout the bushfire season, but fire and smoke were not the only emergency to threaten the ACT with severe and damaging thunderstorms occurring on 16 January, 20 January and 10 February. Fires continued to threaten the ACT locally and to the south of Canberra through January until February of this year.

The State of Alert was followed by the declaration of a State of Emergency on 31 January 2020 to appoint the ESA Commissioner as the Emergency Controller. This was the first time since 2003 that an Emergency Controller had been appointed in the ACT. The Emergency Controller was appointed for a period of 39 consecutive days in January and February.

The ACT was well placed to respond to a high level of demand for bushfire resources with skilled and motivated personnel, and the necessary equipment and resources to respond to and extinguish bushfires where this was operationally feasible. It also had the capacity to respond to significant weather and storm events. It is noteworthy that 'business as usual' emergency response remained largely unaffected throughout the season. There was a requirement to draw on external support from other states and the Commonwealth to respond to extreme circumstances, but this is an accepted and well-established practice across the Commonwealth. There is, however, a requirement to improve the capacity to establish and sustain an Emergency Coordination Centre (ECC), Incident Control Centre (ICC) and Public Information Coordination Centre (PICC) across multiple incidents over a protracted season.

The planning framework is thorough and proved adequate for the management of emergencies and their consequences. Some clarification and recommendations for refinement of the established plans hierarchy has been proposed but the ACT Government has an established and exercised governance structure to coordinate a whole of government response to emergency management across the territory. The transition between plans and incident management is achieved through the Australasian Inter-Service Incident Management System (AIIMS) which while thorough is procedural. Consideration should be given to improving the process of bringing multiple plans together into operational guidance that covers all hazards over the anticipated season.

ESA support to other states through staff deployments and strong community engagement activity within the ACT resulted in high levels of preparedness for the 2019/20 bushfire season. The services within ESA were well prepared overall having conducted detailed preparations, however, the tempo and duration of early deployments did impact on the capacity to train and exercise all staff.

ESA was able to successfully conduct operations through the establishment of a Incident Management Teams (IMT) to defend against a major fire and respond to concurrent unprecedented storm damage during the 2019/20 bushfire season. The leadership, management and resilience of ESA staff during the conduct of operations and the establishment of an IMT was exceptional given the challenging circumstances and contributed to the overall success of the response to the threats facing the ACT. An additional focus on planning skills and procedures and further refinement of the organisation and functions of the ECC/ICC/PICC would be of significant benefit to ESA.

The long-term investment in mitigating fire risk through material responses such a better building codes and regulations, land management and the reduction of fuel loads, and fielding progressively better capability contributed greatly to success. This included the use of an unprecedented amount of aviation assets and very advanced mapping and analytical capability. The ESA should build on this considerable foundation strategically, integrating advanced support capabilities further into the strategic capability framework, normalising specialist skills into both staff and deployed functions, and lifting understanding of what capability can and can't do across the ESA. This presents an opportunity within the ACT for the growth of expertise and the capability needed across regional NSW and Victoria.

INTRODUCTION

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This operational review analysed the effectiveness of the ESA's preparation, planning, response and recovery over the 2019/20 bushfire season.

This review sought the following outcomes:

- to identify opportunities for the enhancement or establishment of cooperative partnerships (including inter-operability) to enhance bushfire management outcomes for the community,
- to better understand ESA's strengths and residual risks in relation to its bushfire operational response and incident management capabilities,
- to identify bushfire risk management priorities for the Territory, and
- to develop an evidence base that informs future bushfire planning and response capabilities.

This Review reflects the ACT Emergency Services Agency's (ESA) culture of learning and continuous improvement across all phases of emergency management, encouraging the best use of resources and ensuring the best possible outcome for the protection of the Canberra community.

The Review was completed in 4 phases:

- the first, **establishing the guidance, authorities and intent** by reviewing the legislation, strategies, guidance, organisation, administration, planning and preparedness activities that had been completed prior to the season commencing;
- second, **establishing what occurred in response** against the timeline of events, this included a review of logs, after-action reviews, operational planning, orders and directives, and the intelligence, planning, management, resourcing and financing activities and processes;
- third, a **detailed analysis** of operations linking key actors and enablers to operational outcomes. The analysis identified the ESA's strengths and residual risks guiding further review work; before,
- closing with the **development of the final report and recommendations.**

The scope of the review remained on the operations of the ESA and did not focus on the interface between the ESA and the ACT Government or with other parties except where it was directly relevant to the conduct of emergency management. Land Management is central to the Strategic Bushfire Management Plan (SBMP) and is well understood and managed through the Regional Fire Management Plan (RFMP) and Bushfire Operational Plans (BOP) and similarly will only be covered in the review where it is directly relevant to the conduct of emergency management.

SECTION 1: OVERVIEW

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1.a Background and Summary of 2019/20 Bushfire Season

The 2019/20 bushfire season brought some of the most volatile weather conditions since records began. Across Australia, bushfires contributed directly to the death of 34 people and devastated more than 8 million hectares of land along the south-eastern fringe of Australia, with major bushfires in every state and territory. A further 445 people are estimated to have died from smoke-induced respiratory problems. The first fires were as early as June 2019 in Queensland[1] and raged almost continuously until March 2020, a period of almost nine months.

At least 3,500 homes and thousands of other buildings were lost. The majority of deaths and buildings destroyed were in New South Wales (NSW), while the Northern Territory accounted for approximately 1/3 of the burned area. At least 80 percent of the Blue Mountains World Heritage area in NSW and 53 percent of the Gondwana World Heritage rainforests in Queensland were burned.[2] The Insurance Council estimated that between November 2019 and March 2020, losses from natural disasters were approximately $2.32billion in insured claims.[3]

2019 was the warmest and driest year on record for Australia as a whole, and spring was also the driest on record nationally. Record low rainfall for the year occurred over large areas of inland Australia. This resulted in very low soil moisture levels over most of the continent leading into December.[4]

The hot conditions combined with the dry landscape and strong winds to produce dangerous fire weather conditions during December 2019 into early January 2020. The Forest Fire Danger Index (FFDI) is one common measure of fire weather conditions and reflects longer-term rainfall and temperature patterns and shorter-term weather. Fire risk is driven by fire weather and fuel availability. The severe rainfall deficiencies and hydrological drought exacerbated the fire weather conditions throughout Australia.

According to the Bureau of Meteorology, the accumulated FFDI values for spring 2019 were the highest on record for Australia as a whole (based on all years since 1950), with record high values observed in areas of all States and Territories. Those dangerous fire weather conditions continued into summer, with December accumulated FFDI values highest on record across large areas of the country.[5]

Accumulated FFDI values for December were more than twice the average over large areas of Australia and the accumulated FFDI value for December was highest on record. The area-averaged accumulated FFDI values for December were also highest on record for each State and Territory except Tasmania (second highest). That included the highest accumulated FFDI for any month in Queensland, New South Wales, the ACT, and South Australia.

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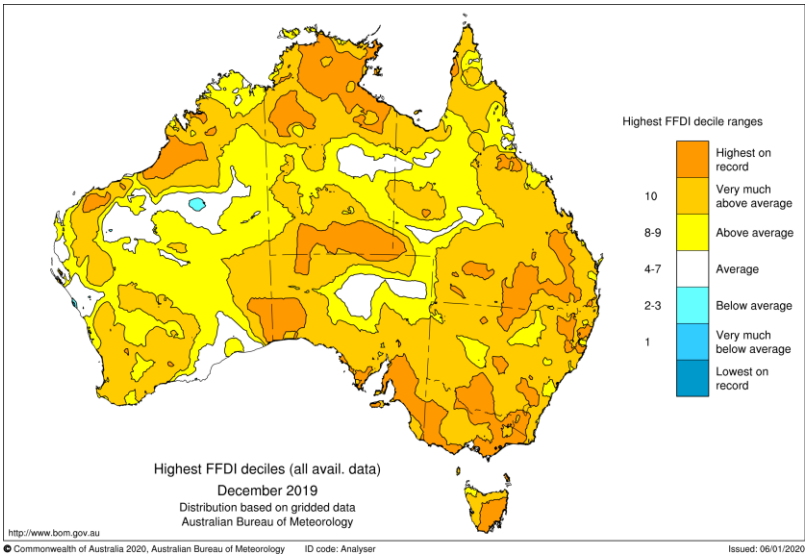
[1] https://www.abc.net.au/news/2019-06-27/bushfire-outlook-queensland-2019/11251150

[2] https://www.theguardian.com/environment/2020/jan/17/its-heart-wrenching-80-of-blue-mountains-and-50-of-gondwana-rainforests-burn-in-bushfires

[3] https://www.insurancebusinessmag.com/au/news/breaking-news/revealed-insurance-bill-for-201920-summer-catastrophes-223760.aspx

[4] Australian Government, Bureau of Meteorology, *Special Climate Statement 73—extreme heat and fire weather in December 2019 and January 2020*, 17 March 2020, p4

[5] Ibid, p9



On 4 January 2020, the most extreme heat occurred in eastern New South Wales and the Australian Capital Territory (ACT). The temperature reached 48.9 °C in Penrith, the highest known temperature in the Sydney basin (surpassing 47.8 °C in Richmond in January 1939) and at any site east of the ranges in New South Wales. Several other sites in metropolitan Sydney, away from the coast, exceeded 47 °C. Canberra reached 44.0 °C, 1.2 °C above the previous record.[6]

NASA estimated the fires appeared to have produced about three times as much carbon monoxide gas as major fires in British Columbia in 2017 and Australia in 2009, and the smoke plume had risen over 25 kilometres above the surface, making it the highest bushfire-caused plume ever recorded.[7] Smoke from the fires darkened the skies in New Zealand and continued to circle the globe for more than three months.

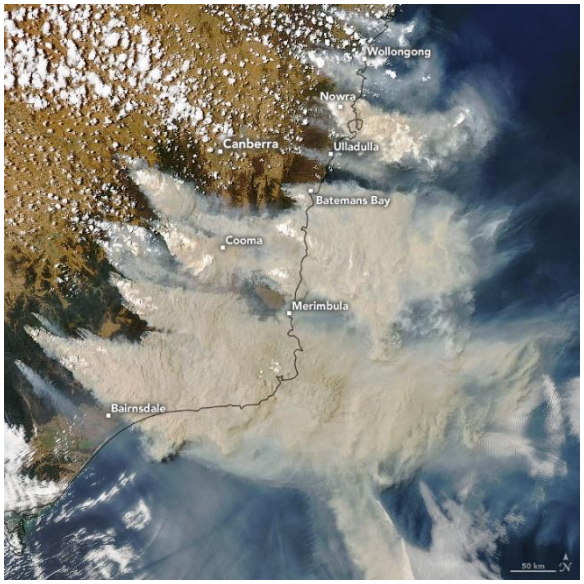


Photo 1: NASA Earth Observatory image by Joshua Stevens, using MODIS data from NASA EOSDIS/LANCE and GIBS/Worldview, 4 January 2020

[6] Ibid, p6

[7] https://earthobservatory.nasa.gov/images/146235/australian-smoke-plume-sets-records

From August 2019, fire activity heavily impacted large areas along the East Coast of Australia. ACT ESA and PCS deployed firefighters and specialist emergency management personnel to Queensland and Northern NSW through September, October and November of 2019 to assist with these fires.

Bushfires to the east of the ACT at Braidwood and on the NSW South Coast caused thick smoke in the ACT and region for a continuous period from late December 2019 through January 2020. From December 17, the next three weeks had every single day exceed hazardous levels, choking Canberra with thick smoke at the height of the bushfire crisis in nearby NSW. Two large spikes occurred on New Year's Eve and on January 5 when the PM2.5 levels exceeded hazardous levels (200 is considered hazardous), with all three air quality stations in the ACT recording PM2.5 levels of at least 3000.[8]

Between 1 October 2019 and 4 February 2020, the ACT declared a record 24 Total Fire Ban (TOBAN) days, the ACT on average sees five or six TOBANs per bushfire season.

Following the hot and dry conditions the ACT experienced severe thunderstorms on 16 January, 20 January and 10 February. The storm event on 20 January produced large hail stones and caused significant damage resulting in the ACT State Emergency Service receiving approximately 2,500 calls for assistance.

The ACT then experienced its first significant bush and grass fire of the season on 23 January 2020 at the Pialligo Redwood Forest. This fire then spread across to Beard, threatening Oaks Estate and Queanbeyan. A second fire started in Pialligo the following day and joined with the first, eventually taking the fire to 424 hectares.

On 27 January 2020, the Orroral Valley fire ignited and threatened the southern rural areas of the ACT, most notably Tharwa, and potentially southern suburbs of Canberra. A State of Emergency was declared for the ACT on 31 January 2020 and the ACT Extreme Heat Plan was also activated.

The Orroral Valley fire was classified as 'out of control' until 8 February 2020, when significant rainfall allowed the status of the fire to be downgraded to 'being controlled'. By the time it was extinguished, the Orroral Valley burned over 86,000 hectares of land, approximately 30% of the ACT.

[8] https://www.canberratimes.com.au/story/6665438/just-how-bad-was-the-air-quality-in-canberra-this-summer/#gsc.tab=0

Climate change

Climate change is influencing the frequency and severity of dangerous bushfire conditions in Australia and other regions of the world, including through influencing temperature, environmental moisture, weather patterns and fuel conditions. There have been significant changes observed in recent decades towards more dangerous bushfire weather conditions for various regions of Australia.

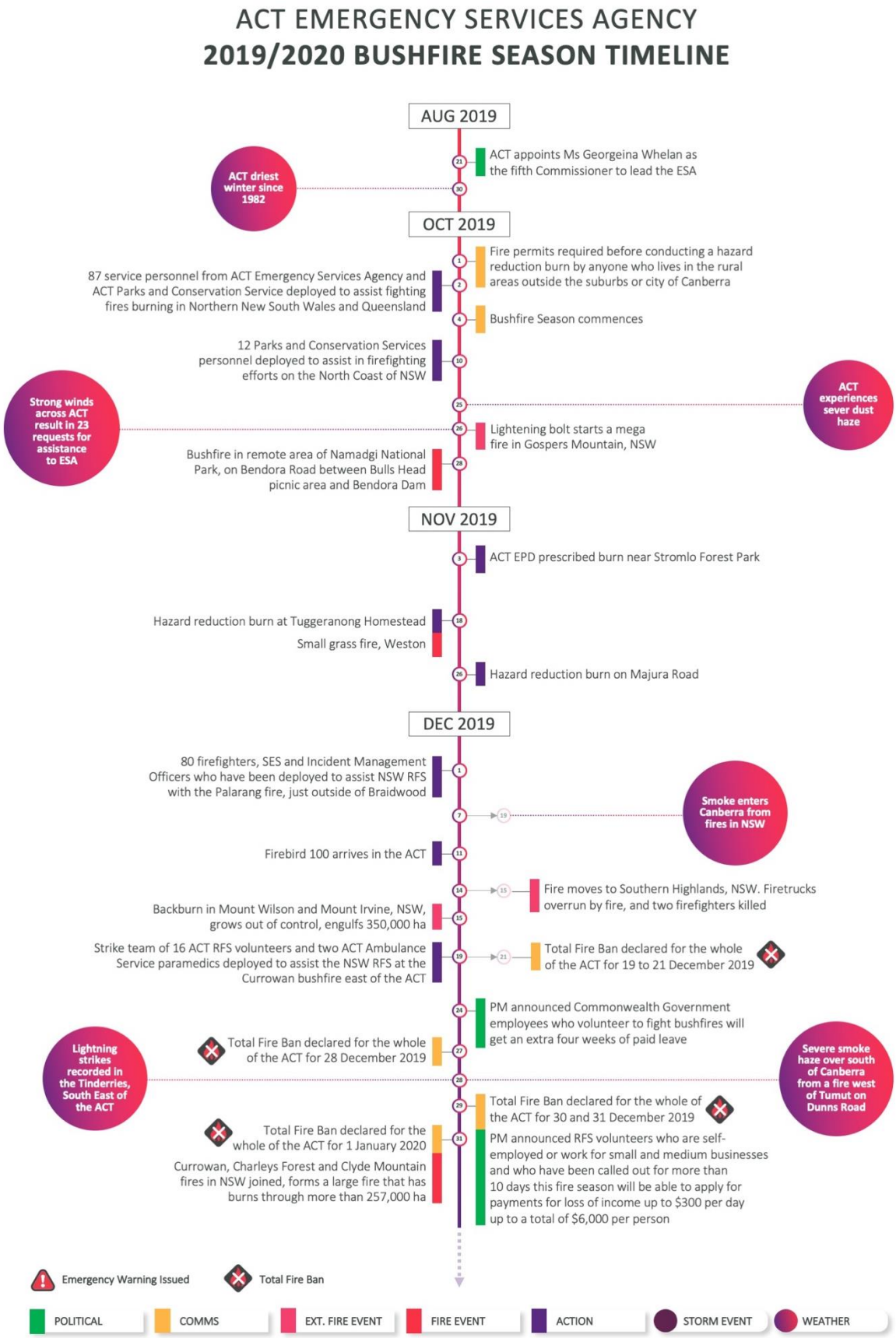
Observed changes in southern and eastern Australia include more extreme conditions during summer, as well as an earlier start to the bushfire season with dangerous weather conditions occurring significantly earlier in spring than they used to. These trends towards more dangerous bushfire conditions are at least partly attributable to human-caused climate change, including through increased temperatures. Northern Australia, which sees significant fire activity during the dry season, has experienced increases in monsoonal rainfall that have increased fuel growth in recent decades and influenced fire danger in that region.

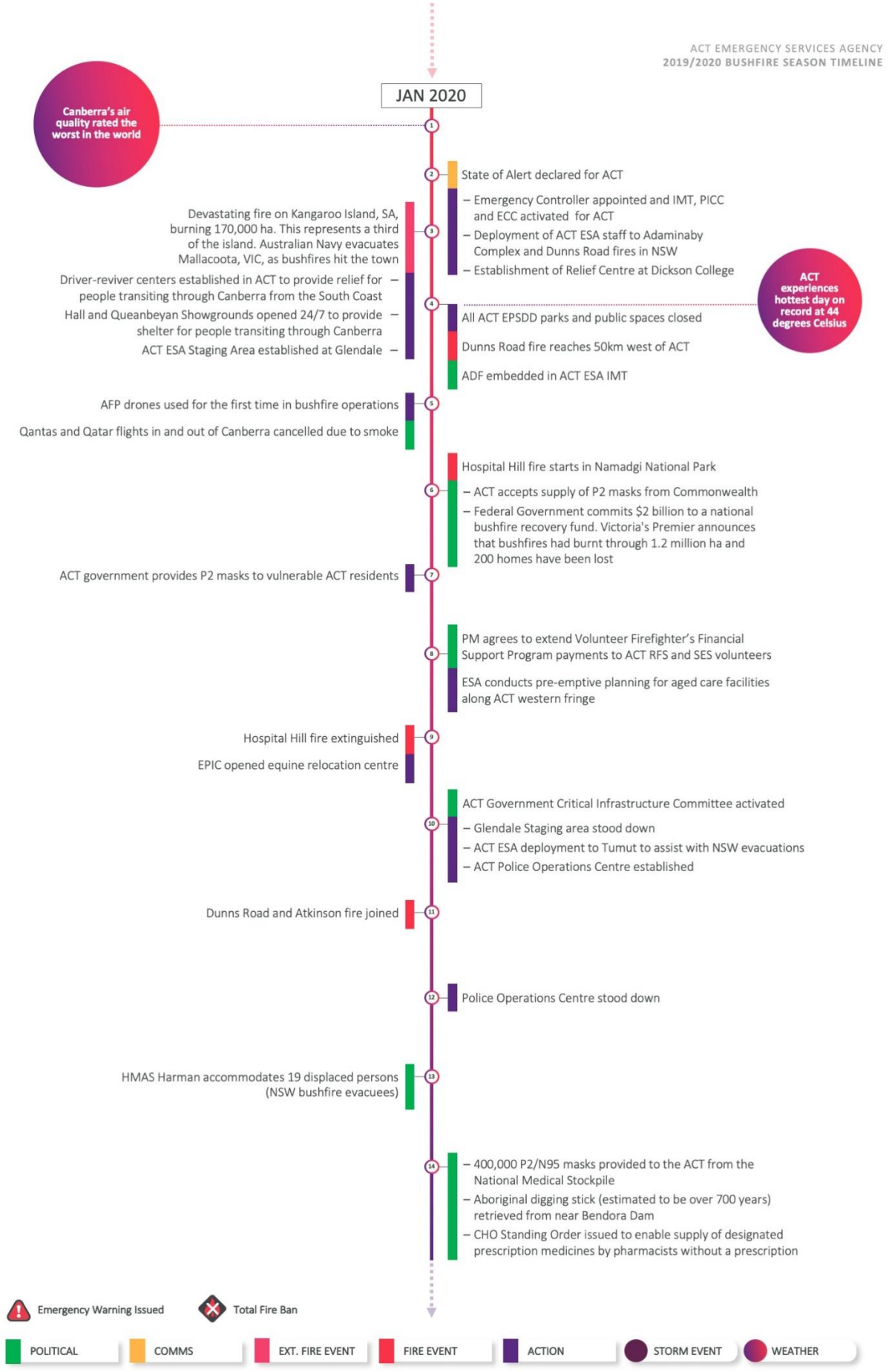
In relation to fire ignition, there is some indication that climate change could influence the risk of ignitions from dry lightning (i.e., lightning that occurs without significant rainfall) while noting relatively large uncertainties in currently available model representations of this phenomenon.

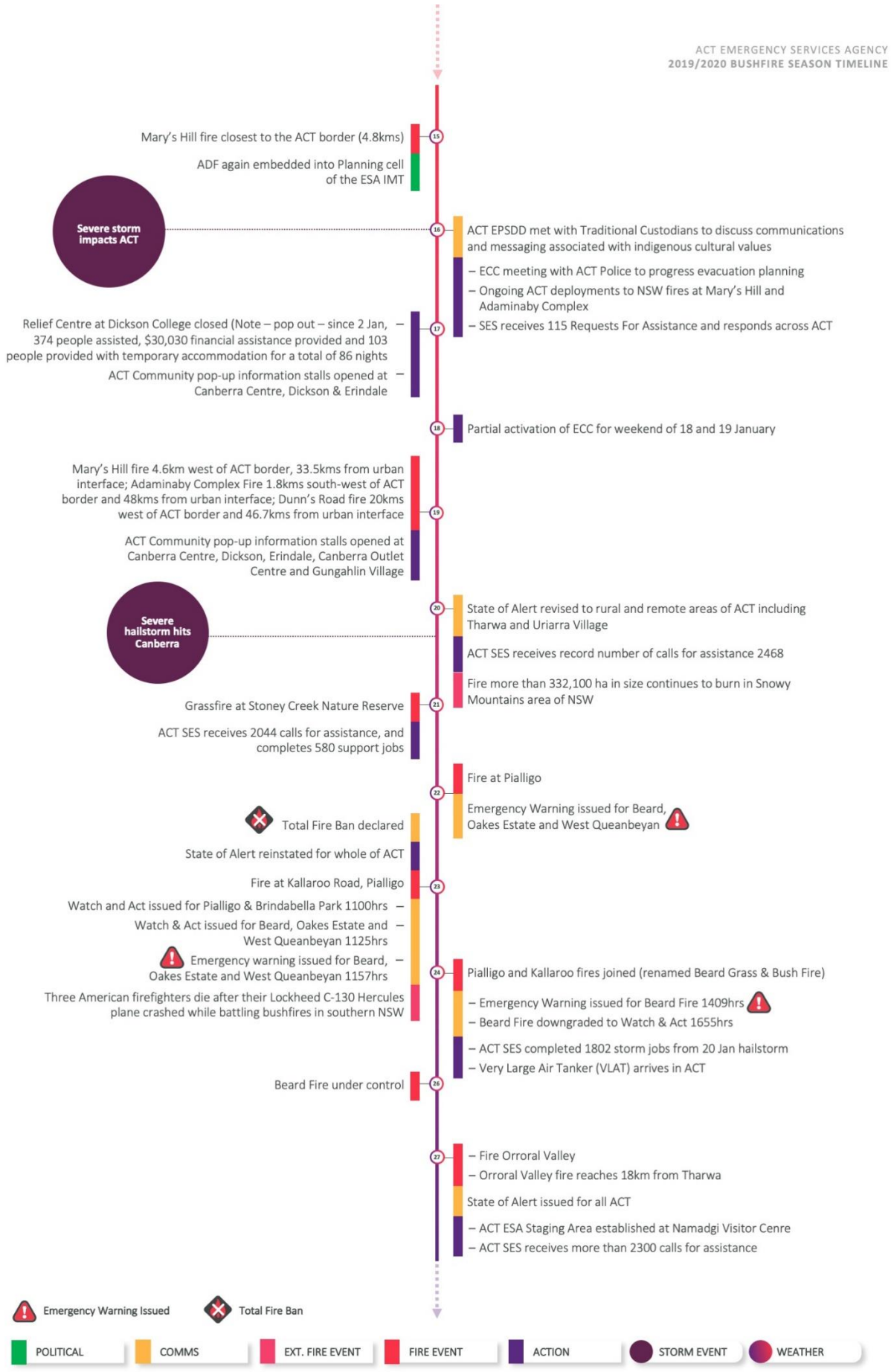
Additionally, there has recently been several devastating fire events in Australia associated with extreme pyroconvection (including thunderstorm development in a fire plume), with recent research indicating a long-term trend towards increased risk factors associated with pyroconvection in southeast Australia. Bushfire weather conditions in future years are projected to increase in severity for many regions of Australasia, including due to more extreme heat events, with the rate and magnitude of change increasing with greenhouse gas concentrations (and emissions).[9]

[9] http://www.bom.gov.au/weather-services/fire-weather-centre/bushfire-weather/index.shtml

1b. Season Timeline




ACT EMERGENCY SERVICES AGENCY
2019/2020 BUSHFIRE SEASON TIMELINE
JAN 2020
Canberra's air quality rated the worst in the world
1
State of Alert declared for ACT
– Emergency Controller appointed and IMT, PICC and ECC activated for ACT
– Deployment of ACT ESA staff to Adaminaby Complex and Dunns Road fires in NSW
– Establishment of Relief Centre at Dickson College
2
Devastating fire on Kangaroo Island, SA, burning 170,000 ha. This represents a third of the island. Australian Navy evacuates Mallacoota, VIC, as bushfires hit the town
Driver-reviver centers established in ACT to provide relief for people transiting through Canberra from the South Coast
Hall and Queanbeyan Showgrounds opened 24/7 to provide shelter for people transiting through Canberra
ACT ESA Staging Area established at Glendale
3
ACT experiences hottest day on record at 44 degrees Celsius
All ACT EPSDD parks and public spaces closed
Dunns Road fire reaches 50km west of ACT
ADF embedded in ACT ESA IMT
4
AFP drones used for the first time in bushfire operations
Qantas and Qatar flights in and out of Canberra cancelled due to smoke
5
Hospital Hill fire starts in Namadgi National Park
– ACT accepts supply of P2 masks from Commonwealth
– Federal Government commits $2 billion to a national bushfire recovery fund. Victoria's Premier announces that bushfires had burnt through 1.2 million ha and 200 homes have been lost
6
ACT government provides P2 masks to vulnerable ACT residents
7
PM agrees to extend Volunteer Firefighter's Financial Support Program payments to ACT RFS and SES volunteers
ESA conducts pre-emptive planning for aged care facilities along ACT western fringe
8
Hospital Hill fire extinguished
EPIC opened equine relocation centre
9
ACT Government Critical Infrastructure Committee activated
– Glendale Staging area stood down
– ACT ESA deployment to Tumut to assist with NSW evacuations
– ACT Police Operations Centre established
10
Dunns Road and Atkinson fire joined
11
Police Operations Centre stood down
12
HMAS Harman accommodates 19 displaced persons (NSW bushfire evacuees)
13
– 400,000 P2/N95 masks provided to the ACT from the National Medical Stockpile
– Aboriginal digging stick (estimated to be over 700 years) retrieved from near Bendora Dam
– CHO Standing Order issued to enable supply of designated prescription medicines by pharmacists without a prescription
14
Emergency Warning Issued
Total Fire Ban
POLITICAL
COMMS
EXT. FIRE EVENT
FIRE EVENT
ACTION
STORM EVENT
WEATHER


ACT EMERGENCY SERVICES AGENCY
2019/2020 BUSHFIRE SEASON TIMELINE
15
Mary's Hill fire closest to the ACT border (4.8kms)
ADF again embedded into Planning cell of the ESA IMT
Severe storm impacts ACT
16
ACT EPSDD met with Traditional Custodians to discuss communications and messaging associated with indigenous cultural values
– ECC meeting with ACT Police to progress evacuation planning
– Ongoing ACT deployments to NSW fires at Mary's Hill and Adaminaby Complex
– SES receives 115 Requests For Assistance and responds across ACT
17
Relief Centre at Dickson College closed (Note – pop out – since 2 Jan, 374 people assisted, $30,030 financial assistance provided and 103 people provided with temporary accommodation for a total of 86 nights
ACT Community pop-up information stalls opened at Canberra Centre, Dickson & Erindale
18
Partial activation of ECC for weekend of 18 and 19 January
19
Mary's Hill fire 4.6km west of ACT border, 33.5kms from urban interface; Adaminaby Complex Fire 1.8kms south-west of ACT border and 48kms from urban interface; Dunn's Road fire 20kms west of ACT border and 46.7kms from urban interface
ACT Community pop-up information stalls opened at Canberra Centre, Dickson, Erindale, Canberra Outlet Centre and Gungahlin Village
Severe hailstorm hits Canberra
20
State of Alert revised to rural and remote areas of ACT including Tharwa and Uriarra Village
ACT SES receives record number of calls for assistance 2468
Fire more than 332,100 ha in size continues to burn in Snowy Mountains area of NSW
21
Grassfire at Stoney Creek Nature Reserve
ACT SES receives 2044 calls for assistance, and completes 580 support jobs
22
Fire at Pialligo
Emergency Warning issued for Beard, Oakes Estate and West Queanbeyan
Total Fire Ban declared
State of Alert reinstated for whole of ACT
23
Fire at Kallaroo Road, Pialligo
Watch and Act issued for Pialligo & Brindabella Park 1100hrs
Watch & Act issued for Beard, Oakes Estate and West Queanbeyan 1125hrs
Emergency warning issued for Beard, Oakes Estate and West Queanbeyan 1157hrs
Three American firefighters die after their Lockheed C-130 Hercules plane crashed while battling bushfires in southern NSW
24
Pialligo and Kallaroo fires joined (renamed Beard Grass & Bush Fire)
– Emergency Warning issued for Beard Fire 1409hrs
– Beard Fire downgraded to Watch & Act 1655hrs
– ACT SES completed 1802 storm jobs from 20 Jan hailstorm
– Very Large Air Tanker (VLAT) arrives in ACT
26
Beard Fire under control
27
– Fire Orroral Valley
– Orroral Valley fire reaches 18km from Tharwa
State of Alert issued for all ACT
– ACT ESA Staging Area established at Namadgi Visitor Centre
– ACT SES receives more than 2300 calls for assistance
Emergency Warning Issued
Total Fire Ban
POLITICAL
COMMS
EXT. FIRE EVENT
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STORM EVENT
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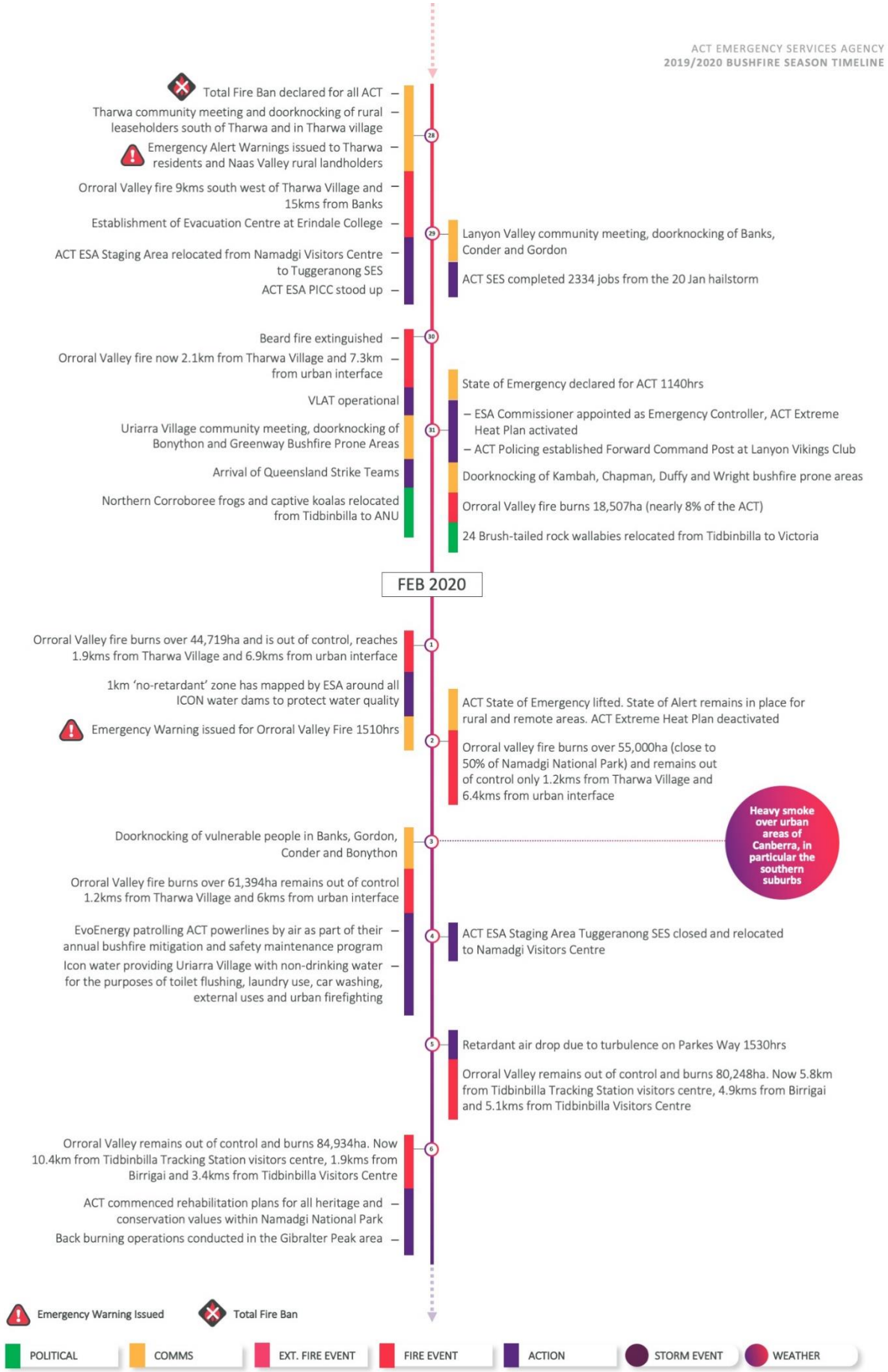
ACT EMERGENCY SERVICES AGENCY
2019/2020 BUSHFIRE SEASON TIMELINE
Total Fire Ban declared for all ACT
Tharwa community meeting and doorknocking of rural leaseholders south of Tharwa and in Tharwa village
Emergency Alert Warnings issued to Tharwa residents and Naas Valley rural landholders
Orroral Valley fire 9kms south west of Tharwa Village and 15kms from Banks
Establishment of Evacuation Centre at Erindale College
ACT ESA Staging Area relocated from Namadgi Visitors Centre to Tuggeranong SES
ACT ESA PICC stood up
28
Lanyon Valley community meeting, doorknocking of Banks, Conder and Gordon
ACT SES completed 2334 jobs from the 20 Jan hailstorm
29
Beard fire extinguished
Orroral Valley fire now 2.1km from Tharwa Village and 7.3km from urban interface
VLAT operational
Uriarra Village community meeting, doorknocking of Bonython and Greenway Bushfire Prone Areas
Arrival of Queensland Strike Teams
Northern Corroboree frogs and captive koalas relocated from Tidbinbilla to ANU
30
State of Emergency declared for ACT 1140hrs
ESA Commissioner appointed as Emergency Controller, ACT Extreme Heat Plan activated
ACT Policing established Forward Command Post at Lanyon Vikings Club
Doorknocking of Kambah, Chapman, Duffy and Wright bushfire prone areas
Orroral Valley fire burns 18,507ha (nearly 8% of the ACT)
24 Brush-tailed rock wallabies relocated from Tidbinbilla to Victoria
31
FEB 2020
Orroral Valley fire burns over 44,719ha and is out of control, reaches 1.9kms from Tharwa Village and 6.9kms from urban interface
1km 'no-retardant' zone has mapped by ESA around all ICON water dams to protect water quality
Emergency Warning issued for Orroral Valley Fire 1510hrs
1
ACT State of Emergency lifted. State of Alert remains in place for rural and remote areas. ACT Extreme Heat Plan deactivated
Orroral valley fire burns over 55,000ha (close to 50% of Namadgi National Park) and remains out of control only 1.2kms from Tharwa Village and 6.4kms from urban interface
2
Heavy smoke over urban areas of Canberra, in particular the southern suburbs
Doorknocking of vulnerable people in Banks, Gordon, Conder and Bonython
Orroral Valley fire burns over 61,394ha remains out of control 1.2kms from Tharwa Village and 6kms from urban interface
3
EvoEnergy patrolling ACT powerlines by air as part of their annual bushfire mitigation and safety maintenance program
Icon water providing Uriarra Village with non-drinking water for the purposes of toilet flushing, laundry use, car washing, external uses and urban firefighting
ACT ESA Staging Area Tuggeranong SES closed and relocated to Namadgi Visitors Centre
4
Retardant air drop due to turbulence on Parkes Way 1530hrs
Orroral Valley remains out of control and burns 80,248ha. Now 5.8km from Tidbinbilla Tracking Station visitors centre, 4.9kms from Birrigai and 5.1kms from Tidbinbilla Visitors Centre
5
Orroral Valley remains out of control and burns 84,934ha. Now 10.4km from Tidbinbilla Tracking Station visitors centre, 1.9kms from Birrigai and 3.4kms from Tidbinbilla Visitors Centre
ACT commenced rehabilitation plans for all heritage and conservation values within Namadgi National Park
Back burning operations conducted in the Gibralter Peak area
6
Emergency Warning Issued
Total Fire Ban
POLITICAL
COMMS
EXT. FIRE EVENT
FIRE EVENT
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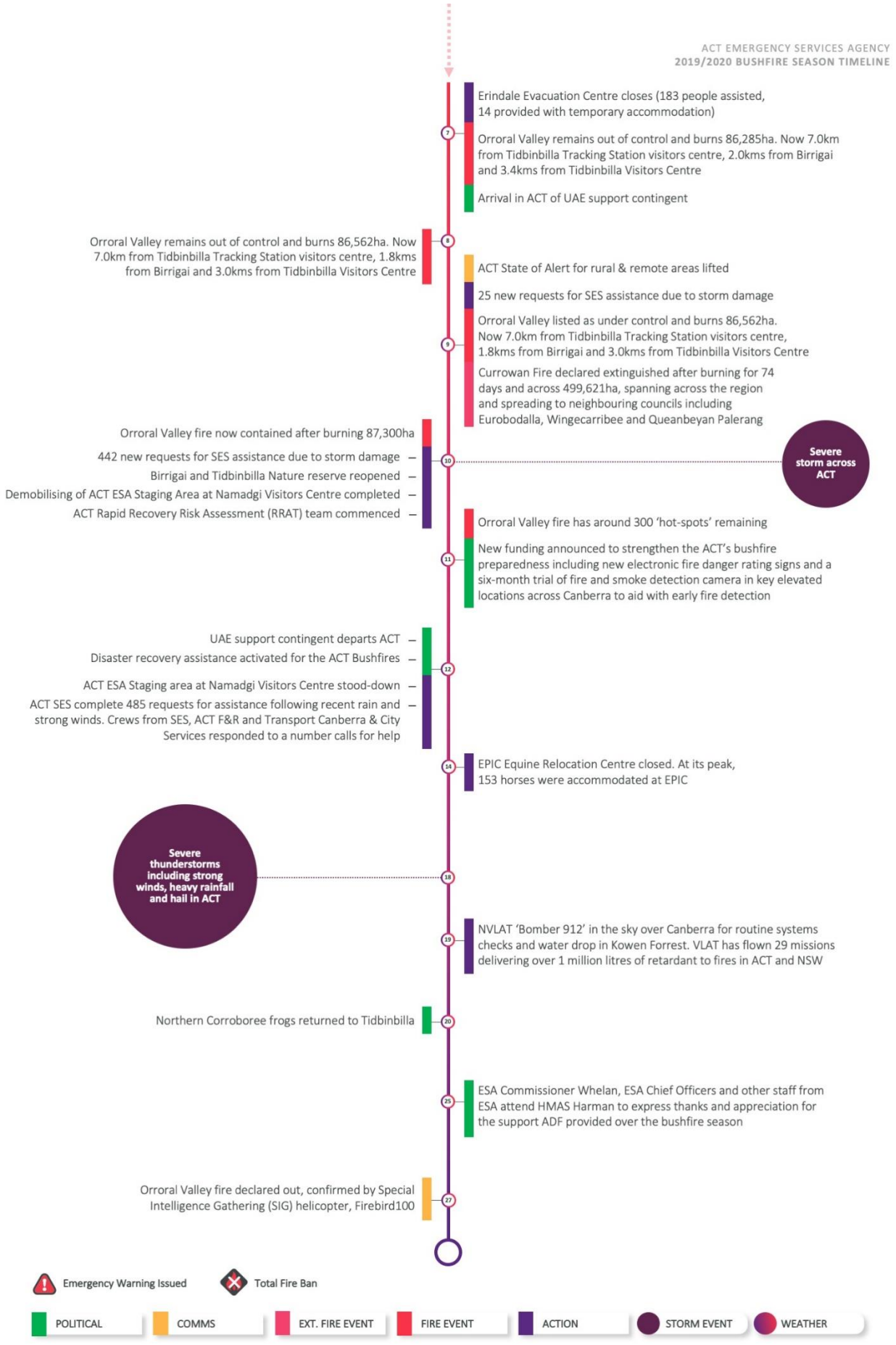

ACT EMERGENCY SERVICES AGENCY
2019/2020 BUSHFIRE SEASON TIMELINE
Erindale Evacuation Centre closes (183 people assisted, 14 provided with temporary accommodation)
7
Orroral Valley remains out of control and burns 86,285ha. Now 7.0km from Tidbinbilla Tracking Station visitors centre, 2.0kms from Birrigai and 3.4kms from Tidbinbilla Visitors Centre
Arrival in ACT of UAE support contingent
Orroral Valley remains out of control and burns 86,562ha. Now 7.0km from Tidbinbilla Tracking Station visitors centre, 1.8kms from Birrigai and 3.0kms from Tidbinbilla Visitors Centre
8
ACT State of Alert for rural & remote areas lifted
25 new requests for SES assistance due to storm damage
Orroral Valley listed as under control and burns 86,562ha. Now 7.0km from Tidbinbilla Tracking Station visitors centre, 1.8kms from Birrigai and 3.0kms from Tidbinbilla Visitors Centre
9
Currowan Fire declared extinguished after burning for 74 days and across 499,621ha, spanning across the region and spreading to neighbouring councils including Eurobodalla, Wingecarribee and Queanbeyan Palerang
Orroral Valley fire now contained after burning 87,300ha
442 new requests for SES assistance due to storm damage
Birrigai and Tidbinbilla Nature reserve reopened
Demobilising of ACT ESA Staging Area at Namadgi Visitors Centre completed
ACT Rapid Recovery Risk Assessment (RRAT) team commenced
10
Severe storm across ACT
Orroral Valley fire has around 300 'hot-spots' remaining
New funding announced to strengthen the ACT's bushfire preparedness including new electronic fire danger rating signs and a six-month trial of fire and smoke detection camera in key elevated locations across Canberra to aid with early fire detection
11
UAE support contingent departs ACT
Disaster recovery assistance activated for the ACT Bushfires
ACT ESA Staging area at Namadgi Visitors Centre stood-down
ACT SES complete 485 requests for assistance following recent rain and strong winds. Crews from SES, ACT F&R and Transport Canberra & City Services responded to a number calls for help
12
EPIC Equine Relocation Centre closed. At its peak, 153 horses were accommodated at EPIC
14
Severe thunderstorms including strong winds, heavy rainfall and hail in ACT
18
NVLAT 'Bomber 912' in the sky over Canberra for routine systems checks and water drop in Kowen Forrest. VLAT has flown 29 missions delivering over 1 million litres of retardant to fires in ACT and NSW
19
Northern Corroboree frogs returned to Tidbinbilla
20
ESA Commissioner Whelan, ESA Chief Officers and other staff from ESA attend HMAS Harman to express thanks and appreciation for the support ADF provided over the bushfire season
25
Orroral Valley fire declared out, confirmed by Special Intelligence Gathering (SIG) helicopter, Firebird100
27
Emergency Warning Issued
Total Fire Ban
POLITICAL
COMMS
EXT. FIRE EVENT
FIRE EVENT
ACTION
STORM EVENT
WEATHER

1c. Methodology

The objective of this Review was to identify key observations, learning opportunities and good practice for ESA in preparation for the 2020/2021 Bushfire Season. The Review was conducted using a transparent and robust process which supported ESA staff to explore thematic issues or specific topics and identify key learnings with the intent of instituting change.

A review is more structured then a debrief (or After Action Review), but less formal than an investigation or inquiry.[10] It is a robust process aimed at supporting emergency management personnel to explore a specific topic and identify key learnings with the intent of instituting change.

Review outcomes typically inform the ongoing cycle of learning and improvement within the sector by validating and evaluating existing doctrine, arrangements, policy, procedure, and incident/emergency management application. Review outcomes provide evidence to inform a range of activities including training, exercising and briefings.

A review process enables individual and group learning, practicing respectful interaction, reflective discussion and problem solving, at all levels. It increases experience and insight, reducing serious accidents, resulting in more efficient emergency management practices. This review is framed as a 'State Review Team' as shown in the schematic below from Emergency Management Victoria. The Review analysed territory-level (ESA ECC/IMT) and multi-agency (RFS, F&R, ACTAS and SES) activity for trends and lessons.

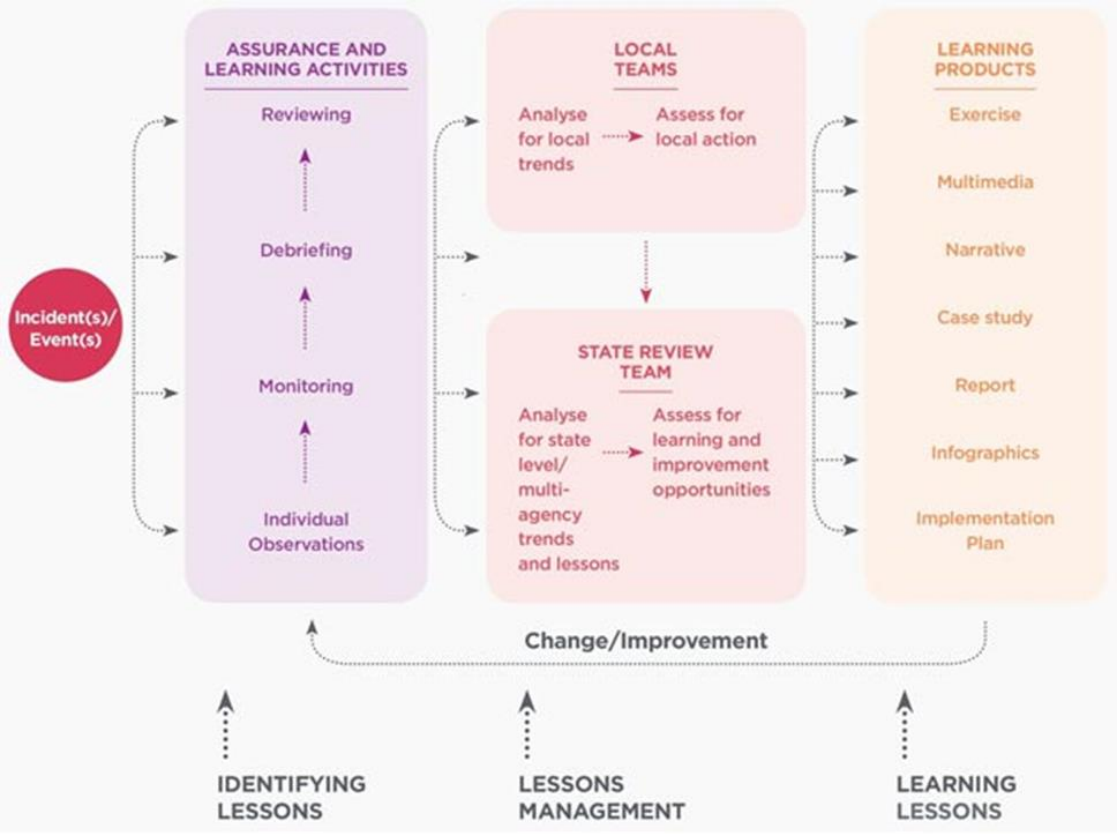


Diagram 1: Emergency Management Operational Reviews, Emergency Management Victoria

[10] This methodology has been adopted from the Operational Review Framework of Emergency Management Victoria. https://www.emv.vic.gov.au/how-we-help/reviews-and-lessons-management/operational-reviews

Operational Analysis

The Review employed an 'operational analysis' (OA) systems approach to reviewing the ACT 2019/20 bushfire season.[11] Operational analysis is concerned with extracting information from a working syste to develop projections about the system's future operations. Sometimes also known as 'operations research' (OR) in a military context, the process refers to the application of interdisciplinary science to complex problems arising in the direction and management of large systems. This enables the evaluation and analysis of problems to provide decision makers with a scientific basis to improve operations or capability.[12]

This Review both accommodated and acknowledged the layers of governance and coordination required for emergency management in the ACT, and the various supporting capabilities, systems and processes in play (including outside ESA, where relevant). A clear analytical framework with key methodological steps and evaluative criteria were developed for this task.

Research methods employed for the Review included: meta-analysis of existing internal ESA data and informational sources; document review; primary research interviews with participants (based on standardised 'semi-structured' interview format); and media and other open source data.

The Review's analysis and findings were organized by level of decision or action against task/capability/process or assurance activity to establish relationships, linkages and groupings of strengths and residual risk. Tactical coalface perspectives shared the same evidentiary weight as the strategic level. Thematic issues that emerged during analysis were shown additional effort with prioritization applied to insights of greatest significance and value.

Measures of Performance

The Review identified and examined specific Measures of Performance (MOP) for each phase of the 2019/20 Bushfire season. Establishing MOPs helped determine progress relative to ESA's mission objectives, and end states; and in shaping relevant recommendations/guidance for improvement.

In the field of OA, MOPs are closely associated with task accomplishment. MOPs help answer questions like: 'was the action taken, were the tasks completed to standard, or how much effort was involved?'. The Review incorporated both quantitative (observation based) and qualitative (opinion based) indicators. The Review notes that human judgment is integral to assessment. A balanced judgment for any assessment identifies the information on which to concentrate.

Specific MOPs developed for ESA and the services (RFS, F&R, ATCAS and SES) for this included:

Preparedness: Resources, Facilities, Equipment and Staff Readiness, Specialist Capabilities, Previous Season Lessons, Risk Reduction Activity, Community Engagement.

Planning: Legislation, Policies, Plans (SBMP, RFMP, BOP), Doctrine and SOP, Exercises and Testing, Intelligence and Modelling, Risk.

[11] Originally a scientific process to analyse military operations and tactics. The methods employed for this review were developed to enable performance analysis for ESA.
[12] See Defence Science and Technology https://www.dst.defence.gov.au/research-area/operations-analysis

Response (Operations): Incident Management Systems, Call-out and Deployment Standards, Operations and Tactics, Intelligence Support and Situational Awareness, Communications (internal), Logistics and Support, External Deployments (out), External Support (in), Safety, Resource Management/Reconstitution.

Response (Management): Command and Control, Leadership, Decision Making, Public Information, Liaison (ACT), Liaison (NSW), Liaison (Commonwealth and ADF).

Recovery: Assessment, Resources, Community Engagement and Support, Monitoring, AAR Processes.

Operational Performance Rating System

The Review employed a purpose designed rating system for ESA to provide a numerical measure of the MOPs, considering intended versus delivered results as a two-factor calculation. This was merely one of the tools used in the operational analysis and was not intended to be a definitive or stand-alone 'score' of performance for ESA or any service. Rather, this was designed to build on qualitative data and allow some additional analytical perspectives, pattern and trend analysis.

Note: In some cases, the Review was not able to generate a score for a particular service against one of the metrics, due to the proportionality of available evidence lower than equivalent services. This decision was made to ensure consistency of scoring methodology. In other cases, actual detailed assessments of MOPs were combined – for several services the Review chose to combine 'preparedness' and 'planning' for the purposes of scoring and narrative assessment. These are reflected in Annex A (Operational Analysis Matrix) and Annex B (Operational Assessment Sheets).

Diagram 2: Synergy Operational Assessment Performance Rating System for ESA

The Review also considered the measures of operational success for emergency services put forward by the Australasian Fire and Emergency Service Authorities Council (AFAC).[13] AFAC recognised that any assessment of operational success for emergency services needs a wider focus than just the emergency response itself. AFAC put forward certain 'measures of success' for emergency services:

1. Supporting resilient communities through risk reduction;
2. Providing trusted response;
3. The source of credible and timely information;
4. Effective governance and resource management; and
5. Informed by research.

Core References

The Review examined the following core references:

ACT Emergencies Act 2004

ACT Emergencies (Emergency Plan) 2014 (No 1)

ACT Strategic Bushfire Management Plan 2019-2024

ACT Strategic Bushfire Capability Framework 2018

Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines 2017 and Amendment 2018

MOU ACT ESA and Environment and Heritage (NSW) – Cross Border Agreement on Fire Preparedness, Response and Suppression

ACT Bushfire Management Standards 2014

ACT ESA Bushfires Preparedness Project – Final Report 2019

Preseason Readiness Program 2020 – ESA Risk and Planning Branch

RFS Preseason Checklist 2019/20

ACT Recovery Sub-plan 2019

ACT Community Recovery Sub-plan 2017

The Australasian Inter-Service Incident Management System 2017

Australasian Fire and Emergency Service Authorities Council (AFAC) National Capabilities Framework

AFAC Discussion Paper (2014) What is Operational Success for Fire and Emergency Services

[13] Australasian Fire and Emergency Service Authorities Council (AFAC), Discussion Paper Version 1.2 (2014), What is Operational Success for Fire and Emergency Services?

Hearing and evidence presented to the Royal Commission into National Natural Disaster Arrangements

After Action Reviews completed by:

- ACTAS
- ESA COMCEN
- ESA ECC
- F&R
- ESA Finance
- ESA ICT
- ESA Mapping
- ESA PI&E
- ESA IMT Planning and Operations
- ACT Police
- ESA Radio
- RFS
- SES

Daily operations and planning documents developed by the IMT, including Incident Action Plans and Situation Reports, ECC Critical Information Reports, and ECC SEMSOG Situation Report.

SECTION 2: REVIEW

SECTION 2: REVIEW

2a. Preparedness

The ACT Government has the governance structure with oversight of emergency planning and response coordination necessary to meet the direction of the Emergencies Act. The Security and Emergency Management Committee of Cabinet (SEMSOG) provides general strategic direction on ACT Government prevention and preparedness arrangements. It does this through the guidance set out in the Strategic Bushfire Management Plan (SBMP) that provides a strategic framework to protect the ACT community from bushfires and reduce resulting harm to the physical, social, cultural and economic environment of the Territory.

While the treatment of identified hazards will mitigate bushfire risk to an extent, it is simply not possible to eliminate all the risks. The ESA, through the SBMP, adopts an integrated risk-based approach to bushfire management, informed by shared responsibility, continual learning and evidence-based decision-making.

The SBMP recognises that the resources required to implement actions will vary every year, reflecting seasonal and operational priorities, and changes in the ACT's risk profile. It also recognises that additional funding may be required as risk profiles change. The SBMP expects objectives to be delivered within existing resources under the ACT Strategic Bushfire Capability Framework (SBCF). In achieving this the SBCF also recognises the requirement for additional resources from other states and the Commonwealth in extreme circumstances.

The SBCF identifies the Concept of Operations for bush and grass fires in the ACT (Concept of Operations) as the capstone document that establishes the principles for managing bush and grass fires. The Concept of Operations recognises the need to ensure that the territory is sufficiently prepared to manage bush and grass fires under the worst possible conditions. This includes determining the levels of resourcing to fulfil;

- firefighting roles,
- AIIMS functions,
- ECC functions, and
- PICC functions.

The SEMSOG is the primary mechanism for ensuring cooperation and coordination between ACT Government agencies in planning for and responding to emergencies. It is supported by the Security and Emergency Management Policy Group (SEMPG) which comprises officials from all relevant ACT Government directorates. It develops, implements and reviews specific security and emergency management matters including plans and sub-plans. These two groups work closely with the ESA Commissioner on a coordinated and cooperative approach in planning for and responding to emergencies in the ACT, including bushfires.

The ESA, including fire services, other emergency services and support agencies, has in place doctrine, operational procedures and internal policy documents to guide preparedness and response arrangements in the ACT. These include the Emergency Plan and its sub plans, Commissioner's guidelines, standard operating procedures and MOUs between government and non-government agencies.

Direction on preparedness is contained in the Emergency Plan 2014 (The Plan) which outlines roles and responsibilities for hazard management, the relationship between Supporting Agencies and the Lead Response Agency, and Emergency and Other Planning Arrangements. Beyond directing that plans are in place and resources are provided The Plan directs that the Territory will undertake exercises and workshops to examine and assess the effectiveness of emergency arrangements. This direction includes that training and exercising

will be undertaken on a routine basis to ensure Agencies are familiar with and understand the described emergency arrangements, and to provide for ongoing review of arrangements.

At the strategic level preparedness is defined through objectives and actions for agency and community preparation and response for bushfires, bushfire hazard assessment and risk analysis, and bushfire prevention. An adaptive management approach is used to apply best practice to bushfire management and prevention practices in the ACT in a changing environment. This is cascaded through the SBCF, The Plan and the Concept of Operations into operational objectives directing appropriate levels of capability be prepared against the prevailing strategic and seasonal risk. Preparedness levels are to be maintained to meet incidents as they occur. Achieving effective levels of preparedness in this context requires the maintenance of continuous levels of readiness, a familiar concept across response agencies and emergency services.

Bushfire prevention is not the responsibility of one body but rather the collective responsibility of the entire ACT community. Led by the ESA and Environment, Planning and Sustainable Development Directorate (EPSDD), bushfire risk management involves all other ACT directorates, utility providers, private landholders and the broader community. While the ESA Commissioner may make standards relating to requirements under the SBMP, effective fuel load mitigation relies heavily on the activities of landowners and managers.

The ACT Parks and Conservation Service (PCS) is responsible for managing fuel, undertaking fire mitigation and maintaining roads, fire trails and access on unleased Territory lands that it manages on behalf of EPSDD as well as relevant areas of Transport Canberra and City Services Directorate (TCCS). PCS is responsible for preparing annual Bushfire Operational Plans (BOPs) for these areas and undertaking fire preparedness and mitigation works under those BOPs. All BOPs are subject to sign-off by the ESA Commissioner.

The SBMP takes an 'integrated risk-based approach' to bushfire management and accepts residual risk. This concept of residual risk—developed for land management purposes—is focused on bushfire fuel hazard and the SBMP states that it 'cannot be readily applied to other aspects of bushfire prevention, preparedness, response or recovery'. Using a 'residual risk' target allows bushfire fuel management activities (such as prescribed burning) to focus on areas that fire modelling shows will have the greatest effect in reducing risk to life, property and the environment.

While the SBMP acknowledges that it is impossible to completely remove all bushfire risk, reducing fuel loads to manageable levels remains problematic for land managers such as EPSDD (who manage 80% of ACT lands) when faced with the extreme conditions experienced during the 2019/20 bushfire season. Comments were made that fuel loads and conditions meant that 'anything that could burn did', including area previously burnt. Very high levels of practical cooperation are required between ESA and land owners and managers in such circumstances. Preparedness levels must match the significant levels of residual risk that remains, and additional other measures taken to reduce risk that may impact on longer term land management.

The ESA publicly declared that it was prepared for the forthcoming bushfire Season on 31 August 2019, urging that the public be also 'Bushfire Ready', and announcing that the Bushfire Season would commence on 1 October. The Annual Preparedness Briefing occurred on 6 September. The ESA deployed 28 firefighters from the RFS and P&C to assist QLD Fire and Emergency Services in Rockhampton and Warwick on 12 September. The ESA officially ended the 2019-20 ACT bushfire season on 31 March 2020 following a challenging season of unprecedented conditions

The ESA was well placed to respond to a high level of demand for bushfire resources and completed extensive preparations in the lead up to the 2019/20 bushfire season. This included the required skilled and motivated personnel, and the necessary equipment and resources to extinguish and manage bushfires where this was operationally feasible. It also had the capacity to respond to significant weather and storm events. BAU emergency response remained largely unaffected throughout the season. Notably the ESA deployed substantial levels of support and expertise to assist fire management in other states. The recognised

requirement for interstate resources in extreme situations was realised during the response to the Orroral Fire demonstrating the effectiveness of inter-state and state to commonwealth resource sharing mechanism.

The ACT Government's coherent position on the risk posed by the 2019-202 Bushfire Season was communicated clearly to the public early in the season and the Government continued to provide or support updates throughout the season. Important lessons were taken from the 2003 fires with specific effort being placed on ensuring that the public were ready to share responsibility for being bushfire ready. A comprehensive community safety and notification campaign significantly helped the ACT in its readiness. This was timely given the gravity of bushfires underway in other states.

The high levels of preparedness of the ESA was clearly shown through the numerous examples of reciprocity and cooperation with other states and jurisdictions in the very early stages of the season. This included:

- The ACT's spatial capability is highly regarded and sought after. ACT Mapping and Planning Support (MAPS) volunteers deployed on numerous occasions across NSW and Queensland.
- ESA Liaison Officers were deployed into various Regional Emergency Operations Centres in NSW.
- The ACT's Firebird 100 specialist intelligence gathering helicopter was extensively deployed interstate during the bushfire season.
- Firefighting personal, aviation resources, firefighting and support appliances, heavy plant, specialist technical roles. ICT services and incident intelligence were also shared between agencies.
- The ESA utilised 58 personnel (18 employees and 40 volunteers) in aerial firefighting operations across two air bases (Hume Heli base and the Canberra LAT base) in support of firefighting activities across three states (ACT, NSW and VIC).
- Mechanical and paramedic support was also provided to all frontline firefighting teams deployed to firegrounds outside of the ACT.

Deliberate preparedness gaps analysis and a plan to address priority shortfalls informed the ACT Strategic Bushfire Capability Framework (SBCF) published in September 2018. This was complimented by the Bushfire Preparedness Project (BPP) which brought together the 24 operational and strategic works streams considered critical to delivering greater preparedness in anticipation of severe bushfire conditions in the 2018/19 season. Key deliverables included mitigation activities, enhanced capabilities, community preparedness, and collaboration. The additional strategic and programmatic steps taken to manage and prepare for 2018/19 Bushfire season clearly benefited preparedness for the 2019/20 Bushfire Season.

RFS pre-season checks from July through to October 2019 identified some shortfalls across 25% of specified actions that impacted on preparedness and contributed to much of the commentary that is discussed below. For example, desktop fire command and service wide exercises were not conducted, and interviews confirmed these activities were subsumed by the tempo of inter-state deployments. The Review also notes that while checklists are a necessary and efficient means of auditing achievement against specific actions, they do not provide an effective validation of the performance of an organisation. In the case of the RFS both material and individual preparedness levels were high but the opportunity to conduct and validate Level 3 training and complete other training was missed.

There was no evidence made available to the Review that an Annual Bushfire Preparedness Calendar (action 5.10 of the SBMP) had been established for the 2019/20 Bushfire Season. Preseason readiness programs were however developed by ESA to assist preparedness. The preseason readiness programs are comprehensive but rely on strategic plans for context with little tangible reference to the programming of outcomes in an operational context, prioritisation of tasks or to the assessment of risks posed by the forthcoming season.

Additional appointments have been made for Senior Directors for both Planning and Preparedness, and Operations and Capability Development, to provide assurance to the Commissioner, Chief Officers and

Executive Branch Manager of the effective and efficient oversight and management of emergency planning and preparedness activities at an agency wide level. Importantly, this includes the strategic oversight of emergency planning and preparedness activities at an agency wide level, and the development, conduct, review and evaluation of exercises to test joint planning and preparedness arrangements between ESA and external stakeholders. This represents a significant opportunity for ESA to address concerns of yearly and seasonal planning which is discussed later in this Review.

The opportunity also exists to take a strategic approach to capability planning to further benefit from significant advances in fire intelligence and situational awareness capability, networked communications technology and utility assets such as aerial operations. Longer-term plans for forecasting, resourcing, prioritisation, basing and coordination of a national aerial fire-fighting capability is an example of improvements that have wider reaching benefit regionally and nationally. The ACT's role as a strategic hub for south east Australia means it is well suited as a base for domestic aerial firefighting capability and associated fire intelligence and situational awareness development.

RECOMMENDATIONS:

- The ACT SBCF should be complimented by a strategic approach to preparedness that incorporates capability planning for mutual aid, enhancing the capability to source, deploy and command at the sector level and above, and arrangements to routinely share resources across states and draw on commonwealth assets.
- 'Other Resource Capability Activities' should be integrated into this approach in recognition of their significant enabling and inter-service capability.
- This strategic approach should also address developing the capacity to innovate around advanced capabilities and adapt them to firefighting in a coherent and safe manner.

Many staff deployed to both provide support to other jurisdictions but to also gain further experience very early in the fire season. Gaining experience through deployments can be invaluable and meets the objectives of the SBCF but the tempo of deployments needs to be managed to minimise impact on the training and exercises for concurrent ECC and Level 3 IMT.

Despite the thoroughness of preparation there was a perception among ECC/IMT/PICC staff that they were not prepared for protracted responses beyond 2-3 days. They found the length of campaign daunting, raising concerns about not having practised the application of their qualifications (AIIMS and other skills) sufficiently before being involved in response management. As the ECC and ICC scaled in response to worsening conditions over an extended season there was a view that there was a growing mismatch of qualifications, commitment, competency, and availability.

Similarly, comment was made that the pre-season logistics checks did not envisage the scale of events and that contracts (e.g. catering) were stretched to deliver over the season. There was a sense that ESA level operational support or "surge" plans had not been adequately developed to support extended Level 3 Incidents. Other logistics and resources planning made assumptions that were not covered by MOU or formal support arrangements requiring ad-hoc arrangements and 'work-arounds' to be established. The source concern driving commentary appeared to stem from pre-season planning and analysis not being sufficiently

comprehensive or adequately testing with respect to supply chain requirements and some supply relationships.

There is a requirement to establish pre-incident functional plans to coordinate the provision of capability for a range of supporting and logistics functions in the Concept of Operations. The guidelines also have a requirement for pre-formed incident management teams and pre-incident operations planning, although much of this is framed in very incident specific language. Stand-up arrangements are clear in the guidelines and an approved list of persons possessing the relevant competency and/or experience was published in December 2018. Operations of the ECC are detailed in the ECC Emergency Operations Sub-Plan which describes the physical and ICT infrastructure, business continuity, personnel roles, processes and products of the ECC in supporting the emergency operations. It positions the ECC of the lead response agency for support to an all-hazards, all-agencies emergency response but does not describe the requirement to scale nor does it discuss the management of tempo over protracted operations.

Many of the issues raised can be addressed through auditing and updating all ESA staff AIIMS qualifications, the development of an IMT staff support matrix that shows qualifications down to team member levels, and the incorporation of surge contingencies into revised sub-plans. Relevant knowledge and skills can be validated, and experience gained through pre-season Level 3 ECC command readiness exercises.

RECOMMENDATION:

Annual series of exercises involving ESA and all agencies for L3 incident response and IMT establishment to improve: all hazards response; cross agency relationships and interoperability; and capability and skills maintenance and development for all staff.

The RFS undertook extensive annual preparations for the 2019/20 bushfire season including vehicles and equipment maintenance and personnel training. Preparation included extensive support to interstate deployments in support of national emergencies, ensuring currency and exposure to major incident management. The RFS was unable to conduct specific collective training for IMT Level 2, or participate in an ACT led, Level 3 IMT. In 2019, RFS was not requested to conduct its usual quota of hazard reduction activities by PCS.

The RFS has good baseline facilities, equipment and personnel levels. A high number of TOBAN days provided opportunity to test stand-up and ensure personnel and equipment readiness. The Farm Fire Wise program is extensive and had up to date coverage and assessments with plans reviewed every five years, or on change of lease.

The RFS had also conducted a schedule of hazard reduction burns with private landholders. Extensive participation in inter-state deployments gave the RFS an opportunity to put training into practice and helped reinforce existing high levels of coordination with NSW RFS. The normal allocation of BOP hazard reduction burns for RFS in 2019 (managed by the PCS) were not available however due, in the main, to weather conditions. Controlled activities such as hazard reduction burns are of significant benefit to the RFS for mandatory career assessments and training.

There were several factors that hampered otherwise good levels of preparedness for the RFS. It should be noted that no specific IMT-level exercises were conducted (IMX) in 2019 prior to the bushfire season. The

impressive numbers of early and extensive deployments interstate meant many volunteers were already fatigued (and constrained by release from employers) at the start of bushfire season (The Review was informed by RFS total numbers were 450 members, 1183 total deployments for total of 2212 days). Fatigue also impacted on post-deployment vehicle and equipment maintenance.

Comments were also made that a high turnover of RFS permanent staff in ESA (from among only 12 in total) in previous years lead to inconsistency in approach and experience. This runs contrary to the stated objective of the SBCF.

Very high levels of motivation across the RFS and a strong desire to serve the community was evident during the Review and was shown through very high levels of volunteerism for interstate deployments. The high levels of praise that the ACT RFS received while deployed interstate and their high level of utilisation was contrasted to their employment within the Territory in commentary during the Review.

RECOMMENDATIONS:

- Review RFS hazard reduction task allocations (including from BOP tasks from PCS) to ensure adequate opportunities for professional development and skills maintenance.
- Review fatigue management systems for ESA (including RFS), and other support arrangements for volunteer staff in the ACT.
- RFS pre-season training and preparedness activities with ESA and other services, including combined interstate deployments for L3 qualified ICs.

ACT Fire and Rescue (F&R) was well prepared. The established program for BAU preparedness meant that staff and equipment was ready for tasking and the demands of the bushfire season. Long term investment in ACT building codes and regulations meant the urban interface was less of a concern in the lead up to the bushfire season. F&R noted that the PCS annual hazard reduction and debris removal program was successful in 2019 and contributed to hazard reduction in the numerous green spaces within the urban limits of Canberra. As with many ESA staff a program of interstate deployments in preceding months (to NSW) helped develop currency, situational awareness and contributed to collaborative inter-service approach.

It was noted that while there are a considerable number of Level 3 qualified Incident Controllers (IC) in the ACT not all had currency or relevant competency. It was clear that ICs benefited greatly from experience controlling L2 and L3 incidents, and where this wasn't possible, experience was gained by supporting other ICs during interstate deployments. The strategic objective of growing the available number of ICs was questioned when steps to ensure the currency of Level 2 and 3 qualified staff to support ESA IMT was not in place. This issue was exacerbated by the lack of an ESA level annual exercise in 2019 leaving staff less familiar and prepared for all functional roles in IMT.

RECOMMENDATIONS:

- Review AIIMS qualifications among F&R staff for IMT roles.
- F&R active involvement in pre-season training and preparedness activity with ESA and other services, including combined interstate deployments for L3 qualified ICs.

The high levels of readiness and response demanded by BAU assisted ACTAS as it had with F&S. The requirement for medical support to remote bushfire operations that had been recommended in the SBCF had been actively supported by ACTAS resulting in adequate numbers of people with the correct levels of qualifications (driving and bushfire awareness).

RECOMMENDATION:

Continue to develop a dedicated ACTAS cadre with specific training who can be extracted from BAU to support fire operations. It is recommended that specific training occur across ESA to allow staff to be extracted from BAU to support fire operations.

The SES were similarly well prepared for the 2019/20 bushfire season and had conducted detailed vehicle and equipment servicing and personnel training at the individual level. It is worth noting that the SES had undertaken service-only planning, readiness and exercise.

RECOMMENDATION:

Review SES support to ESA/RFS incidents and further enhance deliberate preparations, planning and training for staging area development and IMT requirements in support of bushfires.

2b. Planning

The ACT has long benefited from a multifaceted, comprehensive approach to managing bushfire risk in the Territory and encompasses measures for prevention, preparedness, response and recovery (PPRR). These measures include:

- establishing planning controls so developments are appropriately located and designed
- managing potential fuel loads
- adopting management and operational plans
- ensuring well-resourced and effective emergency services

- increasing community awareness and personal action on the risks posed by bushfires.

Governance and management of PPRR is operationalised through a hierarchy of detailed plans made under the Emergencies Act 2004 (The Act) which sets out the emergency management arrangements in the ACT. The objects of the Act include:

- protect and preserve life, property and the environment; and
- provide for effective emergency management that;
- has regard to the need to prepare for, prevent, respond to and recover from
- emergencies; and
- takes an all-hazards approach to emergency management; and
- to provide for the effective and cohesive management by the Commissioner of the State
- Emergency Service, the Ambulance Service, Fire and Rescue and the Rural Fire Service; and
- recognise the value to the community of all emergency service members, including volunteer
- members.

The Act provides for the preparation of a Plan, which must include details of a plan for an emergency if there is a reasonable possibility of the emergency happening in the ACT, and a community communication and information plan.

At the strategic level of planning the Strategic Bushfire Management Plan (SBMP) provides a strategic framework to protect the ACT community from bushfires and reducing resulting harm to the physical, social, cultural and economic environment of the Territory. The SBMP delivers a 5-year basis for fire hazard assessment, risk analysis, prevention, preparation and response. This is complimented by the Strategic Bushfire Capability Framework (SBCF) which identifies the level of resources available to respond to bush and grass fires in the ACT, ensures that resources match the prevailing risk, and provides an indication of capability against the objectives and action laid out in the SBMP.

The ACT Emergency Plan (The Plan) is also considered a strategic plan and describes the responsibilities, authorities and the mechanisms to prevent, or if they occur, manage emergencies and their consequences within the Australian Capital Territory Emergencies Act 2004.

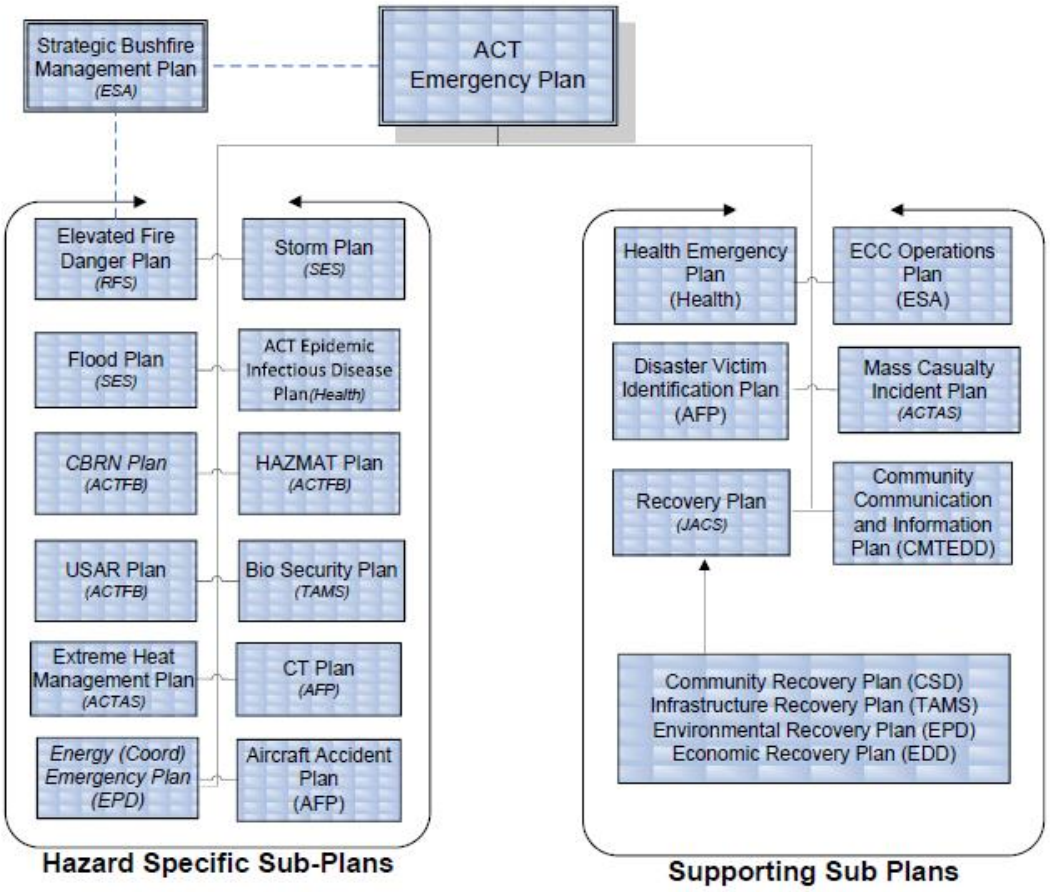
The objectives of the ACT Emergency Plan are to:

- outline the principles for emergency management in the ACT;
- describe how the components of emergency management in the ACT work together under a
- single, comprehensive and flexible framework;
- identify roles and responsibilities related to identified hazards and associated emergencies;
- identify, in relation to each different form of hazard, the lead agency primarily responsible for
- controlling the response to the emergency;
- provide for the coordination of the activities of other agencies in the Territory and elsewhere in
- support of a lead response agency in the event of an emergency; and
- identify the key roles and responsibilities that may be activated during an emergency.

The emergency management arrangements in The Plan are based on the following core principles which are intended to guide balanced, effective and efficient emergency management.

- The comprehensive approach which encompasses the spectrum of PPRR will be applied.
- An all hazards approach for managing the possible effects of emergencies will be applied.
- All agencies are involved to some extent in emergency management.
- Public safety and community engagement is fundamental to effective emergency management in the ACT.
- A risk-based approach to emergency management will be applied.

There is a comprehensive range of hazard specific sub-plans described in The Plan. Each has a designated lead and authorities attached.



Actions under The Plan are further detailed in The Concept of Operations for bush and grass fires in the ACT (Concept of Operations) which is also described as a capstone document that establishes, at the 'strategic' level, the principles for managing bush and grass fires. Importantly from a planning perspective the Concept of Operations seeks to ensure that the territory is sufficiently prepared to manage bush and grass fires under the worst possible conditions. This includes determining the levels of resourcing to fulfil;

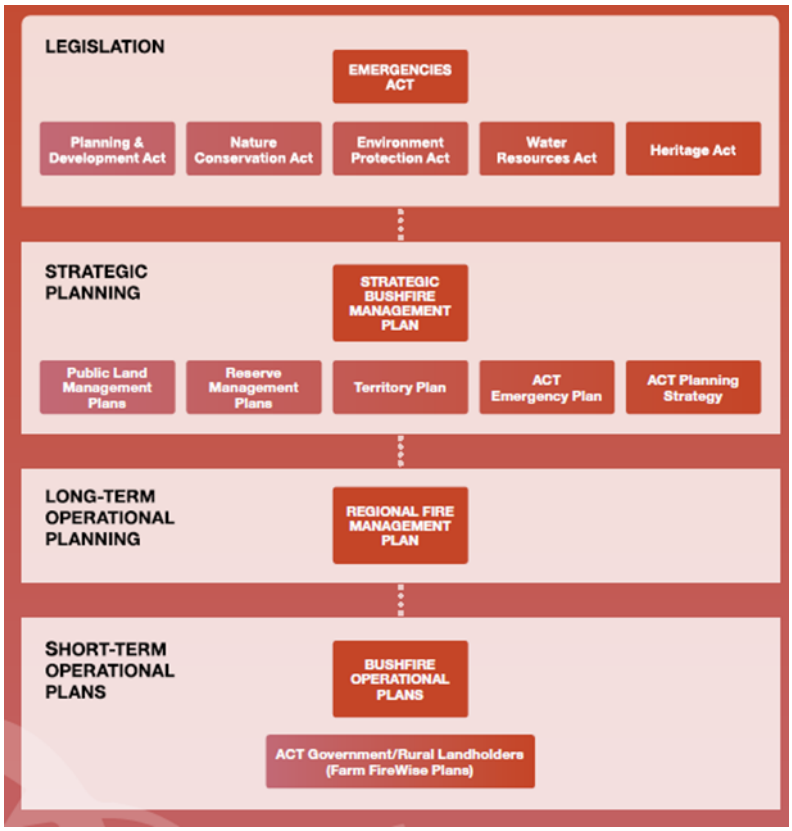
- firefighting roles,
- AIIMS functions,
- ECC functions, and
- PICC functions.

Functions such as the ECC are detailed separately through plans such as the ECC Operations Plan 2019.

Of fundamental importance to meeting the stated aims of fire related plans both in response or impact is the Regional Fire Management Plan (RFMP). Described as a long-term operational plan it is considered a foundation document that informs the SBMP and outlines how bushfire fuel management will be conducted on ACT government managed land. The annual and more detailed Bushfire Operational Plans (BOPs) – are drawn from the information contained in the RFMP. The annual BOP includes a range of activities and fuel treatments, such as prescribed burning, fire trail maintenance, slashing and physical removal as well as grazing to reduce grass fuels. The RFMP is a ten-year plan with a five-year review and balances fire fuel management with all the other values that the natural estate is managed for in the ACT.

The SEMSOG is responsible for developing, implementing and reviewing all plans and sub-plans. The planning framework is thorough and adequate for the management of emergencies and their consequences. Some clarification and recommendations for refinement of the established plans hierarchy has been proposed, such as recognising supporting sub-plans as part of the emergency management framework, but this reinforces the suitability of the extant framework of plans.

The hierarchy of plans detailing the responsibilities, authorities and mechanisms to prevent, or if they occur, manage emergencies and their consequences worked and allowed effective responses to fire and storm incidents. Decades of progressive SBMP have ensured that the governance and management of plans was proven effective.



The connection between strategic and operational plans has worked well to-date but the tension between being able to deliver against longer-term preparedness strategies and maintaining responsive operational plans across longer, hotter and dryer bushfire seasons will require very adept management. Mitigation and operational response must be progressive and operate with synergy to manage emergencies of the nature of the Orroral Fire and to deal with the potential consequences of such fires, particularly if they cross into the urban environment.

In a season that was dominated by almost continuous fire-related deployments, a heightened state of national emergency, and bushfire risk that was largely beyond mitigation it is understandable and right that the ESA was focussed on managing and responding to bushfires. While appropriate, this focus was perceived to be consuming and draw priority away from planning effort and resources for other issues affecting the ACT such as heat, smoke (air quality) and storms that may have triggered the ACT Evacuation Plan.

It is worth noting that the most extreme risks listed in the Territory Wide Risk Assessment 2017 (TWRA), Heatwave and Bushfire, were realised over the season with the ACT experiencing its hottest day and month on record and uncontrollable fire in January 2020. Fire induced smoke pushed air pollution to hazardous levels from 20 Dec 2019 to 2 Jan 2020 with the worst being experienced on 1 Jan 2020, with a hazardous daily average that was more than 34 times above the World Health Organization (WHO) 24-hour guidelines.

January also included severe storms and threats to the continuity of electricity supply both of which are assessed as representing high risk in the TWRA. The Pialligo Fire and the fatal crash of large air tanker during aerial firefighting operations against the Good Good Fire north-east of Cooma on 23 January 2020 came close to the TWRA definition of an aviation emergency when combined, causing disruption to aviation and regional air operations.

The first coronavirus case was recorded in Victoria in January in the same week as the Orroral fire started, with the first reported case of coronavirus occurring in Canberra in March as Australia reached peak infections rates. Federal, State and territory governments closed non-essential business and imposing social distancing measures in the following week. Five of the eight extreme or high risks identified in the TWRA were realised during the season.

		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Catastrophic
LIKELIHOOD	Almost Certain			Severe Storm	Heatwave	
	Likely			Hazardous Materials Emergency Flash Flood	Bio-Security Emergency	Bushfire
	Possible			Fire – Industrial and Structural Transport Infrastructure Failure	Human Epidemic Infectious Disease Energy Supply Emergency	
	Unlikely				Riverine Flood Water or Sewerage Emergency Communications Infrastructure Failure	
	Rare				Aviation Emergency Earthquake	Infrastructure Failure – Dam Flood
	RISK LEVEL		Low	Medium	High	Extreme

TABLE ONE. THE RISK RATING FOR EACH OF THE ACT'S IDENTIFIED NATURAL AND OTHER HAZARDS.

The Plan recognises the importance of clear and robust emergency plans and continuous planning to respond to continuing extreme weather conditions and anticipated natural disasters. There is also a stated requirement for planning to continue for other consequential, emergent or contingent risks. AIIMS stresses that effective planning is central to incident response management and that high levels of collective competency adds considerably to multiple agency interoperability and helps generate action against common objectives.

The Review Team found deliberate strategic planning to be very extensive and thorough. The framework of plans is comprehensive, appropriately contemporary and was in place for the last Bushfire season. The capacity of IC's and the IMT to develop immediate response plans was also good. Planners and Coordinators were well respected for their experience and judgement and tactical plans were formulated and implemented with due diligence. There was comment, however, that planning across the ECC, ICC and PICC was harder than it needed to be and could be improved.

Despite a thorough suite of plans and clear AIIMs procedures, the criticality of plans and planning was raised throughout the review. This may be the result of several factors:

- **The immediacy of plans, response and consequence in the Territory**. Longer-term plans focus on addressing risk through strategic measures (such as the SBMP, SBCF, RFMP and associated BOP) and on being prepared to respond (Concept of Operations, SBCF) to emergencies when they occur. There is no evident tension between strategic or hazard specific plans, however, the ACT is a unique environment where there is little separation between the public and the fire front and, as an expanding 'bush' capital, the threat of bushfire is immediate and real as was proven this last season. Carefully thought through and implemented plans can face sense defying disruption. The necessity for public warnings and admonition relating to 'disaster tourism' on 28 January illustrates that while the immediacy of the Orroral Fire caused a combination of heightened fear and uncertainty for those directly at risk or reliving anxious memories of 20003, it also generated a perverse and dangerous fascination for many who weren't.

  As a matter of necessity incident management develops in a modular fashion, based upon the type and size of an incident. The response organisation builds from the top down with responsibility placed in the Incident Controller. Even in cases where an Emergency Controller is appointed for Level 3 incidents priority of effort and authority remains appropriately on dealing with the incident/s at hand by the IC. This logic underpins all emergency response and is necessary to minimise the impact on community and the environment, to deliver an effectively and efficiently controlled response, and for the provision of a safe work environment for all responders.

  This has significant advantage in terms of making decisions amongst known and trusted colleagues in an environment that is highly familiar such as the Territory. It can, however, lead to some agencies and services being 'left-behind' and feeling 'left-out' when one hazard or agency dominates. This can only be avoided through deliberate action as recognised in the 'Unity of Command' approach outlined in the Concept of Operations, where all attending services contribute to the process of:

  - determining the overall incident objectives
  - selection of strategies
  - ensuring that joint planning for tactical activities will be accomplished
  - ensuring that integrated tactical operations are conducted
  - making maximum use of all assigned resources

  AIIMS interprets Unity of Command as there being only one IC for any incident, directing and coordinating the actions of all forces, with one set of objectives, and one plan for the management of the incident. The definition of 'Unity of Command' contained in the Concept of Operations and that contained in AIIMS are not mutually exclusive. A combination of clear authority and collaboration towards achieving the overall incident objectives enables an effective response against an agreed plan.

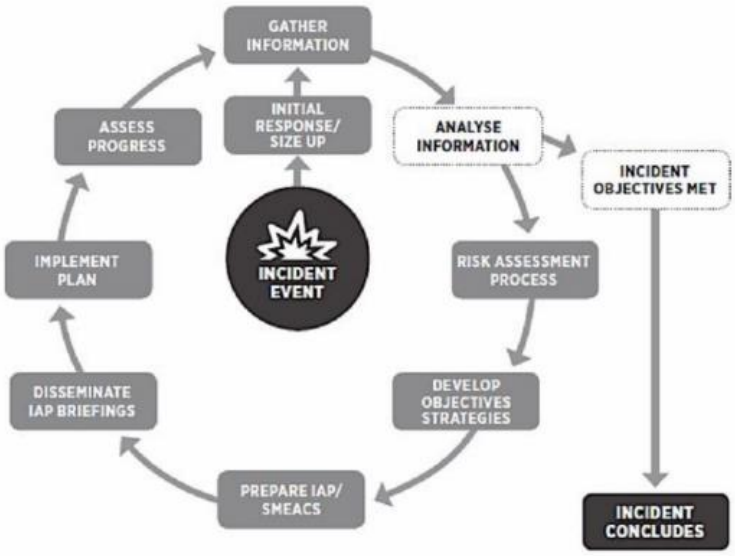
  Small changes of strategic direction will ripple through to the tactical level quickly in a relatively contained environment such as the Territory. Similarly, changes at the fire-front impact on the outlook of senior leaders and the ACT community. Small issues can unseat longer term plans in the circumstances such as those experienced in the 2019/20 Season unless managed judiciously. Decisions and their outcomes are immediately apparent.

  A common response to managing high tempo operations where the consequence of failure is significant

and subject to immediate public scrutiny is to focus on the known, drawing heavily on pre-established practices and experience to make decisions in response to incidents as they occur and delaying decisions that aren't immediately relevant. This can absorb significant leadership, staff effort and focus but is an entirely necessary approach to managing responses to emergency incidents.

There were numerous examples throughout the season of experienced professionals generating focus and priority to coordinate highly effective responses. Tactical planning and incident response should not, however, subsume efforts for longer-term planning, deliberate intelligence analysis, considered strategies and options, the development of sustainable resourcing plans or plans for immediate consequence management and longer-term plans for recovery, or any other essential future action in response to unexpected incidents that may make existing plans worthless. Tactical and longer-term planning must function effectively and concurrently if the ESA is to be prepared for large scale, long duration and complex incidents or emergencies that require a coordinated multi-agency response.

While clear direction and consistent leadership plays a significant role, planning should not depend on, or wait for, perfect direction drawn from perfect intelligence. Planning is a proactive and continuous process that enables difficult decisions to be made in time, based on what is known or can be assumed at the time the decision is necessary. Timely decisions allow staff effort and resources to be focussed on essential outcomes and the development and refinement of analysis, enabling support and logistics.



The comprehensive approach used in the Territory is the longest standing Australian emergency management practice and is made up of four key areas of operation. These are (1) Preparing for Emergencies, (2) Preventing Emergencies, (3) Responding to Emergencies, (4) Recovering from Emergencies, when combined referred to as PPRR, and has been referred to earlier in this review. This model is widely used as the benchmark for practice in emergency management in Australia but has been criticised for diminishing the treatment of anticipation and assessment. Anticipation is horizon scanning to identify potential dangers through risk calculation (as opposed to risk identification) and assessment is understanding the capability of all actors to mitigate the potential danger.

The all-hazards approach does not mean that the ESA is prepared for any and all potential events all of the time, but does mean that plans across the disaster cycle should recognise the commonalities in situational response mechanisms, and that these commonalities across all emergencies can be translated into

supported operational standards and best-practice used across all-hazards.[14] The discipline of considered operational planning underpins the full PPRR cycle and in the case of the ESA needs to play a fundamental role across the ECC/ICC and PICC, particularly during States of Alert and Emergency.

Robust collaboration between planning and execution helps mitigate this problem as does a continued focus on strategic objectives. Consistent and coherent planning combined with flexible and responsive operational direction minimises disruption in emergencies and establishes a sustainable tempo of decision, direction and response. A sustainable tempo builds organisational resilience and provides a foundation for adaption and major changes in focus.

- **Operationalising plans over years across seasons of growing length and severity, encompassing a greater range of emergencies and incidents**. Delivering against the Emergencies Act over many years (the RFMP is a 5-year plan with a 10 year outlook, for example) requires significant alignment through the hierarchy of legislation (The Act), strategic planning (SBMP, TWRA, RFMP, and associated BOP) and operational plans (Concept of Operations, SBCF), to achieve unity of action. As noted above the planning framework is thorough and adequate for the management of emergencies and their consequences. It is comprehensive and structured by design, using a risk-based approach to prioritise preparedness efforts while also recognising the dynamic and emergent nature of emergencies. The management of incidents through to Level 3 and the stand-up arrangements are clearly laid out in documents such as The Plan, the SBCF, the Concept of Operations and the ECC Operations Plan.

  The logic of the hierarchy of plans aligns with AIIMS in that it treats:

  - Incidents as a scalable concept that may be relatively small but calls for a response and can be expected to be brought to an effective resolution.
  - Incident management as activities to control or to bring an emergency to an end to enable a new normality to be established
  - Emergency management as an ongoing process that has no beginning or end and may be considered a cycle.

  Plans identified the requirement to manage bush and grass fires under the worst possible conditions anticipating the medium to long-term variables including soil dryness, the potential duration of incidents, and the risk posed by fuel levels (particularly in historical fire threat areas to the north west of Canberra). All factors pointed to an extended season of many months, which became 6 months long with some ESA personnel engaged at a ready level for as long as 7 months when early deployments inter-state are included. Of note is that the Commissioner of the ESA was appointed as the Emergency Commissioner for a total of 39 days across the season.

  As noted earlier in this Review, preparedness levels are to be maintained to meet incidents as they occur. Achieving effective levels of preparedness in this context requires the maintenance of continuous levels of readiness, a familiar concept across response agencies and emergency services but one that requires management as the dynamics of responding is far more appealing for volunteers than the boredom that can come in some cases from being ready through manning equipment. Long multi-hazard seasons place significant demands on staff and volunteers and should be addressed through a 'campaign' approach to seasonal planning, addressing potential phases and priority of effort, and including plans to generate and sustain capability at directed levels of tempo.

[14] The Australian Journal of Emergency Management Volume 26, No. 01, January 2011, p. 56

This Review defines campaigns as a controlled series of simultaneous or sequential operations designed to achieve an operational commander's objective, normally within a given time or space.

The ACT Sub Plan Community Communication and Public Information Plan is an example of a campaign approach that met with considerable success over the season. A known issue from 2003 and inherently important to ESA, the Public Information Plan sought to deliver concise, factual and timely information via channels that meet the information needs of the Territory and took the community on the journey to strengthen the relationship between ESA and the community.

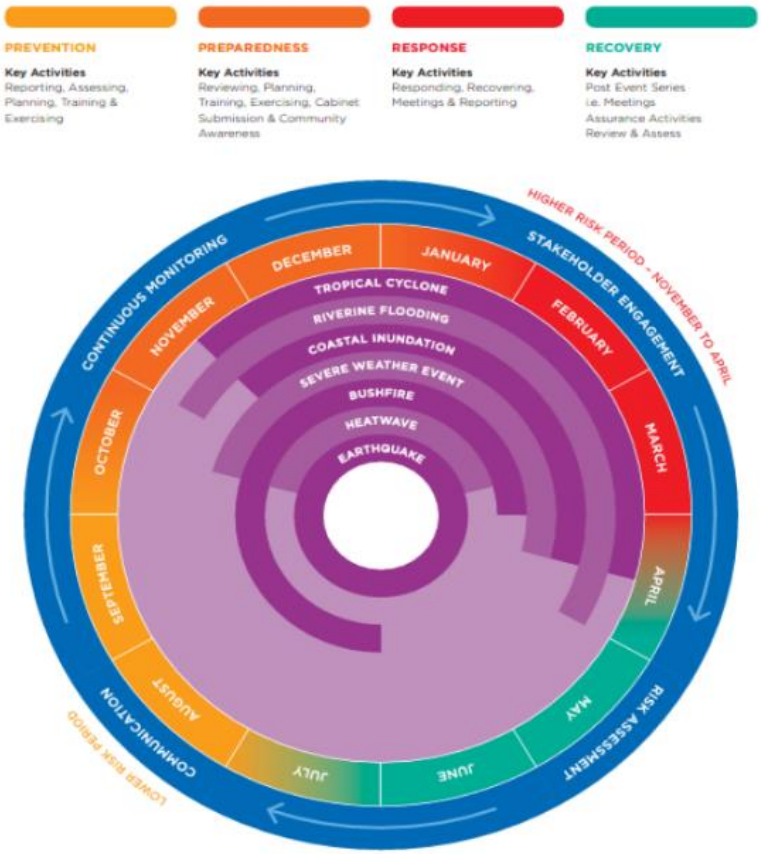
ESA implemented an annual bushfire awareness campaign titled CBR Be Bushfire Ready using external SME with all products being market tested prior to delivery. The campaign was also reviewed by the ACT Government campaign peer review panel. The campaign included broadcast advertising, community engagement, social media posts and media liaison activities.

ESA engaged face-to-face with 27,000 community members via town-hall meetings, shopping centre pop-ups and doorknocking to discuss bushfire preparedness, reached 506,000 people though a strategic media campaign and recorded 33 million online engagements, 12.5 million just through Facebook.

ESA operations, actions, and activities could be similarly coordinated through a unifying season campaign approach. The campaign would ensure all activities and operations are synchronized to achieve the strategic objectives of The Act and its supporting plans. It should operationalize the strategy and approach relevant to the expected season by organizing and aligning available resources.

Campaign planning would follow the existing principles of emergency management and complement existing plans while synchronizing efforts with all participants and supporting agencies prior to the season commencing. The season campaign plan should include contingency plans, subordinate and supporting plans, resource, logistics and finance plans.

The example below from the Fraser Coast Regional Council Local Disaster Management Plan, shows clearly how activity can be synchronised across an annual PPRR cycle while also showing a potential for peak activity in February and March that will require a multi-agency response.



An example of PPRR applied across an annual cycle for multiple risks contained in the Fraser Coast Regional Council Local Disaster Management Plan 2019 https://www.frasercoast.qld.gov.au/downloads/file/1118/local-disaster-management-plan

Existing strategies, emergency and framework plans, and hazard-specific and supporting sub-plans (e.g. recovery, ECC, disaster victim identification plans) also need to be better understood by designated participants across whole of government. This builds clarity and coherence around responsibilities, authorities and mechanisms, and enhances pre-season preparation. Much of is achieved through the planning review cycle but can be enhanced through additional briefings and scenario based 'table-top' planning exercises that are linked to and inform ECC response exercises. The SEMPG should enhance and exercise the deliberate planning cycle before bushfire season 2020-21 incorporating designated and relevant elements of the ACT Government to ensure plans are understood and practiced. A new planning cycle could be aligned with the revision of the Territory Wide Risk Assessment (TWRA) due to be updated this year (2020) to inform government priorities, actions and investment in managing natural disaster risk.

RECOMMENDATIONS:

- The annual planning review cycle be enhanced through additional briefings and scenario based 'table-top' planning exercises that are linked to and inform ECC response exercises.
- The ESA adopt a campaign approach to future fire seasons.

2c. Response

By the very nature of the ACT landscape all properties, particularly those located in the Bushfire Prone Area (BPA), are recognised as assets at risk from bushfire. The ACT has long benefited from a multifaceted, comprehensive approach to managing bushfire risk in the Territory.

Assigning precise consequences to critical infrastructure (particularly physical facilities, supply chains, information technology, communication networks and utilities in the ACT) is difficult and extremely varied because each category may impact on another (for example, a power outage may affect communications).

The ACT Government has a well-established and exercised governance structure with oversight of emergency planning, response and recovery coordination in order to coordinate a whole of government response to emergency management across the territory.

On this occasion, a State of Alert was declared on 2 January 2020 which showed good foresight, and this was followed by the declaration of a State of Emergency on 31 January 2020 to appoint the ESA Commissioner as the Emergency Controller. This was the first time since 2003 that an Emergency Controller had been appointed in the ACT. The Emergency Controller (EC) was appointed for a period of 39 consecutive days in January and February. As there is no express power under the ACT Emergencies Act 2004 to appoint an acting or deputy Emergency Controller, the Review notes managing fatigue for lengthy periods of time may require some functions to be delegated, or for authorities to be temporarily transferred to an acting appointment.

The Security and Emergency Management Committee of Cabinet provided the strategic direction of ACT government arrangements. And the Security and Emergency Management Senior Officials Group (SEMSOG) was the primary mechanism for ensuring cooperation and coordination between ACT Government agencies in planning for, responding to and recovering from emergencies.

ESA's use of on-line telecommunications ensured secure, effective and convenient briefings, and the establishment of a Secretariat also proved effective in scheduling and preparing for SEMSOG meetings.

Once appointed, the interaction between the EC, the management executive and SEMSOG was critical to ensuring that the government was informed during what was a rapidly evolving emergency, and that the full capacity of the government was made available for the response.

During the entirety of the 2019/20 bushfire season, The Commissioner (including later as the EC) was able to provide clear advice to the Chief Minister and Minister on what actions were needed by government and what information, warnings and advice needed to be provided to the community.

Arrangements between the ESA Emergency Control Centre (ECC), ESA Incident Control Centre (ICC) and ACT Government Public Information Coordination Centre (PICC) were, however, not always well understood by participants. Support to the EC in managing the overall response and ensuring ECC and PICC support the ICC must be the primary focus of any effective emergency response. Greater familiarity with these processes is needed through individual and collective level training.

RECOMMENDATION:

ACT Government/EC/ECC/ICC/PICC interaction be enhanced through additional briefings and scenario based 'table-top' planning exercises that are linked to and inform annual emergency response exercises.

INCIDENT MANAGEMENT TEAM

Following an extensive period of supporting serious interstate fires in the later months of 2019, including in regions surrounding the ACT, ESA was able to successfully conduct emergency response operations in its own jurisdiction. Principally this was achieved by establishment of an ICC and Level Three Incident Management Team (IMT). This IMT was able to defend the ACT against a major fire and respond to concurrent unprecedented storm damage.

The IMT arrangements set up by ESA to manage the protracted and serious threats faced during the 2019/20 bushfire season were effective and helped lead to the ultimate mitigation of the fire threats facing the ACT. The scale and duration of the IMT response (in combination with the ECC establishment following the declaration of a State of Emergency) was unprecedented and it is acknowledged this caused some strain on both the ESA facility at Fairbairn, and the orthodox IMT structures envisaged under AIIMS.

During the Review, ESA staff were self-critical of the interactions between the IMT Planning and Operations cells, and more generally on the need for better coordination within the IMT during critical periods of time. Key areas identified included: situational awareness and intelligence; information flows and processes and templates; communications planning and contingencies; firefighting strategy development; prioritisation of tasks and allocation of resources; and command and control arrangements and relationships with key subordinate leaders like Divisional Commanders and Staging Area Managers. The Review applauds the maturity and professionalism of ESA staff to reflect on the performance of the IMT in this manner.

The Review found that these shortcomings in IMT operations were likely caused as much by relative lack of experience in Level 3 multi-hazard emergency responses and did not indicate a systemic problem with either ESA staff, structures or the AIIMS system of national management. An increased focus on development and enhancement of technical and specialist skills (for example air operations), and on internal processes (for example coordination between the Operations and Plans functional areas of the IMT) will improve overall effectiveness and efficiency of ESA in any future responses.

The three significant storm events - which all occurred concurrent to the major fires - while managed exceptionally well from an operational perspective by the SES – also further demonstrated the need for greater focus on 'all hazards' responses across ESA and IMT adaptability in terms of both scale and expertise, especially for Level 3 events such as faced during this bushfire season.

PUBLIC INFORMATION AND WARNINGS

The public information and warning system established had extensive reach and impact in the community and contributed to the overall success of public safety and the reputation and visibility of ESA in the ACT. The decision by the EC to move the ESA Public Information Cell (PIC) into the IMT enhanced communications

response and messaging, providing a clear delineation of emergency communications and government communications.

It is acknowledged the relevance, roles and functions of the ACT Government PICC were unclear once the State of emergency was declared, with the primary responsibility for public warnings and alerts resting with the IMT PIC. ESA ran a highly successful community outreach and public information campaigns, including on social media (multiple platforms) and direct to the public (community meetings, doorknocking) and via the employment of novel and innovative methods to reach target audiences (community pop-ups, live Facebook conferences). The role of the Commissioner providing a 'voice' for ESA engagement with the public was seen to be particularly effective.

The Review acknowledges the value of work undertaken by ESA in 2019 with Bushfire Hazards CRC researchers from the University of Queensland which reviewed the ACT's bushfire warning templates. The results of the research were revised warning templates that were successfully used during the 2019/20 bushfire season.

The Single Point of Truth (SPOT) digital platform (introduced in 2012) was used by the IMT to simultaneously send warnings and public information updates to the ESA website, ESA social media accounts (Facebook and Twitter), local media outlets and government officials. This was a highly successful system which ensured both accuracy across platforms and consistency of public messages.

ESA also used the Emergency Alert warning system to issue Emergency Warnings and this worked well for time sensitive and targeted messages, although this produced unpredictable results because of technical difficulties when developing polygons defining the alert area for areas that crossed the ACT/NSW border. The Review noted ESA partnered with NSW RFS to ensure ACT bushfire warnings appeared on the NSW 'Fires Near Me' app.

SPECIALIST CAPABILITIES

Investments by ESA during 2019 in specialist capabilities such as the Specialist Intelligence Gathering (SIG) helicopter in the ACT provided enhanced situational awareness for ESA and enabled quicker and more informed strategic decision making.

ESA utilised the SIG helicopter extensively in the ACT and surrounding NSW during the season. The Review notes the aircraft preformed a wide range of intelligence and surveillance functions, including fire detection flights after lightning storms, hot spot identification in ongoing incidents, fire edge mapping and asset risk identification. This led to regular updates to the ESA website incident map showing the current location of the fire perimeters and, most importantly a clear situational understanding by the IMT. The Review notes that the SIG capability is currently funded and contracted for day operations only, and this meant the IMT was unable to have of fidelity on fire intelligence on a 24-hour basis.

ESA also employed high altitude line scanning aircraft to capture images using multi spectral imagery techniques a part of its intelligence collection efforts. Line scans proved important flying 24 hours a day to provide live updates on the location, direction of travel and intensity of a fire. The Review notes, however, that due to the number of fires throughout the region, and extensive fire perimeter, line scanning was not performed as regularly as ESA would have preferred.

ADF and AFP intelligence and aviation assets enhanced full spectrum and real time situational awareness of the fire ground and surrounding high risk areas. (the Review understands ESA experienced difficulties in accessing raw data in a timely fashion from ADF assets because of security classification issues.)

AFP Policing Drones were also used for aerial surveillance and reconnaissance. The innovative and adaptive use of this capability is to be commended.

There was high quality predictive weather intelligence and Mapping and Planning Support (MAPS) teams within ESA. Both capabilities provided key weather and fire intelligence and geospatial support to the ECC and IMT throughout the bushfire season.

Despite high levels of intelligence capability and a volume of information available more generally, there appeared to be no specific deliberate process for intelligence collection, analysis, dissemination and evaluation within the IMT, and the IAP contained no priority information requirements. This reduced the impact of intelligence for senior staff (EC and IC) and meant various information sources were not as impactful as they potentially could be. This improved progressively as SME with intimate knowledge of regional fire behaviours were combined with advanced sensing capability. The reciprocal relationship between plans and intelligence is captured in the AIIMS system, with the planning cycle driving the intelligence cycle (through tasking) and the intelligence cycle driving the planning cycle in turn by providing the intelligence relevant for risk management and options analysis activities of the prevailing conditions and incidents.[15]

Figure One: The Intelligence Cycle

AIR OPERATIONS

The Review noted the extensive use of air attack as a firefighting strategy and the practical utility of the ACT for centralised and coordinated air support for fires in the broader ACT and NSW region. The ACT actively supported national arrangements through the National Aerial Firefighting Centre (NAFC) for basing and deploying aerial firefighting platforms throughout the region during the bushfire season.

The Review notes the use of aircraft to assist in the suppression of bushfires in Australia is a proven, efficient and cost-effective technique, providing valuable protection of communities and environmental values.[16] All Governments in Australia have recognised the importance of having access to a sophisticated aerial firefighting capability to respond to bushfires, protect communities and to support firefighters on the ground.

Aircraft offer three major advantages over ground suppression resources: speed; access; and observation. According to a study by the Bushfire Cooperative Research Centre, the most effective use of aircraft is rapid

[15] Australasian Fire and Emergency Service Authorities Council (AFAC), *The Australasian Inter-Service Incident Management System (AIIMS)*, 2017, p115

[16] Submission of the National Aerial Firefighting Centre (NAFC) to the Senate Environment and Communications References Committee Inquiry into the response to, and lessons learnt from, recent bushfires in remote Tasmanian wilderness, May 2016, p3

attack on fires in the incipient stage. The Bushfire CRC research showed, however, that aerial suppression alone was not enough to improve effective suppression, and a combination of fuel management, ground crew support and aerial firefighting resources were all significant in increasing probability of first attack success.[17]

Aircraft contribute to fire suppression efforts in a wide variety of roles including direct suppression or asset protection by dropping fire suppressants or retardants; insertion of firefighters into remote areas; and gathering of information to support response planning and provision of updates and warnings to communities. The Review notes all these elements of aircraft capability were employed by ESA as a core element of its firefighting strategy.

The Review found ESA's employment of aviation had mixed results. While it was perceived that fixed wing bombing to create containment lines against the Orroral Valley fire stopped or slowed fire progression retardant often failed to adequately penetrate to a level it would be effective due to the combination of forest canopy and the extremely dry and rugged terrain. Fire would continue to progress after a short delay in these circumstances.

Rotary wing water bombing was moderately successful during fire-fighting efforts this season, providing ESA a method to deal with small fires inaccessible to ground crews. The most effective approach to fire suppression for the ACT during the 2019-20 season was the use of ground crews supported by rotary wing aircraft. ESA's remote crew insertion capabilities made a significant impact in keeping fires small where weather permitted.

There were multiple instances where ESA was able to deploy a mix of aircraft and ground capabilities which, when combined, proved to be both innovative and effective. The best illustrative example of this being the deployment of the SIG helicopter using high resolution infrared camera to detect hot spots close to the fires edge. Once hot spots were detected, the SIG aircraft coordinated the pin-point insertion of Remote Area Fire Team (RAFT) personnel by winch using two Bell 412 helicopters. Once crews were safely on the ground, the Bell 412 aircraft reconfigured to support the inserted crews with a water bombing capability while the SIG aircraft continued to scan the area for new hot spots and maintained overwatch for crew safety.[18]

ESA also used aerial firefighting to successfully protect assets and slow the progression of fire in support of ground-based operations. Large and Very Large Air Tanker (LAT and VLAT) deployments played a significant role in performing asset protection in remote areas of the ACT. This was particularly effective in the less accessible locations containing high risk assets (for example the interface between rural landholders and the National Park), as well as for critical infrastructure, and the protection of historic and cultural assets within Namadgi National Park, including Mt Tennent and Mt Clear communications towers, Cotter Hut and homesteads in the Naas area, and also protection of the habitats for the Endangered Northern Corroboree Frog in the Mt Ginini area.

ESA staff involved in aviation planning in the IMT were self-critical during the Review despite impressive results using a wide variety and number of aircraft types, and the mix of employment capabilities (air attack, surveillance, transport, etc), and the innovative employment of the capability. While the review recognises the requirement for expertise in the planning and coordination of this capability (such as the Air Attack Supervisor) the employment of air capability would be enhanced significantly by developing a much greater understanding across IMT planners and front-line fire commanders of how to best manage air assets operationally and integrate air and ground firefighting techniques.

[17] First attack success is defined as fire containment within eight hours of detection. Bushfire Cooperative Research Centre Technical Report Number A0701, The Effectiveness and Efficiency of Aerial Firefighting in Australia, Part 1, June 2007

[18] The Review notes ESA has recently provided specific policy guidance on employment of the RAFT capability. https://esa.act.gov.au/sites/default/files/2020-03/2.3.4%20RAFT%20Guideline.pdf

The Review notes the *prima facie* case that a strategic opportunity exists for the ACT to further develop the expertise and capabilities to support the operation of the ACT as a Fire-Bombing Air Base capable of supporting all aircraft types including Very Large Air Tankers (VLAT).

RECOMMENDATIONS:

- Review of ESA Fairbairn facility for "fit-for-purpose" of concurrent ECC and L3 IMT (and identification of remedial or alternate facilities if required).
- Review of ESA approach to Level 3 IMT structures and internal processes (planning, operations, intelligence, logistics) under AIIMS for suitability for all-hazards and multi-agency approach.
- ESA conduct at least annual L3 incident exercises testing "non-standard" scenarios to develop contingencies and test SOP, including contractual support arrangements.
- Review of all ESA and service level awards and different roster systems (including full time and volunteer staff conditions) to look for potential to align or combine during IMT operations.
- Review the development and application of a more deliberate and coordinated intelligence cycle within IMT planning function under AIIMS
- Enhanced training or familiarisation for ESA senior L3 and L2 qualified staff on specialist and emergent bushfire fighting strategies and capabilities, including aviation operations (air attack, air base operations, surveillance and transport).

EXTERNAL COOPERATION

The Review found the ESA collaborated effectively with external agencies. ESA contributions to - and allocation of resources from - the National Resource Sharing Centre (NRSC) for both interstate and local incident response was timely and adequate. ESA's use of ADF resources prior to any major outbreak of fire in the ACT allowed for major preparation works to occur and for issues of interoperability and coordination to be resolved.

This fire season presented the ACT with numerous major fire events on its borders and fires which transgressed jurisdictions in both directions. The Review found that ESA relationships with its closest cross-border counterparts, including the NSW Rural Fire Service and the NSW Office of Environment and Heritage, were effective.

The ESA and NSW RFS have a strong history of regular interaction which has over time facilitated greatly improved coordination of responses to cross-border emergencies. The Review noted formal Memorandums of Understanding (MOU) were in place with relevant NSW agencies.

Detailed and persistent coordination measures to manage fires impacting ACT and NSW borders was evident. The placement of Liaison Officers in the ESA IMT and NSW RFS Headquarters was a major contributor to that effective exchange of information. The ACT benefitted significantly by embedding experienced planning and operational officers from NSW within the IMT.

The Review concluded ESA requests for ADF assistance under the Defence Aid to the Civil Community (DACC) arrangements were both timely and necessary given the scale of the emergency and the range of capabilities required. ADF DACC support to ESA included:

- heavy plant and support vehicles and operators;
- remote paramedical support;
- mechanical support;
- all-weather reconnaissance and transport aircraft capability;
- personnel transport;
- accommodation and catering for interstate fire crews; and
- personnel to assist with doorknocking.

ESA coordination with the ADF was effective and was achieved by embedding representatives from the ADF Joint Task Force within the IMT and ECC providing the ADF with real-time information on fire response operations. While not part of the Terms of Reference for this Review, it is noted that the ADF was able to support all ACT requests in a timely manner.

SERVICE RESPONSES

The review identified a perception that the RFS were underutilised as Strike Teams during response to major fires in the ACT - in particular the Orroral Valley fire – and that senior officers were proportionately underrepresented in the IMT and as Divisional and Sector Commanders. The majority of Divisional Commander and Sector Leader appointments were allocated to ACT Parks and Conservation Service (PCS) officers.

Overall, the Review considers the decision by ESA to embed PCS staff within the IMT, including in key operational and planning roles, strengthened the ESA's awareness of the environment within the ACT's parks and reserves. The local knowledge of PCS as the land manager of the ACT's parks and reserves was a clear advantage to the operation of the IMT.

It is noted there were significant PCS firefighting assets (operating as a brigade of RFS) and staff in support of ESA from outside the ACT, including Queensland, and this was a factor in making resource allocation decisions in the IAP. When called on, the RFS met all response times for incidents and major incident tasking during the entire 2019/20 bushfire season.

The Review notes that Harris UHF/VHF radio enhancements to the RFS provided seamless tactical communications with all ACT elements and NSW during interstate deployments before the bushfire season and during operations inside the ACT.

F&R provided effective protection of the urban edge in accordance with its established tasks and responsibilities. The F&R service was able to continue its mandated coverage of the ACT without impact over the entire bushfire season and provided all support requirements to ESA for the bushfire response. An Urban Interface Plan was developed as a specific contingency.

It is noted the employment of F&R communications staff in the IMT significantly assisted IMT operations management. The review noted significant contributions to the IMT were made by senior F&R staff.

RECOMMENDATIONS:

- Review of RFS capability and ability to generate strike teams for bushfires in ACT and interstate, with a view to have more detailed standing deployment options for consideration by ESA IMT/ICs during Level 3 incidents.
- Continued integration and employment of both RFS and PCS officers into ESA IMT/IC roles and expanded opportunities for collaboration and combined leadership training between all ESA fire services (RFS, F&R) and ACT directorates with fire-fighting responsibilities (PCS).
- Enhanced opportunities for interagency collaboration and leadership, to further develop ability of senior ESA officers from non-bushfire trained backgrounds (F&R, SES) to support ESA IMT structures and leadership response.

ACTAS was able to continue its mandated coverage of ACT for paramedic support without impact over the entire bushfire season and provided all support requirements to ESA and the IMT for bushfire response. The placement of ACTAS paramedics directly into firefighting Strike Teams was considered a highly valuable innovation.

Further, the use of ACTAS paramedics in Strike Teams had positive impact on the mindset of other ESA services on the role paramedics can play in fire operations. ACTAS conduced multiple deployments to provide primary health care and emergency ambulance at remote firegrounds for extended periods. The inclusion of ADF medical teams and capability was considered a "force multiplier" (in particular the Ambulance variant of the Bushmaster Protected Mobility Vehicle (PMVA) and G Wagons)

The ACTAS was structured and tasked under the IMT Resources cell impacting leadership and management decisions as ACTAS itself had poor situational awareness of the fire incident and poor visibility of staff deployments and operational locations. This required ACTAS to develop secondary communications pathways to maintain contact with forward deployed crews.

The SES was a key enabler of support services and provided enhanced operational effectiveness to all phases of the bushfire response and the operation of the ESA IMT. Its largely independent management of support to the ACT community following three major storm events demonstrated its operational flexibility and ability to re-task back to its core responsibilities.

The integration of SES staff in multiple roles in the IMT support meant ESA members from other elements gained significant knowledge of and confidence in SES capabilities. This included not only the placement of SES Duty Officer and a supporting SES Operations Desk working to the IMT Resources cell (an arrangement similar to ACTAS), but also an SES Duty Executive (outside IMT structure) to support the IC and IMT Operations.

It would appear the EC had directed SES to run the storm response within the IMT by appointment of a Deputy IC for that event, but in reality this was not fully realised and in a practical sense SES staff ran a separate "L2 Storm IMT" on their own, duplicating Ops and Plans functions – and this was repeated for 10 February storm event, setting up an SES "IMT" in a different location in ESA Fairbairn.

RECOMMENDATIONS:

- Training of specialist cadre of ACTAS personnel to support IMT on dedicated roster.
- Review of where Health function best sits in AIIMS planning and IMT structures for Level 3 incidents.
- Consider standing SES Operations Desk or permanent staff officer inside IMT Operations Cell
- Consider IMT Operations and Plans representative forward inside the staging area to assist SES Staging Area Manager with RSOI.
- Development of contingency plans for SES support to fires to cover when additional/multiple tasks emerge in response to other hazards or emergencies within specific SES remit.

Overall, the review concluded that the performance of ESA and its services during the 2019/20 with regards to the conduct of its response to bushfires and storms in the ACT was rated as NEEDING MINOR IMPROVEMENT. This rating reflects the summative scores drawn from the Synergy Operational Performance Model.

The Review also notes the performance of ESA and its services when considered against the measures of operational success for emergency services put forward by the Australasian Fire and Emergency Service Authorities Council (AFAC).

AFAC defines the critical elements reflecting operational success during a response to be:

1. Primacy of life (of both community and emergency personnel);
2. Competence in delivery of response (considering standards, doctrine and best practice); and
3. Collaboration (integrated delivery of services, focus on common purpose and objectives).

There can be no doubt ESA and the services achieved resounding success during the response to fire and storm in the 2019/20 bushfire season when considered against these metrics.

2d. Recovery

Disasters can impact communities in profound, long lasting and life-changing ways. The ACT environment and community is still, in many aspects, "recovering" from the severe damage and loss of life experienced in the 2003 fires. The Australian Institute for Disaster Resilience (AIDR) defines recovery as a long-term, multi-layered social and developmental process.[19] Recovery involves coming to terms with the impacts of a disaster and managing the disruptions and changes caused, which can result for some people in a new way of living. More so, planning for recovery is integral to preparing for disasters. It is not solely a post disaster consideration. Ideally, recovery planning should occur in advance of a disaster concurrently with planning for any response.

[19] https://knowledge.aidr.org.au/media/7389/knowledge-into-action-introduction-recovery-web.pdf

AIDR has developed National Principles for Disaster Recovery to provide guidelines for good practice:

1. Understand the context: successful recovery is based on an understanding of the community context, with each community having its own history, values and dynamics;
2. Recognise complexity: Successful recovery is responsive to the complex and dynamic nature of both emergencies and the community;
3. Use community-led approaches: Successful recovery is community-centred, responsive and flexible, engages with community and supports them to move forward;
4. Coordinate all activities: Successful recovery requires a planned, coordinated and adaptive approach, between community and partner agencies, based on continuing assessment of impacts and need;
5. Communicate effectively: Successful recovery is built on effective communication between the affected community and other partners; and
6. Recognise and build capacity: Successful recovery recognises, supports and builds on individual, community and organisational capacity and resilience.20

The Review acknowledges that the role of ESA and agencies in this regard was limited to the immediate recovery actions related to the various fire events (the major fire in Orroral Valley ultimately not having a direct impact on the urban interface of the ACT) and concurrent storm events. Long-term recovery from the severe storm events in January and February is still ongoing in the ACT and the Review appreciates these works are not the direct responsibility of the ESA.

However, the Review noted that the ACT Recovery Sub-Plan outlines broad recovery activities for the community, business, infrastructure and the environment. The plan:

- Outlines the framework that supports the planned, coordinated and flexible engagement of key stakeholders before, during and after emergencies,
- Enables scalable options to support the management of smaller incidents through to activities requiring cross-agency coordination,
- Sets out a measured transition plan to ensure the recovery effort is effectively coordinated, and
- Provides for the appointment of a Recovery Coordinator and Recovery Taskforce, if required.

The ACT Recovery sub-plan had been revised in 2019 and was briefed at the start of the season. There was no evidence of the ACT Recovery Committee being established however this did not prevent the activation of Disaster Recovery Funding Arrangements.

Whilst recovery starts as soon as possible after response (or concurrent to it) to any emergency incident, there is a gap in many response plans with a strong focus on the incident, at the expense of consequence management. The review considers that population protection measures within the response phase need to be strongly considered as a standard part of operational planning.

The opportunity exists to improve the way that active recovery arrangements are implemented during any emergency, particularly with funding arrangements. A capacity to assist affected parts of the community recover more quickly will build better levels of resilience interactively in multi-hazard emergencies spanning multiple months. A more strategic or whole-of-season approach to planning would include sub-plans to assist the quickest possible recovery at the local level.

[20] https://knowledge.aidr.org.au/media/7390/knowledge-into-action-recovery-principles-web.pdf

The Royal Commission in National Natural Disaster Arrangements remit includes the responsibilities of, and coordination between, the Commonwealth and State, Territory and local Governments relating to recovery from natural disasters and provide an opportunity to improve these arrangements

RECOMMENDATION:

The ESA review the planning processes of the ECC to improve the way that active recovery arrangements are implemented during future emergencies.

The Review noted that the ACT SBMP (Section 12: Supported communities for bushfire recovery) describes the facilities and processes for supporting recovery from bushfires in the ACT. ESA's coordination of immediate post-fire and storm recovery through the pre-existing IMT located in Fairbairn helped quickly address much needed and complex work by multiple services (SES, ACTAS, RFS), the ADF and ACT authorities (PCS, etc) and ensured the ACT community was able to return to normality as quickly as possible.

In particular, the work undertaken by Dangerous Tree Assessment Teams (DTAT), assisted by the ADF, helped to clear priority roads as soon as practicable. Telstra, Icon, Evo Energy and other key utility providers also accessed the fire ground to conduct critical works in coordination with the IMT. In addition, the IMT coordinated the essential work of the post-fire recovery Rapid Risk Assessment Team (RRAT) team, including providing support to Heritage and Built Assets specialists. Necessary administrative and logistics operations were also undertaken in an effective and efficient manner during this critical period. For example, the closing down of the staging area and refurbishment of the Namadgi Visitors Centre was completed in three days, and the area handed back to PCS. This included coordination of contractors to remove toilets, refrigerated shippers, return of stock and equipment back to ESA Resource Centre and return of SES staging area equipment back to allocated units.

The review found all these tasks were assisted where required by ACTAS paramedic capabilities. And the RFS and SES were able to generate adequate volunteer capability to support ESA requirements in these immediate recovery operations.

The IMT was, however, quickly closed once the immediate threat of fire was contained with most ESA functions and services returning to BAU operations. This stand-down missed the potential benefit of more deliberate project closure opportunities and requirements (through demobilisation) in particular on necessary archival and finance requirements (e.g. invoicing and ICON entries for records). The review acknowledges the IMT had been operational for an extended period and the timing of its cessation was a natural and justifiable decision in that regard.

The review found that in the following weeks, ESA conducted a robust series of After Action Reviews (AAR) for all functional areas and services involved in the IMT, and developed significant internal insights and lessons derived from the long and destructive bushfire season. Post incident community surveys showed high levels of community satisfaction with ESA information during bushfire season. These processes provided valuable opportunities to capture and record the collective knowledge and experience of all ESA members, and is to be commended.

The review found that the reputation of both RFS and SES among the ACT community was significantly enhanced by their actions throughout the proceeding months, as post the 2019/20 bushfire season and storm events, these services received many hundreds of applications from potential new volunteer members.

Overall, the review concluded that the performance of ESA and its services during the 2019/20 with regards to the conduct of recovery actions to bushfires and storms in the ACT was rated as NEEDING MINOR IMPROVEMENT. This rating reflects the summative scores drawn from the Synergy Operational Performance Model.

RECOMMENDATIONS:

- After all major emergency incidents ESA should maintain IMT oversight for reasonable timeframe to ensure effective and efficient tasking of resources against known and anticipated requirements.
- RFS core skills and experience and knowledge of ACT firegrounds should continue to be exploited for recovery operations.
- RFS and SES reputation in ACT community and bushfire experience used by ESA to build volunteer support base and longer-term capability development.

SECTION 3: RECOMMENDATIONS

SECTION 3: RECOMMENDATIONS

The recommendations listed in the Review and included in Annex A are consolidated thematically below to aid decision making.

Capability

1. The ACT SBCF should be complimented by a strategic approach to preparedness that incorporates capability planning for mutual aid, enhancing the capability to source, deploy and command at the sector level and above, and arrangements to routinely share resources across states and draw on commonwealth assets.
2. 'Other Resource Capability Activities' should be integrated into this approach in recognition of their significant enabling and inter-service capability.
3. The strategic approach to preparedness should also address developing the capacity to innovate around advanced capabilities and adapt them to firefighting in a coherent and safe manner.
4. Continue to develop a dedicated ACTAS cadre with specific training who can be extracted from BAU to support fire operations. It is recommended that specific training occur across ESA to allow staff to be extracted from BAU to support fire operations.
5. Review ESA Fairbairn facility for "fit-for-purpose" of concurrent ECC and L3 IMT (and identification of remedial or alternate facilities if required).
6. Enhanced training or familiarisation for ESA senior L3 and L2 qualified staff on specialist and emergent bushfire fighting strategies and capabilities, including aviation operations (air attack, air base operations, surveillance and transport).
7. Review RFS capability and ability to generate strike teams for bushfires in ACT and interstate, with a view to have more detailed standing deployment options for consideration by ESA IMT/ICs during Level 3 incidents.

Collective Training and Exercise

1. ACT Government/EC/ECC/ICC/PICC interaction be enhanced through additional briefings and scenario based 'table-top' planning exercises that are linked to and inform annual emergency response exercises.
2. Conduct an exercise annually against predicted scenarios involving ESA and all agencies for L3 incident response and the IMT establishment to improve: all hazards response; cross agency relationships and interoperability; and capability and skills maintenance and development for all staff.
3. ESA conduct at least annual L3 incident exercises testing "non-standard" scenarios to develop contingencies and test SOP, including contractual support arrangements.
4. RFS and F&R should complete pre-season training and preparedness activities with ESA and other services, including combined interstate deployments for L3 qualified ICs.

Preparedness

1. Review RFS hazard reduction task allocations (including from BOP tasks from PCS) to ensure adequate opportunities for professional development and skills maintenance.

Personnel

1. Review fatigue management systems for ESA (including RFS), and other support arrangements for volunteer staff in the ACT.
2. RFS and SES reputation in ACT community and bushfire experience should be used by ESA to as a platform to build a volunteer support base and to provide a foundation for longer-term capability development.

Planning

1. Review SES support to ESA/RFS incidents and further enhance deliberate preparations, planning and training for staging area development and IMT requirements in support of bushfires.
2. The annual planning review cycle be enhanced through additional briefings and scenario based 'table-top' planning exercises that are linked to and inform ECC response exercises.
3. The ESA adopt a campaign approach to future fire seasons.
4. Develop contingency plans for SES support to fires to cover when additional/multiple tasks emerge in response to other hazards or emergencies within specific SES remit.
5. The ESA review the planning processes of the ECC to improve the way that active recovery arrangements are implemented during future emergencies.

Incident Management

1. Review of ESA approach to Level 3 IMT structures and internal processes (planning, operations, intelligence, logistics) under AIIMS for suitability for all-hazards and multi-agency approach.
2. Review all ESA and service level awards and different roster systems (including full time and volunteer staff conditions) to look for potential to align or combine during IMT operations.
3. Review the development and application of a more deliberate and coordinated intelligence cycle within IMT planning function under AIIMS.
4. Review AIIMS qualifications among F&R staff for IMT roles.
5. Continued integration and employment of both RFS and PCS officers into ESA IMT/IC roles and expanded opportunities for collaboration and combined leadership training between all ESA fire services (RFS, F&R) and ACT directorates with fire-fighting responsibilities (PCS).
6. Enhance opportunities for interagency collaboration and leadership, to further develop ability of senior ESA officers from non-bushfire trained backgrounds (F&R, SES) to support ESA IMT structures and leadership response.
7. Train a specialist cadre of ACTAS personnel to support IMT on dedicated roster.
8. Review where the Health function best sits in AIIMS planning and IMT structures for Level 3 incidents.
9. Consider a standing SES Operations Desk or permanent staff officer inside IMT Operations Cell.
10. Consider IMT Operations and Plans LO's forward inside the staging area to assist SES Staging Area Manager with RSOI.
11. After all major emergency incidents ESA should maintain IMT oversight for a reasonable timeframe to ensure effective and efficient tasking of resources against known and anticipated requirements.
12. RFS core skills and experience and knowledge of ACT firegrounds should continue to be used for recovery operations.

SECTION 4: ANNEX A

ANNEX A

ACT EMERGENCY SERVICES AGENCY (ESA) OPERATIONAL REVIEW OF 2019/20 BUSHFIRE SEASON

OPERATIONAL ANALYSIS MATRIX

1. MASTER OPERATIONAL PERFORMANCE MATRIX

	Preparedness	Planning	Response (Operations)	Response (Management)	Recovery	Overall Agency
ACT/ECC	Rating: 16	Rating: 16	Rating: 16	Rating: 14	Rating: 11	Good
ESA/IMT	Rating: 12		Rating: 9	Rating: 9	Rating: 14	Minor Improvements
RFS	Rating: 9		Rating: 11	Rating: 11	Rating: 14	Minor Improvements
F&R	Rating: 16		Rating: 16	Rating: 14	Rating: NSTR	Good
ACTAS	Rating: 16		Rating: 14	Rating: 12	Rating: NSTR	Good
SES	Rating: 14		Rating: 16	Rating: 14	Rating: 14	Good
Overall Criteria	Minor Improvements	Good	Minor Improvements	Minor Improvements	Minor Improvements	

Criteria

				Outcome/Result			
				Outcome Not Achieved	Outcome Limited	Outcome Expected	Outcome Exceeded
				<30%	30-70%	71-100%	>100%
				1	2	3	4
Plan/Intent	<30%	Very poor	1	1	3	6	8
	30-70%	Less than Expected	2	2	5	10	13
	71-100%	Expected	3	4	9	12	15
	>100%	More than Expected	4	7	11	14	16

Rating

Poor

Major Improvement

Minor Improvements

Good

2. MASTER OPERATIONAL HEADLINE OBSERVATIONS MATRIX

	Preparedness	Planning	Response	Recovery
ACT/ECC	**Observation:** The ACT was well placed to respond to a high level of demand for bushfire resources with skilled and motivated personnel, and the necessary equipment and resources to respond to and extinguish bushfires where this was operationally feasible. It also had the capacity to respond to significant weather and storm events. BAU emergency response remained largely unaffected throughout the season.	**Observation:** The planning framework is thorough and adequate for the management of emergencies and their consequences. Some clarification and recommendations for refinement of the established plans hierarchy has been proposed, such as recognising supporting sub-plans as part of the emergency management framework, but this reinforces the suitability of the extant framework of plans.	**Observation:** The ACT Government has a well-established and exercised governance structure with oversight of emergency planning, response and recovery coordination in order to coordinate a whole of government response to emergency management across the territory: • The Security and Emergency Management Committee of Cabinet provides general strategic direction of ACT government prevention and preparedness arrangements. • The Security and Emergency Management Senior Officials Group (SEMSOG) is the primary mechanism for ensuring cooperation and coordination between ACT Government agencies in planning for, responding to and recovering from emergencies. • The SEMOG is supported by the Security and Emergency Management Policy Group (SEMPG) which comprises officials from all relevant ACT Government directorates. It develops, implements and reviews specific security and emergency management matters including plans and sub-plans. • There are no known barriers to activities undertaken to protect identified critical assets and infrastructure. A State of Alert was declared on 2 January 2020 which showed good foresight, and this was followed by the declaration of a State of Emergency on 31 January 2020 to appoint the ESA Commissioner as the Emergency Controller. This was the first time since 2003 that an Emergency Controller had been appointed in the ACT. The Emergency Controller was appointed for a period of 39 consecutive days in January and February.	**Observation:** • The ACT Recovery sub-plan had been revised in 2019 and was briefed at the start of the season. • The ACT Recovery Committee was not established however this did not prevent the activation of Disaster Recovery Funding Arrangements.

	Preparedness	Planning	Response	Recovery
	Recommendation: • The ACT SBCF should be complimented by a strategic approach to preparedness that incorporates capability planning for mutual aid, enhancing the capability to source, deploy and command at the sector level and above, and arrangements to routinely share resources across states and draw on commonwealth assets. • 'Other Resource Capability Activities' should be integrated into this approach in recognition of their significant enabling and inter-service capability. • This strategic approach should also address developing the capacity to innovate around advanced capabilities and adapt them to firefighting in a coherent and safe manner.	**Recommendation:** The annual planning review cycle be enhanced through additional briefings and scenario based 'table-top' planning exercises that are linked to and inform ECC response exercises. The ESA adopt a campaign approach to future fire seasons.	**Recommendation:** ACT Government/EC/ECC/ICC/PICC interaction be enhanced through additional briefings and scenario based 'table-top' planning exercises that are linked to and inform annual emergency response exercises.	**Recommendation:** The ESA review the planning processes of the ECC to improve the way that active recovery arrangements are implemented during future emergencies.

	Preparedness/Planning	Response Ops	Response Management	Recovery
ESA/IMT	**Observation:** ESA support to other states through staff deployments and strong community engagement activity within the ACT resulted in high levels of preparedness for the 2019/20 bushfire season.	**Observation:** ESA was able to successfully conduct operations by establishment of an IMT to defend against a major fire and respond to concurrent unprecedented storm damage during the 2019/20 bushfire season.	**Observation:** The leadership, management and resilience of ESA staff during the conduct of operations and the establishment of an IMT was exceptional given then challenging circumstances and contributed to the overall success of the response to the threats facing the ACT.	**Observation:** ESA maintained sufficient management oversight of recovery activity from the bushfires and storm events to ensure the ACT community was able to return to normality as quickly as possible.
	Recommendation: Annual series of exercises involving ESA and all agencies for L3 incident response and IMT establishment to improve: all hazards response; cross agency relationships and interoperability; and capability and skills maintenance and development for all staff.	**Recommendation:** Review of ESA Fairbairn facility for "fit-for-purpose" of concurrent ECC and L3 IMT (and identification of remedial or alternate facilities if required). Review of ESA approach to Level 3 IMT structures and internal processes (planning, operations, intelligence, logistics) under AIIMS for suitability for all-hazards and multi-agency approach.	**Recommendation:** ESA conduct at least annual L3 incident exercises testing "non-standard" scenarios to develop contingencies and test SOP, including contractual support arrangements. Review of all ESA and service level awards and different roster systems (including full time and volunteer staff conditions) to look for potential to align or combine during IMT operations.	**Recommendation:** After all major emergency incidents ESA should maintain IMT oversight for reasonable timeframe to ensure effective and efficient tasking of resources against known and anticipated requirements.

	Preparedness/Planning	Response Ops	Response Management	Recovery
RFS	**Observation:** RFS undertook detailed annual preparations for the 2019/20 bushfire season including vehicles and equipment maintenance and personnel training. RFS provided extensive support to interstate deployments in support of national emergencies, ensuring currency and exposure to major incident management. As a result, RFS was unable to conduct specific collective training for IMT Level 2. In 2019, RFS was not requested to conduct its usual quota of hazard reduction activities by PCS.	**Observation:** RFS underutilised as Strike Teams during response to major fires in ACT (Orroral Valley) and senior officers as a proportion underrepresented in IMT and as Divisional and Sector Commanders.	**Observation:** RFS experienced difficulties in engagement with the IMT and in obtaining adequate tactical information on planning. Perception that RFS underemployment impacted their ability to generate crews over time.	**Observation:** RFS were able to generate adequate capability to support ESA requirements in recovery operations
	Recommendation: Review of RFS hazard reduction task allocations (including from BOP tasks from PCS) to ensure adequate opportunities for professional development and skills maintenance. Review of fatigue management systems for ESA (including RFS), and other support arrangements for volunteer staff in the ACT. RFS pre-season training and preparedness activities with ESA and other services, including combined interstate deployments for L3 qualified ICs.	**Recommendation:** Review of RFS capability and ability to generate strike teams for bushfires in ACT and interstate, with a view to have more detailed standing deployment options for consideration by ESA IMT/ICs during Level 3 incidents.	**Recommendation:** Continued integration and employment of senior RFS officers into ESA IMT/IC roles and expanded opportunities for collaboration and combined leadership with other services (F&R) and ACT directorates (PCS).	**Recommendation:** RFS core skills and experience and knowledge of ACT firegrounds should continue to be exploited for recovery operations. RFS reputation in ACT community and bushfire experience used by ESA to build volunteer support base and longer-term capability development.

	Preparedness/Planning	Response Ops	Response Management	Recovery
F&R	**Observation:** The long-term investment in ACT building codes and regulations meant urban interface considered less risk in lead up to bushfire season. F&R program of BAU preparedness and staff and equipment maintenance meant it was well prepared for tasking and demands of bushfire season.	**Observation:** F&R was able to continue its mandated BAU coverage of ACT without impact over entire bushfire season and provide all support requirements to ESA/IMT for bushfire response. Use of F&R communications staff in IMT significantly assisted IMT operations management.	**Observation:** Significant contributions to IMT made by senior F&R staff. ACTAS core leadership remained largely outside IMT structures, allowing continued focus on BAU support to ACT.	**Observation:** NSTR
	Recommendations: Review of AIIMS qualifications among F&R staff for IMT roles. F&R active involvement in pre-season training and preparedness activity with ESA and other services, including combined interstate deployments for L3 qualified ICs.	**Recommendation:** Enhanced training or familiarisation for F&R senior L3 qualified staff on specialist bushfire capabilities.	**Recommendation:** Enhanced opportunities for interagency collaboration and leadership, to further develop ability of senior F&R officers to support ESA IMT structures and leadership response.	**Recommendation:** NSTR

	Preparedness/Planning	Response Ops	Response Management	Recovery
ACTAS	**Observation:** ACTAS had anticipated the requirements of medical support to remote bushfire operations and had adequate numbers of people with the correct levels of qualifications (driving and bushfire awareness).	**Observation:** ACTAS was able to continue its mandated BAU coverage of ACT for paramedic support without impact over entire bushfire season and provide all support requirements to ESA/IMT for bushfire response. The placement of ACTAS paramedics directly into Strike Teams was considered a highly valuable innovation.	**Observation:** Use of ACTAS paramedics in Strike Teams had positive impact on the mindset of ESA services on the role paramedics can play in fire operations. ACTAS core leadership remained outside IMT structures, allowing continued focus on BAU paramedic support to ACT.	**Observation:** NSTR
	Recommendation: Development of dedicated ACTAS cadre with specific training who can be extracted from BAU to support fire operations	**Recommendation:** Training of specialist cadre of ACTAS personnel to support IMT on dedicated roster.	**Recommendation:** Review of where Health function best sits in AIIMS planning and IMT structures for Level 3 incidents.	**Recommendation:** NSTR

	Preparedness/Planning	Response Ops	Response Management	Recovery
SES	**Observation:** SES were well prepared for the 2019/20 bushfire season and had conducted detailed vehicle and equipment servicing and personnel training at the individual level. SES had undertaken service-only planning, readiness and training activity.	**Observation:** Review SES support to ESA/RFS incidents and further enhance deliberate preparations and training for staging area development and IMT requirements	**Observation:** Integration of SES staff in multiple roles in the IMT support meant ESA members from other elements gained significant knowledge of and confidence in SES capabilities.	**Observation:** SES were able to generate adequate capability to support ESA requirements in recovery operations
	Recommendation: Review SES support to ESA/RFS incidents and further enhance deliberate preparations, planning and training for staging area development and IMT requirements in support of bushfires.	**Recommendation:** Consider standing SES Operations Desk or permanent staff officer inside IMT Operations Cell Consider IMT Operations and Plans representative forward inside the staging area to assist SES Staging Area Manager with RSOI	**Recommendation:** Development of contingency plans for SES support to fires to cover when additional/multiple tasks emerge in response to other hazards or emergencies within specific SES remit	**Recommendation:** N/A

SECTION 5: ANNEX B

ANNEX B

Contents

1. ACT GOVERNMENT

1.1 ACT Gov Planning

THEME: Planning	RATING: 16
LEVEL: ACT Gov	REF:
HEADLINE OBSERVATION: ACT's coordination of the whole of government response is the subject of a separate Review. This operational review will focus on the whole of government issues relevant to the ESA response to the Bushfire Season 2019-2020.	
SUMMARY FINDINGS: The planning framework is thorough and adequate for the management of emergencies and their consequences. Some clarification and recommendations for refinement of the established plans hierarchy has been proposed, such as recognising supporting sub-plans as part of the emergency management framework, but this reinforces the suitability of the extant framework of plans.	
WHAT WAS DONE WELL	The hierarchy of plans detailing the responsibilities, authorities and mechanisms to prevent, or if they occur, manage emergencies and their consequences worked and allowed effective responses to fire and storm incidents.
WHAT COULD BE IMPROVED	• A focus on managing and responding to bushfire risk, while appropriate in this last season, did consume planning effort and resources for other issues affecting the ACT such as heat, smoke (air quality) and storms that may have triggered the ACT Evacuation Plan. Planning must continue for other consequential, emergent or contingent risks. • Existing strategies, emergency and framework plans, and hazard-specific and supporting sub-plans (e.g. recovery, ECC, disaster victim identification plans) need to be understood by designated participants across whole of government. This builds clarity and coherence on responsibilities, authorities and mechanisms, and enhances pre-season preparation. Much of is achieved through the planning review cycle but can be enhanced through additional briefings and scenario based 'table-top' planning exercises that are linked to and inform ECC response exercises.
QUICK WINS	The Security and Emergency Management Planning Group (SEMPG) enhance and exercise the deliberate planning cycle before bushfire season 2020-21 incorporating designated and relevant elements of the ACT Government. This could be aligned with the revision of the Territory Wide Risk Assessment (TWRA) due to be updated this year (2020) to inform government priorities, actions and investment in managing natural disaster risk.

1.1 ACT Gov Planning

RECOMMENDATIONS: The annual planning review cycle be enhanced through additional briefings and scenario based 'table-top' planning exercises that are linked to and inform ECC response exercises.		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document review Interview

1.2 ACT Gov Preparedness

THEME: Preparedness	RATING: 16
LEVEL: ACT Gov	REF:
HEADLINE OBSERVATION: ACT's coordination of the whole of government response is the subject of a separate Review. This operational review will focus on the whole of government issues relevant to the ESA response to the Bushfire Season 2019-2020.	
SUMMARY FINDINGS: The ACT was well placed to respond to a high level of demand for bushfire resources with skilled and motivated personnel, and the necessary equipment and resources to respond to and extinguish bushfires where this was operationally feasible. It also had the capacity to respond to significant weather and storm events. BAU emergency response remained largely unaffected throughout the season. Of note is the size and expertise of the capability deployed from ACT to support fire management in other states. The recognised requirement for interstate resources in extreme situations was realised during the response to the Orroral Fire demonstrating the effectiveness of inter-state and state to commonwealth resource sharing mechanism.	
WHAT WAS DONE WELL	• The ACT Government coherent position on the risk presented to the ACT and to other states by the 2019-202 Bushfire Season. • Public communication to ensure Canberrans were ready to share responsibility of being bushfire ready. • The numerous examples of the utility of ACT's Emergency Services and the reciprocity that can be achieved through cooperation. ○ The ACT's highly regarded spatial capability was greatly sought after by other jurisdictions, with numerous deployments of ACT Mapping and Planning Support (MAPS) volunteers across NSW and Queensland. ○ ESA Liaison Officers were deployed into various Regional Emergency Operations Centres in NSW. ○ The ACT's Firebird 100 specialist intelligence gathering helicopter was extensively deployed interstate during the bushfire season. ○ Firefighting personal, aviation resources, firefighting and support appliances, heavy plant, specialist technical roles. ICT services and incident intelligence were also shared between agencies. ○ Aerial operations- The ESA utilised 58 personnel (18 employees and 40 volunteers) in aerial firefighting operations across two air bases (Hume Heli base and the Canberra LAT base) in support of firefighting activities across three states (ACT, NSW and VIC). ○ Mechanical and paramedic support was also provided to all frontline firefighting teams deployed to firegrounds outside of the ACT. • Deliberate preparedness gaps analysis and a plan to address priority shortfalls informed the ACT Strategic Bushfire Capability Framework published in Sep 2018. The additional steps taken to manage and prepare for 2018/2019 Bushfire season clearly benefited preparedness for the 2019/202 Bushfire Season

1.2 ACT Gov Preparedness

<table>
<tr><td>WHAT COULD BE IMPROVED</td><td colspan="2">• The opportunity exists to take a strategic approach to capability planning that derives further benefit from significant advances in fire intelligence and situational awareness capability, networked communications technology and utility assets such as aerial operations.
• Longer-term plans for forecasting, resourcing, prioritisation, basing and coordination of a national aerial fire-fighting capability is an example of improvements that have wider reaching benefit regionally and nationally. The ACT's role as a strategic hub for south east Australia means it is well suited as a base for domestic aerial firefighting capability and associated fire intelligence and situational awareness development.</td></tr>
<tr><td>QUICK WINS</td><td colspan="2">A priority focus on inter-state capability between the ACT and NSW is an area of common interest.</td></tr>
<tr><td colspan="3">RECOMMENDATIONS:
The ACT SBCF should be complimented by a strategic approach to preparedness that incorporates capability planning for mutual aid, enhancing the capability to source, deploy and command at the sector level and above, and arrangements to routinely share resources across states and draw on commonwealth assets. 'Other Resource Capability Activities' should be integrated into this approach in recognition of their significant enabling and inter-service capability. This strategic approach should also address developing the capacity to innovate around advanced capabilities and adapt them to firefighting in a coherent and safe manner.</td></tr>
<tr><td>SUPPORTING EVIDENCE:</td><td>SOURCES:
ACT Emergency Plan 2014
ACT Strategic Bushfire Management Plan 2019-2024
ACT Territory Wide Risk Assessment
Sub Plan – Elevated Fire Danger
Sub-Plan – Flood
Sub Plan – Extreme Heat
ACT Recovery Sub-Plan - 2019
Emergency Coordination Centre Operations Plan
ACT Bushfire Management Standards
ACT Strategic Bushfire Capability Framework
Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines
Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions</td><td>RESEARCH METHODS:
Document Review
Interviews</td></tr>
</table>

1.3 ACT Gov Recovery

THEME: Recovery	RATING: 16
LEVEL: ACT Gov	REF:
HEADLINE OBSERVATION: ACT's coordination of the whole of government response is the subject of a separate Review. This operational review will focus on the whole of government issues relevant to the ESA response to the Bushfire Season 2019-2020.	
SUMMARY FINDINGS: The SBMP, Section 12: Supported communities for bushfire recovery, (pp64-67) describe the facilities and processes for supporting recovery from bushfires in the ACT. The ACT Recovery Sub-Plan outlines recovery activities for the community, business, infrastructure and the environment. The plan: • Outlines the framework that supports the planned, coordinated and flexible engagement of key stakeholders before, during and after emergencies • Enables scalable options to support the management of smaller incidents through to activities requiring cross-agency coordination • Set out a measured transition plan to ensure the recovery effort is effectively coordinated • Provide for the appointment of a Recovery Coordinator and Recovery Taskforce, if required.	
WHAT WAS DONE WELL	• The ACT Recovery sub-plan had been revised in 2019 and was briefed at the start of the season. • The ACT Recovery Committee was not established but this did not prevent the activation of Disaster Recovery Funding Arrangements.
WHAT COULD BE IMPROVED	• Whilst recovery starts as soon as possible after response (or concurrent to it), there is a gap in many response plans with a strong focus on the incident, at the expense of consequence management. Population protection measures within the response phase need to be strongly considered as a standard part of operational planning. • The opportunity exists to improve the way that active recovery arrangements are implemented during the emergency, particularly with funding arrangements. A capacity to assist affected parts of the community recover more quickly will build better levels of resilience interactively in multi-hazard emergencies spanning multiple months. A more strategic or whole-of-season approach to planning would include sub-plans to assist the quickest possible recovery at the local level.
QUICK WINS	The Royal Commission in National Natural Disaster Arrangements remit includes the responsibilities of, and coordination between, the Commonwealth and State, Territory and local Governments relating to recovery from natural disasters and provide an opportunity to improve these arrangements.

1.3 ACT Gov Recovery

RECOMMENDATIONS: The ESA review the planning processes of the ECC to improve the way that active recovery arrangements are implemented during future emergencies.		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

1.4 ACT Gov Response

THEME: Response	RATING: 16
LEVEL: ACT Gov	REF:
HEADLINE OBSERVATION: ACT's coordination of the whole of government response is the subject of a separate Review. This operational review will focus on the whole of government issues relevant to the ESA response to the Bushfire Season 2019-2020.	
SUMMARY FINDINGS: By the very nature of the ACT landscape all properties in the ACT, particularly those located in the Bushfire Prone Area (BPA), are recognised as assets at risk from bushfire. The ACT has long benefited from a multifaceted, comprehensive approach to managing bushfire risk in the Territory. Assigning precise consequences to critical infrastructure (particularly physical facilities, supply chains, information technology, communication networks and utilities in the ACT) is difficult and extremely varied because each category may impact on another (for example, a power outage may affect communications). The ACT Government has a well-established and exercised governance structure with oversight of emergency planning, response and recovery coordination in order to coordinate a whole of government response to emergency management across the territory: • The Security and Emergency Management Committee of Cabinet provides general strategic direction of ACT government prevention and preparedness arrangements. • The Security and Emergency Management Senior Officials Group (SEMSOG) is the primary mechanism for ensuring cooperation and coordination between ACT Government agencies in planning for, responding to and recovering from emergencies. • The SEMOG is supported by the Security and Emergency Management Policy Group (SEMPG) which comprises officials from all relevant ACT Government directorates. It develops, implements and reviews specific security and emergency management matters including plans and sub-plans. There are no known barriers to activities undertaken to protect identified critical assets and infrastructure. A State of Alert was declared on 2 January 2020 which showed good foresight, and this was followed by the declaration of a State of Emergency on 31 January 2020 to appoint the ESA Commissioner as the Emergency Controller. This was the first time since 2003 that an Emergency Controller had been appointed in the ACT. The Emergency Controller was appointed for a period of 39 consecutive days in January and February.	
WHAT WAS DONE WELL	• The declaration of a State of Alert and a State of Emergency to appoint the EC to exercise emergency powers, prioritise response action and resource allocation. • The use of on-line telecommunications to host secure, effective and convenient briefings and meetings. • The establishment of a Secretariat also proved effective in scheduling and preparing for meetings. • Communications from SEMSOG were timely and succinct.

1.4 ACT Gov Response

WHAT COULD BE IMPROVED	• There was no change in requirements or timeframes for Cabinet, Budget business cases and other business as usual processes during the period of State of Alert/Emergency. Fatigue management was required in both operational and supporting administration areas as staff had to accommodate emergency measures but were unable to deprioritise BAU activities. • There is no express power under the ACT Emergencies Act 2004 to appoint an acting or deputy Emergency Controller. Managing fatigue for lengthy periods of time will require some functions to be delegated, or for authorities to be temporarily transferred to an acting appointment. • The interaction between the EC, the management executive and SEMSOG (if separate) is critical to ensure that the full capacity of the government is available when needed in a rapidly evolving emergency. The Chief Minister and Minister must also be clear in what action is needed by Government and what information, warnings and advice need to be provided to the community. Clear and unambiguous arrangements that synchronise the ECC, ICC and PICC to this end will achieve significant benefit. Supporting the EC in managing the overall response and ensuring ECC and PICC support the ICC is, however, the primary focus of any effective emergency response. The tension between meeting the needs of Government and the community while also managing emergencies will test appointees and teams, particularly during intense periods of response. Ensuring that personnel understand and are prepared to manage and lead in this environment while also testing the facilities (particularly communications) needed to support effective leadership and management can be achieved through an annual cycle of briefings, training and exercise.
QUICK WINS	• Scenario based table-top exercises or discussion exercises designed to clarify the flow of information and the role and functions of the SEMSOG as the Management Executive to support the EC. • Adjustments to timings or resourcing of BAU activities, such as budget processes, to minimise conflict with ESA activity during the peak emergency period of the year.

1.4 ACT Gov Response

RECOMMENDATIONS: ACT Government/EC/ECC/ICC/PICC interaction be enhanced through additional briefings and scenario based 'table-top' planning exercises that are linked to and inform annual emergency response exercises.		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

2. ESA/IMT

2.1 ESA Planning

THEME: PLANNING		RATING:
LEVEL: ESA		REF:
HEADLINE OBSERVATION: NOT ASSESSED INCLUDED WITH PREPAREDNESS		
SUMMARY FINDINGS:		
WHAT WAS DONE WELL		
WHAT COULD BE IMPROVED		
QUICK WINS		
RECOMMENDATIONS:		
SUPPORTING EVIDENCE:	SOURCES:	RESEARCH METHODS:

2.2 ESA Preparedness

THEME: PREPAREDNESS	RATING: 12
LEVEL: ESA	REF: OA_ESA_PREP
HEADLINE OBSERVATION: ESA support to other states through staff deployments and strong community engagement activity within the ACT resulted in high levels of preparedness for the 2019/20 bushfire season	
SUMMARY FINDINGS: ESA had conducted extensive preparations for the 2019/20 bushfire season, including a comprehensive community safety and notification campaign, which given the gravity of bushfires underway in other states, significantly helped the ACT in its readiness. The long period of time prior to fire directly affecting the ACT was consumed by ESA-wide deployments to support other jurisdictions. This may have had a positive impact on staff currency and adding to individual experiences of value, but the level of fatigue and missed opportunities for collective training and rehearsals meant its own internal preparedness for a Level 3 incident was sub-optimal.	
WHAT WAS DONE WELL	• ACT support for other states in lead up to bushfire season had positive impact on skills and experience of deployed ESA staff in many functional areas • Strong community safety campaigns and early pre-season fire notifications well received by ACT public • Funding for SIG and aircraft base in previous years meant ESA was well positioned with additional capability
WHAT COULD BE IMPROVED	• ESA never established or trained for concurrent ECC and L3 IMT • ESA staff felt prepared for 2-3 day emergency, not six week campaign • Many ESA staff had qualifications (AIIMS and other skills) but never practiced • No detailed matching of people for IMT with right mix of qualifications/commitment/competency/availability • Long period of interstate deployments meant many staff were fatigues before bushfire season commenced • Pre-season logistics checking did not envisage scale of event and many contracts (e.g. catering) were not sufficient for the season that eventuated • Some logistics and resources planning based on assumptions not covered by MOU or formal support arrangements (**one interview said arrangements for helicopter support were only covered in emails, and did not stand-up when needed**) • No pre-planning or analysis completed prior to season on supply chain requirements and some supply relationships not “stress tested” • No ESA level operational support or “surge” plans in place for L3 IMT (e.g. no detailed plan associated with logistics for staging area establishment)

2.2 ESA Preparedness

<table>
<tr><td>QUICK WINS</td><td colspan="2">• Audit of all ESA staff AIIMS qualifications and development of IMT support matrix tool showing qualifications down to team member levels
• Development of ESA level surge planning for support to IMT</td></tr>
<tr><td colspan="3">RECOMMENDATIONS:

Annual series of exercises involving ESA and all agencies for L3 incident response and IMT establishment to improve: all hazards response; cross agency relationships and interoperability; and capability and skills maintenance and development for all staff.</td></tr>
<tr><td>SUPPORTING EVIDENCE:</td><td>SOURCES:
ACT Emergency Plan 2014
ACT Strategic Bushfire Management Plan 2019-2024
ACT Territory Wide Risk Assessment
Sub Plan – Elevated Fire Danger
Sub-Plan – Flood
Sub Plan – Extreme Heat
ACT Recovery Sub-Plan - 2019
Emergency Coordination Centre Operations Plan
ACT Bushfire Management Standards
ACT Strategic Bushfire Capability Framework
Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner’s Guidelines
Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions</td><td>RESEARCH METHODS:
Document Review
Interviews</td></tr>
</table>

2.3 ESA Recovery

THEME: RECOVERY	RATING: 14
LEVEL: ESA	REF: OA_ESA_RECOVERY
HEADLINE OBSERVATION: ESA maintained sufficient management oversight of recovery activity from the bushfires and storm events to ensure the ACT community was able to return to normality as quickly as possible.	
SUMMARY FINDINGS: ESA coordination of immediate post-fire and storm recovery helped quickly address much needed and complex work by multiple agencies (PCS, SES, ACTAS, RFS) and ensure the ACT community was able to return to normality as quickly as possible. ESA conducted a robust series of AAR for all functional areas involved in the IMT, and developed significant internal insights and lessons derived from the long bushfire season.	
WHAT WAS DONE WELL	• IMT coordination of immediate post-fire and storm recovery helped quickly address much needed and complex work by multiple agencies (PCS, SES, ACTAS, RFS) and ensure ACT was abled to return to normality as quickly as possible • Post incident surveys show high levels of community satisfaction with ESA information during bushfire season • Internal AAR process detailed and productive in drawing lessons and insights
WHAT COULD BE IMPROVED	• IMT rapid stand-down missed potential benefit of project closure opportunities and requirements (demobilisation) in particular on necessary archival and finance requirements (e.g. invoicing and ICON entries for records)) • Due to ACT government budget cycle, too late for input on funding for new initiatives in advance of 20/21 bushfire season (planning for 21/22 window only)
QUICK WINS	

RECOMMENDATIONS: All major emergency incidents maintain IMT oversight for reasonable timeframe to ensure effective and efficient tasking of resources against known and anticipated requirements.		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

2.4 ESA Response Management

THEME: RESPONSE MANAGEMENT	RATING: 9
LEVEL: ESA	REF:
HEADLINE OBSERVATION: The leadership, management and resilience of ESA staff during the conduct of operations and the establishment of an IMT was exceptional given the challenging circumstances, and contributed to the overall success of the response to the threats facing the ACT.	
SUMMARY FINDINGS: The leadership and adaptive management of ESA staff in responding to the unprecedented scale and duration of natural disasters significantly contributed to the effective operation of the IMT. Innovative management initiatives, internal to the IMT but also by ESA for its ongoing BAU responsibilities, helped overcome the demands of the bushfire season. It is acknowledged some procedural and policy settings were challenging to overcome (for example varying rosters of services due to different awards) and this made resourcing the IMT difficult at times. The AIIMS system proved robust and appropriate as the overall management architecture for ESA establishment of IMT. But more emphasis must be given to the development, distribution, communication and understanding of the Incident Action Plan (IAP), both internal to the IMT and outwards to Divisional Commanders and other key leaders (for example Staging Area Managers), regardless of the challenges faced by distance.	
WHAT WAS DONE WELL	• Exceptional leadership under challenging circumstances by all levels of ESA staff • Innovative and adaptive management responses developed to cope with unprecedented scale and duration of emergency • Generally, AIIMS proven to be effective emergency response framework for ACT and ESA multi-agency structures

WHAT COULD BE IMPROVED	• Some deviations from AIIMs in IMT caused confusion on roles and responsibilities (e.g. appointment of numerous Deputy IC left sections heads unclear, air operations placed under logistics cell) and many staff felt "overwhelmed" • Strong perception among ESA staff that IMT briefing requirements overloaded senior IMT staff, in terms of duration and number (note: primary impact perceived to be functional teams were without leadership for extended periods) • In most key IMT roles, staff did not grasp the enormity of the situation and the wider consequence of L3 incident • IMT operations seriously impacted by vastly different shift patterns and awards of agencies and volunteers (**main impact planned IMT 5 Shift pattern often not completed**) • Challenge of fire considerable distance from ESA HQ/IMT created difficulties with briefing and debriefing Divisional Commanders (Div Comd) by IC. This had two-fold impact: the IAP was often not fully understood or executed; and the IMT was not receiving detailed information by way of feedback and situation updates on what has been achieved. • Similar concerns regarding Staging Area Managers (SAM) (**note see SES detailed assessments**) • No long-term planning conducted for staff rosters to identify people for key roles in advance, specialist capabilities became hard to source (including to NRSC): some capabilities were quickly exhausted (e.g. communications) • Many aspects of logistics support relied on informal arrangements which failed during the emergency response: both due to sheer competitive market (dominated by NSW requirements) and no prior "stress-testing" of contracts (**see preparedness**)
QUICK WINS	• Development of SOP options for command of fire (or other emergency incident) significant distance from ESA, including potential use of Forward Operations Posts and/or increased use of Staging Areas • Explore enhanced IAP format and distribution methods to aid electronic distribution and briefing requirements

RECOMMENDATIONS: ESA conduct at least annual L3 incident exercises testing “non-standard” scenarios to develop contingencies and test SOP, including contractual support arrangements. Review of all ESA and service level awards and different roster systems (including full time and volunteer staff conditions) to look for potential to align or combine during IMT operations.		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner’s Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

2.5 ESA Response Operations

THEME: RESPONSE OPERATIONS	RATING: 9
LEVEL: ESA	REF: OA_ESA_PLAN

HEADLINE OBSERVATION:

ESA was able to successfully conduct operations by establishment of an IMT to defend against a major fire and respond to concurrent unprecedented storm damage during the 2019/20 bushfire season.

SUMMARY FINDINGS:

The IMT arrangements set up by ESA to manage the protracted and serious threats faced during the 2019/20 bushfire season were extremely effective and helped lead to the ultimate successful mitigation of the fire threats facing the ACT. The scale of the IMT response (in combination with the ECC establishment – see comments under ACT/ECC) was unprecedented and it is acknowledged this caused some strain on both the ESA facility at Fairbairn, and the IMT structures.

An increased focus on the technical skills required under the AIIMS system (for example greater expertise - or familiarity for senior staff - with air operations), and on internal processes (for example coordination between the operations and plans functional areas of the IMT) will improve overall effectiveness and efficiency of ESA in any future responses.

The three storm events - which all occurred concurrent to the major fires - while managed exceptionally well from an operational perspective, demonstrated the need for greater focus on all hazards responses and IMT adaptability in terms of both scale and expertise.

The public information and warning system established had extensive reach and impact in the community and contributed to the overall success of public safety and the reputation and visibility of ESA in the ACT. Investments in specialist capabilities such as the SIG helicopter provided very clear enhanced situational awareness for ESA and enabled quicker and more informed strategic decision making.

2.5 ESA Response Operations

WHAT WAS DONE WELL	• ESA BAU able to be sustained and core functions operational during crisis (e.g. workshop maintenance) • Move of PIC into IMT enhanced communications response and messaging (clear delineation of emergency communications and government communications) • Clear utility of Single Point of Truth (SPoT) tool for public communications • Highly successful community outreach and public information campaigns including on social media (multiple platforms) and direct to public (community meetings, doorknocking) and employment of novel and innovative methods to reach target audience (eg community pop-ups, live FB conferences) • Very high levels of intelligence capability employed (SIG and MET) in support of ACT and surrounding NSW fires • Exceptional performance of COMCEN in supporting complex and extensive multi-hazard operations for IMT and ESA BAU: due to staff experience, continuity of operators and responsive resourcing • Evident success in air operations protecting critical assets within Namadgi and surrounding community
WHAT COULD BE IMPROVED	• ECC establishment put strain on ESA facility – with multiple competing task units looking for space, the building and both ECC/IMT facilities were compromised • ESA staff self-critical of poor transition from planning to operations need for better coordination within IMT in this critical aspect of incident response: core areas identified as: situational awareness and intelligence (see below comments); information flows and processes and templates; strategy development (in particular aviation strategy - see below comments); and prioritisation of tasks and allocation of resources (see below comments) • Perception air operations not effective because few expert staff, separation of air and ground planning and operations, and no strategic effect developed, leading to poor prioritisation and tasking • Perception strategic focused became asset protection (eg cultural assets) not fire containment • No separation of immediate response and longer-term planning resulted in IMT having very short planning horizon and impacted ability to consider contingencies or wider implications (eg evacuations) • IMT had no database to help plan for resources requirements and allocations • Clear disconnect in IMT between plans and resourcing: no capability estimate fed into planning (**one interview claimed many occasions resourcing could not deliver requirements to meet the IAP, with an unknown impact on fire operations**)

WHAT COULD BE IMPROVED	• No dedicated communications planning conducted in IMT and hence no consideration of communications impact on operations (**one interview claimed firefighting and other plans developed on assumptions only TRN would support**) • Despite high levels of intelligence capability and information availability, appeared to be no specific process for intelligence collection, analysis and dissemination within the IMT, and IAP contained no priority • information requirements (**one interview claimed information gathering was incidental, not directed**) • Key gap in IMT intelligence was lack of data analysis beyond fire mapping (eg for all storm events no GIS or data analysis conducted) • Some disconnect evident internal to ESA and within IMT on critical communications processes (e.g. Risk and Planning own the Emergency Alert tool, Digital Service own the ESA website, and CAD own the public facing incident map) • Issue of interjurisdictional updates and warnings seen to be controversial but effective (e.g. updates on NSW fires tailored to ACT residents likely to be impacted) • At no time did IMT have complete data on where every staff member at fire front was (**no ability to track people, only vehicles**) compounded by difficulty in confirming planned rosters versus actual deployments for volunteer workforce • ESA staff perception the ICON system was underutilised • All Tier One catering contracts fell over (**contract arrangements never "stress tested" see Preparedness section**)
QUICK WINS	• Development of resource management policies and supporting systems/templates to support IMT operations • More detailed breakdown of ESA support cells inside IMT (e.g. logistics, finance, catering, suppliers) • Specific aviation training to wider group of ESA staff, in particular those with IMT operational responsibilities • Development of SOP for ESA Community Engagement to ensure key innovations captured and practised (eg community pop-ups and doorknocks) • Consider intelligence fusion and analysis functions to extend development of existing predictive services (FBAN) and intelligence capabilities (SIG) within IMT structure • Reinforce ICON training and utility • Development of ESA specific IMT Planning Cycle for use within L2 and L3 incidents

RECOMMENDATIONS: Review of ESA Fairbairn facility for "fit-for-purpose" of concurrent ECC and L3 IMT (and identification of remedial or alternate facilities if required). Review of ESA approach to Level 3 IMT structures and internal processes (planning, operations, intelligence, logistics) under AIIMS for suitability for all-hazards and multi-agency approach.		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

3. RFS

3.1 RFS Planning

THEME: PLANNING		RATING:
UNIT: RFS		REF:
HEADLINE OBSERVATION: NOT ASSESSED INCLUDED WITH PREPAREDNESS		
SUMMARY FINDINGS:		
WHAT WAS DONE WELL		
WHAT COULD BE IMPROVED		
QUICK WINS		
RECOMMENDATIONS:		
SUPPORTING EVIDENCE:	SOURCES:	RESEARCH METHODS:

3.2 RFS Preparedness

THEME: PREPAREDNESS	RATING: 9
UNIT: RFS	REF:
HEADLINE OBSERVATION: RFS undertook extensive annual preparations for the 2019/20 bushfire season including vehicles and equipment maintenance and personnel training. RFS provided extensive support to interstate deployments in support of national emergencies, ensuring currency and exposure to major incident management. RFS was unable to conduct specific collective training for IMT Level 2. In 2019, RFS was not requested to conduct its usual quota of hazard reduction activities by PCS.	
SUMMARY FINDINGS: The RFS is the mandated service responsible for bush and grass fire response in the ACT, and it has a long history and significant experience in this role. The impact of bushfires in others states effectively meant the season started very early, and RFS was a strong contributor to interstate deployments for several months prior to the commencement of the formal season in the ACT. This provided significant exposure and experience to RFS crews and staff, but contributed also to fatigue as these deployments continued into the later months of 2019. As a result, RFS was not able to conduct exercises or collective training as planned, including any specific activity with ESA or with other services.	
WHAT WAS DONE WELL	• Strong baseline facilities, equipment and personnel levels • High levels of coordination with NSW and extensive participation in inter-state deployments gave RFS strong understanding of requirements • High number of TOBAN days provided opportunity to test stand-up and ensure personnel and equipment readiness • Farm Fire Wise program extensive and had up to date coverage and assessments (**note these plans are reviewed every five years, or on change of lease**) • RFS had conducted schedule of hazard reduction burns with private landholders
WHAT COULD BE IMPROVED	• Variable BOP standards dependent on landowners • No specific IMT-level exercises conducted (IMX) in 2019 prior to the bushfire season • RFS not allocated any BOP hazard reduction burns in 2019 (**note these all managed by PCS, and in past RFS have been asked to support, benefit being for mandatory career assessments and training**) • RFS interview claimed PCS had not completed all required BOP burns due to weather • Early and extensive deployments interstate meant many volunteers were already fatigued (and constrained by release from employers) at start of bushfire season (**total numbers were 450 members, 1183 total deployments for total of 2212 days**) • Fatigue had impact on post-deployment vehicle and equipment maintenance • High turnover of RFS permanent staff (12 in total) in previous years meant lack of consistency and experience

QUICK WINS	

RECOMMENDATIONS:

Review of RFS hazard reduction task allocations (including from BOP tasks from PCS) to ensure adequate opportunities for professional development and skills maintenance.

Review of fatigue management systems for ESA (including RFS), and other support arrangements for volunteer staff in the ACT.

RFS pre-season training and preparedness activities with ESA and other services, including combined interstate deployments for L3 qualified ICs.

SUPPORTING EVIDENCE:	SOURCES:	RESEARCH METHODS:
	ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	Document Review Interviews

3.3 RFS Recovery

THEME: RECOVERY	RATING: 14
UNIT: RFS	REF:
HEADLINE OBSERVATION: RFS were able to generate adequate capability to support ESA requirements in recovery operations.	
SUMMARY FINDINGS: While coming after an extremely long season and period of almost five months continuous operations (when considering inter-state deployments) the RFS was able to maintain sufficient personnel and equipment for the immediate post-fire recovery activity. It is noted the RFS reputation in the community following the fires was extremely strong and the organisation received many hundreds of new applications for volunteer service as a result.	
WHAT WAS DONE WELL	• All support to IMT designated recovery tasks delivered IAW with IAP and resourcing requirements • Collaboration with other services (ACTAS, SES) and ACT government (PCS) in immediate risk identification activity such as Dangerous Tree Assessments and other tasks,
WHAT COULD BE IMPROVED	
QUICK WINS	

RECOMMENDATIONS: RFS core skills and experience and knowledge of ACT firegrounds should continue to be exploited for recovery operations. RFS reputation in ACT community and bushfire experience used by ESA to build volunteer support base and longer-term capability development.		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

3.4 RFS Response Management

THEME: RESPONSE MANAGEMENT	RATING: 11
UNIT: RFS	REF:
HEADLINE OBSERVATION: RFS experienced difficulties in engagement with the IMT and in obtaining adequate tactical information on planning. Perception that RFS underemployment impacted their ability to generate crews over time.	
SUMMARY FINDINGS: After multiple inter-state deployments over many months, when fire hit the ACT, RFS senior staff perceived they were proportionately underemployed. While providing exceptional leadership to the brigades, and inside the IMT when required, this perception did impact the strategies of the fire response, and the ability of RFS to maintain its crew tempo.	
WHAT WAS DONE WELL	• RFS leadership active participation in IMT and fire-fighting leadership positions as required by the IAP • RFS leadership and oversight of RFS Brigades and crews throughout the season and on tactical fire response situations in demanding and hazardous conditions.
WHAT COULD BE IMPROVED	• Continuous change in IC and senior IMT staff meant different strategies, approaches and personalities applied to fire response • Over time, RFS station officers experienced difficulty in building crews (**note: one interview claimed this was direct result of underemployment or misuse of crews on tasking**) • Fatigue management largely "self-regulated" and some staff considered "I am Safe" checklist not used correctly • RFS perception observed "decision paralysis" in IMT
QUICK WINS	

RECOMMENDATIONS: Continued integration and employment of senior RFS officers into ESA IMT/IC roles and expanded opportunities for collaboration and combined leadership with other services (F&R) and ACT directorates (PCS).		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

3.5 RFS Response Operations

THEME: RESPONSE OPERATIONS	RATING: 11
UNIT: RFS	REF:
HEADLINE OBSERVATION: RFS underutilised as Strike Teams during response to major fires in ACT (Orroral Valley) and senior officers as a proportion underrepresented in IMT and as Divisional and Sector Commanders.	
SUMMARY FINDINGS: The review identified a perception that the RFS were underutilised as Strike Teams during response to major fires in the ACT - in particular the Orroral Valley fire – and that senior officers were proportionately underrepresented in the IMT and as Divisional and Sector Commanders. The majority of Divisional Commander and Sector Leader appointments were allocated to ACT Parks and Conservation Service (PCS) officers	
WHAT WAS DONE WELL	• RFS employment of app-based called out and tracking system • RFS met all response times for incidents • Harris UHF/VHF radio enhancements meant seamless tactical communications with all elements and NSW • High quality of intelligence from SIG
WHAT COULD BE IMPROVED	• RFS as lead agency for grass and bushfires, was not able to or requested to maintain leadership of IMT in IC role • Perception of underemployment for ACT fires (**one interview claimed at no point more than 20% RFS committed**) • Some trained RFS staff omitted from IMT establishment and rosters, result was some “walked away” and not available for later employment • Majority Divisional Commanders and Sector Leaders allocated to PCS (**one interview claimed only 5-10% of Div Comd shifts went to RFS**) • Fire IAP issued by IMT was not considered credible because disconnected from reality of fireground. One interview claimed feedback was not incorporated into IAP iteration • Electronic IAP difficult to consume, ultimately IMT/IC hand delivered IAP to Staging Area • System of debriefing and reporting into the IMT was suboptimal or did not occur • SIG intelligence not fused with other intelligence nor “ground-truthed” so IAP had inappropriate strategies and tactics
QUICK WINS	

RECOMMENDATIONS: Review of RFS capability and ability to generate strike teams for bushfires in ACT and interstate, with a view to have more detailed standing deployment options for consideration by ESA IMT/ICs during Level 3 incidents.		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

4. F&R

4.1 F&R Planning

THEME: PLANNING		RATING:
UNIT: F&R		REF:
HEADLINE OBSERVATION: NOT ASSESSED INCLUDED WITH PREPAREDNESS		
SUMMARY FINDINGS:		
WHAT WAS DONE WELL		
WHAT COULD BE IMPROVED		
QUICK WINS		
RECOMMENDATIONS:		
SUPPORTING EVIDENCE:	SOURCES:	RESEARCH METHODS:

4.2 F&R Preparedness

THEME: PREPAREDNESS	RATING: 16
UNIT: F&R	REF:
HEADLINE OBSERVATION: The long-term investment in ACT building codes and regulations meant urban interface considered less risk in lead up to bushfire season. F&R program of BAU preparedness and staff and equipment maintenance meant it was well prepared for tasking and demands of bushfire season	
SUMMARY FINDINGS:	
WHAT WAS DONE WELL	• As full-time emergency response agency, F&R was well prepared in all aspects for the bushfire season, at the service and individual staff level for all mandated tasks required
WHAT COULD BE IMPROVED	• The AIIMS qualifications of F&R staff could be improved so as to ensure wider pool of senior officers and staff with L2 and L3 qualifications to contribute to ESA IMT operations for significant incidents.
QUICK WINS	

RECOMMENDATIONS: Review of AIIMS qualifications among F&R staff for IMT roles.		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

4.3 F&R Recovery

THEME: RECOVERY		RATING:
UNIT: F&R		REF:
HEADLINE OBSERVATION: NOT ASSESSED AS F&R WERE NOT SIGNIFICANTLY INVOVLED IN RECOVERY OR PROPRTY OR OTHER ACTIVITY TO A SUFFICIENT LEVEL FOR A PERFORMANCE ASSESSMENT		
SUMMARY FINDINGS:		
WHAT WAS DONE WELL		
WHAT COULD BE IMPROVED		
QUICK WINS		
RECOMMENDATIONS:		
SUPPORTING EVIDENCE:	SOURCES:	RESEARCH METHODS:

4.4 F&R Response Management

THEME: RESPONSE MANAGEMENT	RATING: 14
UNIT: F&R	REF:
HEADLINE OBSERVATION: Significant contributions to IMT made by senior F&R staff. Core leadership remained largely outside IMT structures, allowing continued focus on BAU fire support to ACT	
SUMMARY FINDINGS: The contribution of senior F&R officers to the ESA fire IMT was significant. The experience and local knowledge of F&R officers was able to be applied inside the IMT construct, and the mature approach enabled collaborative relationships in leadership positions with other services.	
WHAT WAS DONE WELL	• F&R had clear understanding of EC intent and direction at level of ACT • F&R roster and resource management system worked well, good support and management structures and processes (able to keep all stations open at minimum staffing levels) • F&R senior officers personally briefing crews at F&R stations worked well and helped keep all staff informed of situation and tasking in timely fashion • Collaborative relationships among senior ESA and service staff better than previous seasons • Good intelligence and historical knowledge and experience provided F&R IC strong platform
WHAT COULD BE IMPROVED	• Long period of time IMT operational created fatigue and stress on that small pool of people • IC role in IMT was at time too tactical (fire front focussed) • IMT processes not clear, many aspects of response to the fire season developed ad hoc • Information flow between IMT planning and operations cells sub-optimal • Perception pressure on IC for media information detracted from core role in IMT • ESA facility struggled with scale of IMT • IMT did not have effective electronic or physical resource tracking systems meant there was never any comprehensive or accurate resource listing available at all times.
QUICK WINS	

RECOMMENDATIONS: Enhanced opportunities for interagency collaboration and leadership, to further develop ability of senior F&R officers to support ESA IMT structures and leadership response.		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

4.5 F&R Response Operations

THEME: RESPONSE OPERATIONS	RATING: 16
UNIT: F&R	REF:
HEADLINE OBSERVATION: F&R provided effective protection of urban edge IAW established tasks and responsibilities. There was no damage to the Urban area that required F&R to fulfil its legislative responsibility operationally. F&R was able to continue its mandated BAU coverage of ACT without impact over entire bushfire season and provide all support requirements to ESA/IMT for bushfire response. Use of F&R communications staff in IMT significantly assisted IMT operations management	
SUMMARY FINDINGS: F&R was able to support ESA fire response operations and maintain its mandated emergency response capabilities for the ACT throughout the bushfire season.	
WHAT WAS DONE WELL	• F&R was able to continue its mandated BAU coverage of ACT without impact over entire bushfire season and provide all support requirements to ESA/IMT for bushfire response. • F&R effective protection of urban edge IAW established tasks and responsibilities • Urban Interface Plan developed as specific contingency • F&R acting as IC for Pialligo fire able to quickly develop strategy and direct resources from IMT • IC ability to direct and have live feed on intelligence (SIG) provided superior situational awareness • Use of F&R communications staff in IMT significantly assisted IMT operations management • CFU's stood up for a 3-day period towards the end of the campaign. They did not engage in any firefighting activity. They had concentrated efforts on Community engagement in their area and operational preparation. They had not been activated outside this period and was specific to the Banks area.
WHAT COULD BE IMPROVED	• F&R perception not enough staff with sufficient experience in specialist roles at minimum L2 (see F&R Preparedness assessment) • F&R perception greater need for collaborative efforts between ESA agencies • Knowledge of ADF and interoperability had low base • F&R senior staff (IC) perception air assets were not used effectively (e.g. LAT containment lines used in dense forest) and lack of training and knowledge of air operations at all levels, including IC (**one interviewer stated perception LAT was used simply because it was on hand, not because of genuine strategic effect**)
QUICK WINS	

RECOMMENDATIONS: Enhanced training or familiarisation for F&R senior L3 qualified staff on specialist bushfire capabilities (for example air operations).		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

5. A**CTAS**

5.1 ACTAS Plan

THEME: PLANNING		RATING:
UNIT: ACTAS		REF:
HEADLINE OBSERVATION: NOT ASSESSED COMBINED WITH PREPAREDNESS		
SUMMARY FINDINGS:		
WHAT WAS DONE WELL		
WHAT COULD BE IMPROVED		
QUICK WINS		
RECOMMENDATIONS:		
SUPPORTING EVIDENCE:	SOURCES:	RESEARCH METHODS:

5.2 ACTAS Preparedness

THEME: PREPAREDNESS	RATING: 16
UNIT: ACTAS	REF: OA
HEADLINE OBSERVATION: ACTAS had anticipated the requirements of medical support to remote bushfire operations, and had adequate numbers of people with the correct levels of qualifications (driving and bushfire awareness)	
SUMMARY FINDINGS: ACTAS was able to conduct deliberate selection of staff and conduct advance preparation before the bushfire season. But some ACTAS staff selected did not have the right qualifications for direct support to bushfire operations, and the lack of a 4WD capability organic to ACTAS limited the strike teams it was therefore able to support.	
WHAT WAS DONE WELL	• Deliberate selection of staff for forward deployment to high risk locations • ACTAS BAU not impacted, well prepared from initial months of smoke haze health impact/demand
WHAT COULD BE IMPROVED	• Some ACTAS staff did not have minimum training requirements of Bushfire Awareness nor current 4WD qualifications, and many may have been therefore unsuitable for providing health support to strike teams in locations forward of staging areas (without dedicated escorts) • ACTAS only has one 4WD vehicle suitable for high risk area deployment (no other vehicles with off-road capability) • Development of guidelines for working with ADF
QUICK WINS	• ACTAS increased budget for 2021 and 2022 to supplement 4WD capability

RECOMMENDATIONS: Development of dedicated ACTAS cadre with specific training who can be extracted from BAU to support fire operations.		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

5.3 ACTAS Recovery

THEME: RECOVER		RATING: 14
UNIT: ACTAS		REF:
HEADLINE OBSERVATION: NOT ASSESSED ACTAS DID NOT PLAY SIGNIFICANT ROLE IN SPECIFIC RECOVERY ACTIVITY TO SUPPORT DETAILED PERFORMANCE ASSESSMENT		
SUMMARY FINDINGS:		
WHAT WAS DONE WELL		
WHAT COULD BE IMPROVED		
QUICK WINS		
RECOMMENDATIONS:		
SUPPORTING EVIDENCE:	SOURCES:	RESEARCH METHODS:

5.4 ACTAS Response Management

THEME: RESPONSE (MANAGEMENT)	RATING: 12
UNIT: ACTAS	REF:
HEADLINE OBSERVATION: Use of ACTAS paramedics in Strike Teams had positive impact on the mindset of ESA services on the role paramedics can play in fire operations. ACTAS core leadership remained outside IMT structures, allowing continued focus on BAU paramedic support to ACT.	
SUMMARY FINDINGS: ACTAS internal management of its crews welfare and support was good. But they way they were integrated into the IMT meant ACTAS has limited visibility on the operational deployments of its staff. This is seen as an issue with the AIIMS set up and where medical support is considered and managed.	
WHAT WAS DONE WELL	• Change in "mindset" about the role ACTAS can play in fire operations • CO able to focus on leadership and welfare issues of the organisation
WHAT COULD BE IMPROVED	• Management of fatigue and prolonged workload in addition to ACTAS BAU • Better direction and daily briefing for crews • ACTAS was structured under IMT Resources (see planning section for details) this had implications for leadership and management decisions as ACTAS had poor situational awareness of the incident • ACTAS had no visibility of staff deployments, secondary communications pathways were developed
QUICK WINS	

RECOMMENDATIONS: Consideration where Health function sits in AIIMS planning and IMT structures (resources, ops or plans) for Level 3 incidents		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

5.5 ACTAS Response Operations

THEME: RESPONSE (OPERATIONS)	RATING: 14
UNIT: ACTAS	REF:
HEADLINE OBSERVATION: ACTAS was able to continue its mandated BAU coverage of ACT for paramedic support without impact over entire bushfire season and provide all support requirements to ESA/IMT for bushfire response. The placement of ACTAS paramedics directly into Strike Teams was considered a highly valuable innovation.	
SUMMARY FINDINGS: Over the bushfire season, ACTAS was able to support both direct bushfire operations with paramedic teams, and maintain sufficient crews for BAU coverage of the ACT. While the technical deployment of medics with strike teams was an innovative and positive development, medical support was not planned by the IMT as an operational requirement. This impacted the detailed tasking of crews and the ability of ACTAS to track and monitor deployment and staff safety.	
WHAT WAS DONE WELL	• ACTAS BAU able to continue without impact over entire bushfire season and provide all support requirements to ESA/IMT for bushfire response • Multiple deployments to provide primary health care and emergency ambulance at remote firegrounds for extended periods • Activation of secondary site at Hume • Appropriate management of serious incidents • Integration with multiagency strike teams supporting active firefighting and clean-up operations • Inclusion of ADF medical teams and capability was considered a “force multiplier” (in particular PMVA and G Wagons)

5.5 ACTAS Response Operations

WHAT COULD BE IMPROVED	• IMT Fire had no specific medical plan – was only considered as a logistics issue under AIIMS (**note eventually one staff was placed as assistant in Plans**) • Planning for deployment of ACTAS staff into bushfire response – recognised an organisation-wide lack of planning experience or methods • Better defined "trigger point" for request of ACTAS support • Clear direction for deployment of ACTAS resources in IAPs • Increased awareness of cross-border MOU with ANSW and hoe to work during fire operations • Perceived over reliance on aero medical evacuation (AME) as an option in planning (despite not always being the ideal platform in circumstances) • Integration of AME into already busy airspace (unclear process) **note all AME in ACT tasked from NSW** • Rationalisation of radio reporting channels to avoid overloading and provide clear reporting lines (eg for SITREPs) • Align rostering arrangements with fire operations to avoid prolonged shifts • Better visibility for IMT of ACTAS crew locations • Need to assess ability of ACTAS to scale structure and operations in response to requests for health support • Familiarity with ADF medical capabilities (eg communications, equipment, scope of practice)	
QUICK WINS	• Investigate radios with increased range for ACTAS • Design of vehicle and equipment set-up for tailored fireground operations (to be pursued via the specialist capability working group)	
RECOMMENDATIONS: Training of specialist cadre of ACTAS personnel to support IMT on dedicated roster.		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

6. SES

6.1 SES Plan

<table>
<tr><td colspan="2">THEME: PLANNING</td><td>RATING:</td></tr>
<tr><td colspan="2">UNIT: SES</td><td>REF:</td></tr>
<tr><td colspan="3">HEADLINE OBSERVATION:

NOT ASSESSED INCLUDED WITH PREPAREDNESS</td></tr>
<tr><td colspan="3">SUMMARY FINDINGS:</td></tr>
<tr><td>WHAT WAS DONE WELL</td><td colspan="2"></td></tr>
<tr><td>WHAT COULD BE IMPROVED</td><td colspan="2"></td></tr>
<tr><td>QUICK WINS</td><td colspan="2"></td></tr>
<tr><td colspan="3">RECOMMENDATIONS:</td></tr>
<tr><td>SUPPORTING EVIDENCE:</td><td>SOURCES:</td><td>RESEARCH METHODS:</td></tr>
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6.2 SES Preparedness

THEME: PREPAREDNESS	RATING: 14
UNIT: SES	REF:
HEADLINE OBSERVATION: SES were well prepared for the 2019/20 bushfire season and had conducted service-only readiness and training activity.	
SUMMARY FINDINGS: SES were well prepared for the 2019/20 bushfire season and had conducted service-only readiness and training activity. This had included specific preparations for staging areas in support of bushfire operations, albeit SES had not envisaged the scale or duration of that support requirement.	
WHAT WAS DONE WELL	• SES pre-season had conducted thorough readiness checks on all vehicles, equipment and volunteers (focus was seasonal storms) • Specialist elements pre-identified and trained in IMT support roles • SES had completed one staging area exercise in December as a single service • SES had exercised an IMT L2 storm event as a single service
WHAT COULD BE IMPROVED	• Engagement with ACT Housing to establish clear lines of communication with regards contract maintenance • Engagement with ACT Police to develop protocols and procedures for "door knock" planning and activation • Staging area exercise and training – while a positive learning experience – had only considered a small-scale area and did not envisage the size of major fire event, and did not take place with RFS or PCS staff • SES had never conducted training exercises or rehearsals for evacuations with ACT Police (historically police relationship has been with SAR)
QUICK WINS	• Additional learning on AIIMS regards concurrent emergency events of different nature (fire and storm) • Cold storage for food as part of long-term capability preparations • Qualify ESA/SES staff for service in NRSC • Specific familiarisation training on RFS vehicles for SES drivers • SES involved in all pre-season fire planning as operational element (not just service provision) • Establish Staging Area SOPs, handover procedures and shift mandatory taskings to ensure that SAMs maintain effective and efficient procedures. • Redevelop the Staging Area training package to include roles and responsibilities, expectations, duties, sighting and AIIMS construct • Exercise staging area activities with RFS, F&R and PCS to understand requirements and improve interoperability and familiarity of personnel • With all ESA elements, identify and pre-prepare set locations for staging areas (north/south for example)

RECOMMENDATIONS: Review SES support to ESA/RFS incidents and further enhance deliberate preparations and training for staging area development and IMT requirements		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

6.3 SES Recovery

THEME: RECOVERY	RATING: 14
UNIT: SES	REF:
HEADLINE OBSERVATION: SES were able to generate adequate capability to support ESA requirements in recovery operations	
SUMMARY FINDINGS: The last main task for SES relation to 'Fire IMT' was closing down the staging area and refurbishment of the area at the Namadgi Visitors Centre and handing the area back to Parks and Conservation (P&C). This included coordination of contractors to remove toilets, refrigerated shippers, return of stock and equipment back to ESA Resource Centre and return of SES staging area equipment back to allocated units. This was achieved over a period of three days.	
WHAT WAS DONE WELL	• SES reputation among community significantly enhanced, post bushfire season and storm received plus of 300 volunteer applications • Tasking for SES chainsaw crews to support PCS route clearance tasks was included in IMT IAP (**see comments in operations and planning as this had not occurred up to this point**)
WHAT COULD BE IMPROVED	• Chainsaw crews deployed after fire need dedicated RFS escort (and suitable PPE) to accompany into fire zone • Significant exposure to COVID risk due to demographics of volunteer members reduced SES availability down to 60%
QUICK WINS	

RECOMMENDATIONS: N/A		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

6.4 SES Response Management

THEME: RESPONSE (MANAGEMENT)	RATING: 14
UNIT: SES	REF:
HEADLINE OBSERVATION: Integration of SES staff in multiple roles in the IMT support meant ESA members from other elements gained significant knowledge of and confidence in SES capabilities.	
SUMMARY FINDINGS:	
WHAT WAS DONE WELL	• Use of PCS Ranger from Namadgi always in location during staging area operations (local knowledge plus ad hoc support arrangements made possible) • Integration of SES staff in multiple roles and resource support meant ESA members from other elements gained significant knowledge of and confidence in SES • 10-day roster forecast allowed volunteers to maintain balance and sustain support
WHAT COULD BE IMPROVED	• Better alignment of shift timings and SES staff rotations in planning for future events • Suggestion of rosters being developed at least five days in advance to allow volunteers to plan commitments • Better alignment of shift timings and rotations to other ESA elements in IMT • Development of contingency workforce – or contingency plans – as SES support to fires drop off when additional/multiple tasks emerge • Improved information flow and clear responsibilities for the SAM and SES operations out of Staging Area • SAM had difficulty in getting attention of IMT Operations – and was initially not included in the IAP at all • Use of nine-hour shifts with one hour overlap to allow for adequate handover • Improved situational awareness for SAM on both crew rotations and incident intelligence – SAM became defacto channel for briefing and debriefing crews from fire front • No clear ownership of “volunteer” efforts meant SES became defacto task element (eg driver reviver stations) • **one interview claimed in real terms at no stage did the Fire IMT oversee or properly task SES operations, in reality SES ran their own concurrent “IMT” throughout and ensured their assets and people were tasked accordingly
QUICK WINS	• Use of formal letter from Commanders or Commissioner for volunteers to present to employers • ACT Volunteers representative in ECC to assist better employment of resources • Need for IMT Operations and Plans representatives placed forward to the staging area

RECOMMENDATIONS: Development of contingency workforce – or contingency plans – as SES support to fires drop off when additional/multiple tasks emerge in response to other hazards or emergencies within specific SES remit		
SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews

6.5 SES Response Operations

THEME: RESPONSE (OPERATIONS)	RATING: 16
UNIT: SES	REF:
HEADLINE OBSERVATION: SES was a key enabler of support services and operational effectiveness to all phases of the bushfire response and the operation of the ESA IMT. And its largely independent management of support to the ACT community following three major storm events demonstrated its operational flexibility and ability to re-task back to its core responsibilities.	
SUMMARY FINDINGS: SES was a key enabler of support services and operational effectiveness to all phases of the bushfire response.	
WHAT WAS DONE WELL	• Placement of SES Duty Officer working to the IMT Resources cell and SES Duty Executive (outside IMT structure) to support the IC and IMT Operations • Ad hoc establishment of SES Operations Desk to support the SES DO in the IMT allowed more effective management of resources and support requests • SES (independent of ESA) had done some contingency planning for staging area locations and other opportunities
WHAT COULD BE IMPROVED	• Initial "fire" IMT struggled with multi-hazard situation • Assumptions SES could maintain concurrent tasking (fire and storm) – became resource for too many tasks (IMT roles, SES response, staging areas, search and rescue, doorknocking, etc) • EC had directed SES to run storm response within IMT (by appointment of a Deputy IC for the event) but in reality this never occurred and in practical sense SES ran separate "L2 Strom IMT" on their own, duplicating Ops and Plans functions – and this was repeated for 10 Feb storm event, setting up "IMT" in different location in ESA building • SES needed to "push" for mapping and logistics resources • Need for formal SES involvement in IMT Operations Cell • Coordination with police for "Door Knocking, including consideration of early SES LO in place with Police Command Post to ensure that SES Volunteers efficiently and effectively tasked (**one interview claimed this had caused significant confusion, as SES had view this was SES task up until actual evacuation ordered. Data collected by police and ADF was never made available to ECC/IMT or the EC**) • Over reliance on radio communications – electronic data tools not used/not fit for purpose • No electronic tracking system for staging area – SES used paper-based T-Card system, which IMT then requested scanned and emailed back or loaded into a spreadsheet • Staging Area and Forward Command Post were not co-located creating disconnect between Div Commander and the SAM • Data management of incoming jobs and improved decision making on efficient response planning • Fire IMT plans initially only looked 48 hours ahead which created difficulties for SES

WHAT COULD BE IMPROVED	• Initial IAP from IMT had not included either staging area or SES tasking (**one interview claimed Fire IAP had at no stage included SES supporting element from operational perspective, all tasks came through resources cell in IMT Plans only**) • Need for mix of service experience in IMT planning, including SES professional and volunteer workforce • Early establishment of NRCS to assist accommodation and transport of interstate support – and RSOI better defined in SOP • Early and more detailed specific planning regarding support to Evacuation Centre vs Drop-in Centres (**see preparedness comments no prior training or exposure to ACT Community police functions on this**) • More detailed planning on the requirement details of taskings and support to EVAC Centres • More detailed planning for public "Pop-ups" including development of agreed Talking Points for participants • Time sensitive planning for allocation and deployment of chainsaw crews •
QUICK WINS	

RECOMMENDATIONS:

Consider standard SES Operations Desk or permanent staff officer inside IMT Operations Cell.

Consider IMT Operations and Plans representative forward inside the staging area to assist the SAM and provide specific RSOI support.

SUPPORTING EVIDENCE:	SOURCES: ACT Emergency Plan 2014 ACT Strategic Bushfire Management Plan 2019-2024 ACT Territory Wide Risk Assessment Sub Plan – Elevated Fire Danger Sub-Plan – Flood Sub Plan – Extreme Heat ACT Recovery Sub-Plan - 2019 Emergency Coordination Centre Operations Plan ACT Bushfire Management Standards ACT Strategic Bushfire Capability Framework Emergencies (Concept of Operations for bush and grass fires in the Australian Capital Territory) Commissioner's Guidelines Royal Commission in National Natural Disaster Arrangements Hearings and Public submissions	RESEARCH METHODS: Document Review Interviews