

# Inquiry into the 2019–20 Victorian Fire Season



**IGEM**  
Inspector-General  
for Emergency  
Management

## Summary Report

Phase 1 – Community and sector preparedness  
for and response to the 2019–20 fire season



### **About this Summary Report**

The content in this Summary Report is drawn from *Inquiry into the 2019–20 Victorian Fire Season – Phase 1 – Community and sector preparedness for and response to the 2019–20 fire season*.

It comprises the Inspector-General's message, executive summary, and the observations, findings and recommendations presented in IGEM's full report which is available from [igem.vic.gov.au](http://igem.vic.gov.au)

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## Message from the Inspector-General

During the 2019–20 fire season Victoria faced its most challenging bushfire emergency since the devastating 2009 bushfires, with a geographic scale not seen since 1939. The significant human and property losses, and a range of consequential impacts, are still being experienced.

Victoria is no stranger to bushfire emergencies. Over time there has been an opportunity to learn from each event and improve the way in which we prepare for and respond to fires. However, every event is different and regardless of the efforts of Victorian communities, government, and non-government organisations to prepare, there are always learnings to be had and future improvements to be realised.

Victoria also finds itself in a situation where the effects of a global pandemic are concurrently impacting fire-affected communities. The situation is further complicated by the longer-term and still-present consequences of drought. While not specified in the terms of reference for this Inquiry, the impacts of the coronavirus (COVID-19) pandemic will be a key factor throughout Phase 2 of the Inquiry, which focuses on community recovery. Clearly, these compounding events will significantly affect community recovery and it will sometimes be difficult to discern between the relative impacts of each.

Since Victoria's emergency management reform process began after the 2009 Victorian Bushfires Royal Commission and the subsequent Review of the 2010–11 Flood Warnings and Response, the State has endured a number of emergencies resulting in review or inquiry. These include but are not limited to the 2014 Hazelwood Mine Fire, the 2015 Wye River/Jamieson Track Fire, and the 2016 Thunderstorm Asthma emergency.

Additionally, as Inspector-General for Emergency Management (IGEM) I conduct an annual program of planned reviews to consider emerging risks or emergency management performance, as part of a legislated responsibility.

These high-level assurance activities are often supported by operational debriefing and review processes at the agency and multi-agency level through a structured approach to improvement and the application of a formal lessons-management framework. As a result, my Office can adopt a strategic approach that focuses on the emergency management system.

While operational strategy, decision-making, actions and outcomes have been considered by this Inquiry, the more tactical operational decision-making issues that emerge through a dynamic and protracted major emergency will be reviewed in greater detail at the agency level. Consideration of all decisions at that level was not the primary focus of this Inquiry, however the consequential impact of decisions on community safety outcomes and system performance is considered.

Relevant and essentially linked to this Inquiry is the IGEM Review of 10 Years of Reform in Victoria's Emergency Management Sector (the 10 Year Review), completed in December 2019. There are several themes in that review directly relevant to the 2019–20 fires. These include governance; capability and capacity; resilience and community engagement; community safety and preparedness; and rebuilding and recovery. IGEM understands that this report is currently under consideration by government.

Along with the broader Victorian community, the Inquiry has not been immune to the impacts of the COVID-19 pandemic. Conducting an Inquiry during an evolving major emergency is far from ideal and presents its own risks and limitations. Due to the response requirements of the pandemic for agencies also involved in the bushfire emergency, the availability of key witnesses and access to critical evidence becomes difficult. Further, the extensive terms of reference and necessarily short timeframe in which Phase 1 of the Inquiry has been conducted added a significant burden.

Restrictions imposed by the pandemic also meant that the opportunity to benefit from a tiered system of post-event, single and multi-agency debriefs was affected. Many agencies had not completed their internal debrief process at the time of the Inquiry, which meant that drawing upon some of the more detailed post-season reflections of the sector was not possible. That said, I am satisfied that the evidence available to the Inquiry was sufficient to enable the identification of those areas of preparedness and response in greatest need of improvement.

Similarly, COVID-19 has affected my capacity to engage directly with fire-affected communities.

Face-to-face community meetings throughout Victoria commenced in the weeks before the effects of the pandemic took hold, following which I needed to move to an online (digital) platform. While I was fortunate to elicit the experiences and views of nearly 400 community members through these meetings, community sentiment revealed that the participation rate would have been even greater had the face-to-face process continued. This in itself provides a sense that fire affected communities both expect and appreciate the opportunity to recount their experiences in the hope that opportunities for improvement are realised.

Community engagement through Phase 2 of the Inquiry will depend on the nature of restrictions in place.

Phase 1 of the Inquiry draws upon: 26 targeted community meetings held across Victoria; 476 online submissions; the analysis of more than 3000 agency documents. The Inquiry team conducted interviews with key witnesses from Victoria, New South Wales, the Commonwealth Government and the Australian Defence Force. Discussions and engagement were held with external subject matter experts, academic institutions and peak bodies; and literature reviews and research activities were undertaken. Each individual contribution has been critical to the Inquiry's conduct and its outcomes. These inputs, however, reflect a fragment of the Victorian population and cannot be considered as representing the bulk of Victorian opinion.

However, I am satisfied that through these engagements, the information presented, and the analysis and assessments made, I have identified priority areas where improvements can be made.

This Inquiry considered some matters that are polarising and about which people have passionate views. These include issues such as climate change, hazard reduction burning (or planned burning), other approaches to bushfire risk reduction, and the regulatory environment.

The passion and diversity of opinion across the sector and the broader community, combined with the dynamic nature of emergencies suggests that we are unlikely to achieve a position where there is zero residual risk of bushfire to our communities, even after any recommended 'change' is agreed to and implemented. However, it is clear to me from the evidence presented that Victoria is in a considerably better position than it was in the lead up to the 2009 Victorian bushfires and to a certain extent, in the years since, and our emergency management system is far from broken. There were overwhelming and strong contributions from both the sector and community to suggest that this perspective should frame any discussion that considers performance – whether in preparedness, response or recovery.

This Inquiry should be considered separately to those being conducted in other states and the Royal Commission into National Natural Disaster Arrangements. While there is common ground within each, their individual jurisdictional focus and contexts are considerably different. This Inquiry, while taking account of the roles of interstate counterparts and the Commonwealth in these fires, is focused on and reflective of Victoria's experience and aims to look at the opportunity for improvement from that perspective.

The seasonal bushfire indicators suggested that the 2019–20 fire season in Victoria would be severe. There was also a level of comfort and assurance that the agencies were well prepared to respond to the events that may arise. However, it is reasonable to say that communities and government agencies were not expecting such an early start to the season, nor one that would produce such extreme fire behaviour over such a lengthy period. My engagement with interstate and Commonwealth agencies as part of the Inquiry process reveals that this was a common reflection across the country.

Working towards a point where communities are 'prepared' for bushfire is difficult. For the emergency management sector and communities this is – and will remain – a shared responsibility. In striving to protect and save lives the need for a genuinely collaborative approach is more important now than ever.

In addressing the issues posed by bushfire we must all embrace learnings from the past, incorporate local knowledge, understand community values and respect the view of Traditional Owners in order to reduce the risk to our towns and communities. A sensible risk-based approach, corresponding performance targets, and appropriate outcome measures must be clear and comprehensible to communities. This Inquiry has identified opportunities to more effectively engage with communities in the management of bushfire mitigation to reduce risk levels. Agencies must ensure that mitigation strategies and standards of expectation are consistently applied and more effectively bridge the divide between public and private land management.

The sector's response to the 2019–20 Victorian bushfires again showed the state is well positioned in many regards. Agency collaboration, on the ground leadership, effective control strategies and volunteer involvement all featured prominently when contributors to this Inquiry reflected on positive outcomes and experiences.

However, operational governance, consultation and clear accountability are considered areas where opportunities for improvement exist. It is important that the sector retains a sound knowledge of its 'first principles' in incident management and ensures that it applies its standing arrangements to operational governance before implementing new or flexibly tailored models of command, control and coordination. There is an opportunity to rethink the need for, and focus of activity undertaken at various levels of control to ensure the most effective and efficient structure is in place.

The conduct of this Inquiry in the shadow of the COVID-19 pandemic has required an agile approach, the ability to quickly modify processes and operate within public health restrictions in order to gather the evidence and deliver the report in a timely manner.

I am extremely grateful for the assistance provided by fire-affected communities, agencies and other stakeholders who have also met these challenges in the submission of evidence and their overall participation throughout this Inquiry. I am also proud of my Inquiry team for their dedication and persistence in collecting, analysing and reporting on an enormous amount of information in such difficult circumstances.

Due to the nature of the issues considered in this Inquiry, IGEM has identified Emergency Management Victoria (EMV) and the Department of Environment, Land, Water and Planning (DELWP) as the primary organisations for implementation of the recommendations. This said, it is important to note that many other organisations, and in some cases the Victorian community will be required to assist EMV and DELWP in this process.

Through the understanding and commitment of fire-affected communities, the enormous support of my Office, the engagement of external subject matter experts and the willing participation of non-government and government agencies, I am satisfied that I have been able to effectively address the questions put to me by government and in doing so have made findings and recommendations such that – if accepted – will bring longstanding and sustainable benefits to Victorian communities.

This Inquiry provides yet another opportunity to understand where and how communities and government can further improve overall readiness, capability and capacity to reduce the risk of major bushfires. However, there are limitations on what can be achieved simply by conducting an Inquiry. Opinions and ideas for possible improvement are never in short supply. Tailored, realistic strategies and action plans embraced by communities are harder to find. Just as preparing for, and responding to emergencies is a shared responsibility, so too the opportunity to improve must be shared between individuals, organisations, government and communities.

In completing this first phase of the Inquiry, I am hopeful that this report will trigger outcome-focused discussion, improved policy making, and provide a catalyst for the consideration of a less complicated and more effective hazard reduction regulatory regime.

Most importantly, it is my hope that this Inquiry will influence change that results in better community engagement, closer cooperation within and across jurisdictional boundaries, well informed decision-making and, ultimately, better outcomes for all Victorians.

### **Tony Pearce**

Inspector-General for Emergency Management



# Victorian Bushfires 2019-20

  
**1,507,895<sup>a</sup>**  
 Hectares burnt  
 (all Victoria)

  
**5**  
 Fatalities

  
**458**  
 Total residences  
 • Destroyed 405  
 • Damaged 53

  
**313**  
 Primary residences  
 • Destroyed 265  
 • Damaged 48

  
**145**  
 Non-primary residences  
 • Destroyed 140  
 • Damaged 5

## Gippsland

  
**1,163,248<sup>c</sup>**  
 Hectares burnt

  
**4**  
 Fatalities

  
**550**  
 Properties registered for clean-up

### Crops

**2231**  
 Hay & silage (tonnes)

**16,858**  
 Pasture (ha)

**10**  
 Softwood plantations

### Sheds

**65**  
 Haysheds

**152**  
 Machinery sheds

**15**  
 Other farm sheds

### Livestock



**396**  
 Beef



**16**  
 Dairy



**586**  
 Sheep



**7**  
 Goats



**9**  
 Horses



**3**  
 Pigs

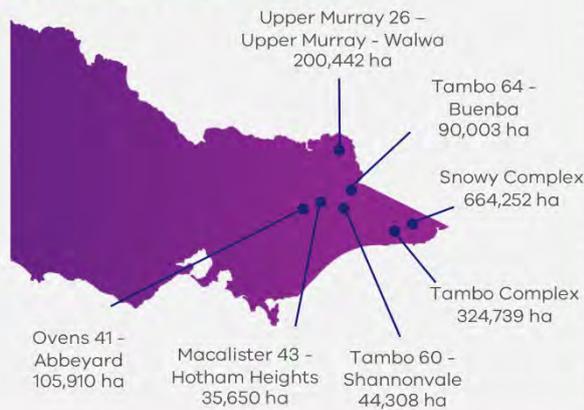


**86**  
 Poultry



**49**  
 Beehives

## Map of major fires



## Wildlife

- Widespread habitat loss
- 21 threatened aquatic species and 1 endangered bird species extracted from fire areas (insurance populations)
- 1000+ animals (mostly koalas) treated/euthanised across five wildlife triage units



### North East & Alpine



### Livestock



### Tourism

Estimated impact on tourism industry Jan-Mar 2020 = \$330-350 million

### Industries most affected

- Tourism
- Farming
- Forestry
- Winemaking
- Beekeeping



a) Total hectare burnt mapped by the Department of Agriculture, Water and the Environment (Cth) | b) Total numbers in the top lines include those outside the Gippsland, North East and Alpine regions. | c) Data from DELWP, includes all fires above 10 ha. | Additional data from EMV, DJPR & BRV. | Data current as of 21 July 2020.

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*The new view of failure suggests rather than look for what people did wrong you need to understand the context within which they acted. People, rather than being the problem, are needed to create safety by navigating complex trade-offs between irreconcilable goals. We can either have blame or learning. Not both.<sup>1</sup>*

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Between November 2019 and February 2020, more than 1.5 million hectares of Victoria was seared by fire.

Five people died, some 313 primary residences and 145 non-primary residences were destroyed or damaged, commercial properties and other buildings were also destroyed along with community infrastructure, cultural heritage sites and environmental assets.

Farms and other agricultural enterprises, pasture, stock, fencing and equipment were lost to the flames. Many regional small businesses, including hundreds not directly affected by the fires themselves, were – and continue to be – impacted by the events of the season.

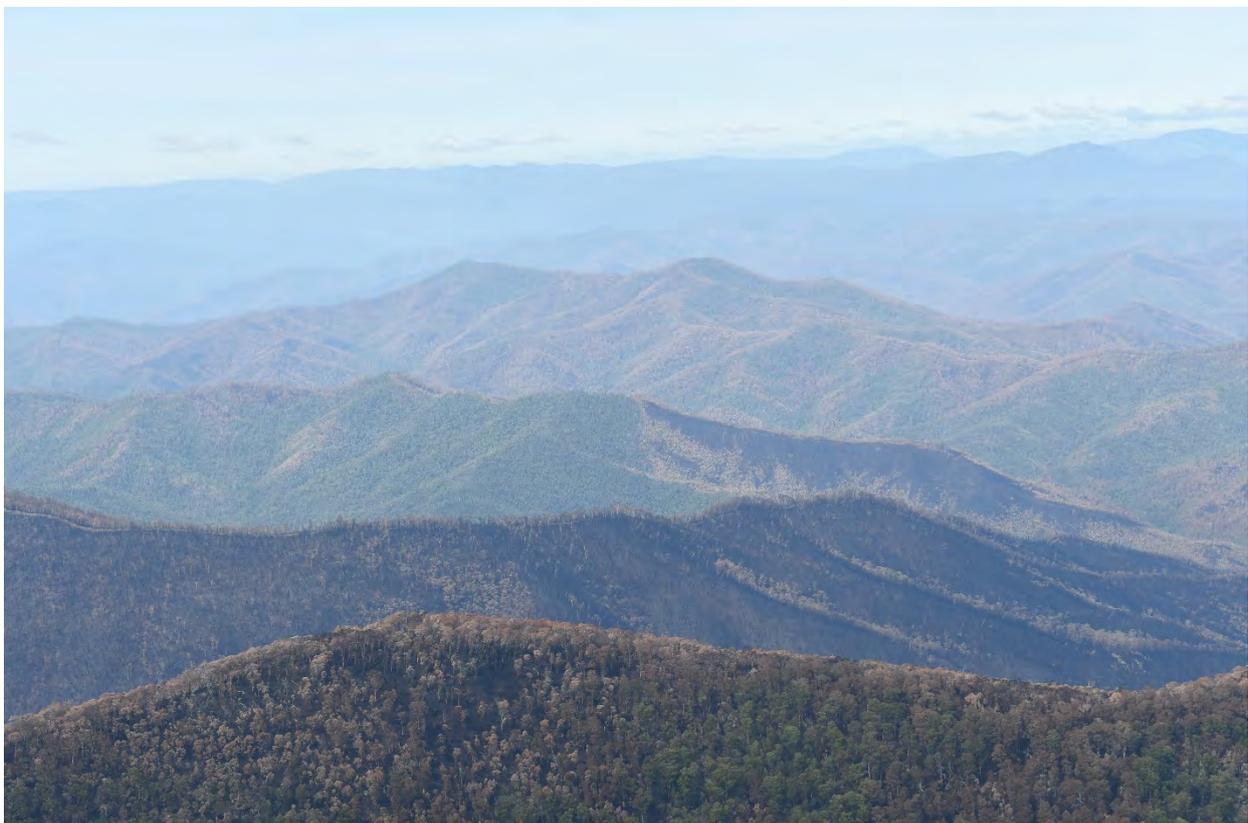
Tourism was among the most affected industries at the height of the holiday peak and in the long tail afterwards. Agriculture, logistics and small businesses were also affected.

The huge environmental impact in terms of flora, fauna and waterways is still being assessed, interpreted and experienced.

Almost every significant fire in Victoria during the 2019–20 season was as a result of lightning strike.

All of this took place in the context of a catastrophic Australian fire season that in total claimed 33 lives, destroyed more than 3000 residences and blackened over 10 million hectares. Victoria's bushfire summer was bad, yet we were certainly not alone.

In 2020, Victorians ought not be surprised by bushfire. It is a constant in our landscape. Yet every time a major bushfire event occurs, it seems that many in the community are caught unawares as if by something new and unprecedented. A demand for answers, a search for what went wrong and who to blame inevitably seem to follow.



## The Inquiry

On 14 January 2020 the Honourable Daniel Andrews MP, Premier of Victoria announced an independent Inquiry into the 2019–20 Victorian fire season (the Inquiry). A formal request of the Inspector-General for Emergency Management (IGEM) to conduct the Inquiry followed from the Honourable Lisa Neville MP, Minister for Police and Emergency Services (the minister), and the Inquiry Terms of Reference were finalised shortly thereafter.

The Inquiry is being conducted in two phases: Phase 1 considers preparedness for and response to the events that occurred over the 2019–20 fire season of which this is the resulting report; Phase 2 will consider the progress and effectiveness of Victoria's immediate relief and recovery arrangements with the final report to be delivered by 30 June 2021.

This Inquiry is about learning, not blame. It is fixed in the need to carefully examine what happened in Victoria before, during and after the 2019–20 fires. It is driven by the desire to learn from that experience and ensure that continuous improvement within the emergency management sector flows from and builds upon those learnings.

It is evident to the Inquiry that there are opportunities for improvement in the way that the Victorian community, together with the emergency management sector, prepare for and respond to bushfire. The specific outputs of this Inquiry are expressed in three ways: observations, findings and recommendations. The significance of and response required to these differs and is explained in Chapter 1 of the report.

It is equally apparent that the many organisations and personnel who responded to the 2019–20 bushfires did so with dedication, skill, agility and sometimes bravery, across a vast area and over a prolonged period.

Despite these efforts Victorians must again mourn deaths from bushfire.

In 2019–20, Department of Environment, Land, Water and Planning (DELWP) contractor David Moresi was killed near Gelantipy. Forest Fire Management Victoria (FFMVic) firefighter Mat Kavanagh, died in a vehicle accident near Mansfield. Parks Victoria employee Bill Slade was killed while firefighting near Omeo. Two other Victorians, Mick Roberts of Buchan, and Fred Becker of Maramingo Creek near Genoa also died as a direct result of the fires.

## A landscape of fire

The eminent American global fire scholar Stephen Pyne has been studying and writing about Australian bushfires for decades. The vision of the outsider is sometimes that much clearer. Writing before the 2009 Victorian bushfires, Pyne described how the firestick used to nurture the country's habitat passed from Aboriginal hands to agrarian white settlers and then to the foresters until finally, it was in effect dropped rather than being redirected to a new purpose of 'firestick ecology'.

The deeply contested question of fuel reduction burning, canvassed extensively prior, during and since the 2009 Victorian Bushfires Royal Commission (VBRC), is again at the centre of public debate and discussion in Victoria and elsewhere in Australia.

Fuel management forms a central theme of this report. However, fuel reduction burning is not a simple panacea, any more than the reintroduction of Aboriginal burning practices will restore the Victorian bush to its pre-European condition.

Simply building a vast bushfire response capability marshalling more aircraft, personnel, trucks and equipment is on balance no more useful than it is affordable. What is required is something more sophisticated: an adaptive and innovative approach that takes the best from a range of approaches, synthesising them to a point where the optimal human and environmental outcomes are pursued.

For those who take a long-term view, the environmental context is evidently changing. The impacts of climate change are evident in the natural and settled landscape. The incidence of large, severe and recurrent bushfire events in Victoria has increased exponentially over recent decades and shows no sign of slowing. The 2009 bushfires aside, this was the third time in less than 20 years that more than 1 million hectares of the state burned over a single summer.

The human context is changing too. Victoria's population is growing steadily. People are looking to live different lives in different places beyond the metropolis. Some of the fastest growing parts of outer metropolitan and regional Victoria are pushing settlement deeper into this increasingly active fire environment. Many Victorians who have probably never considered the possibility of confronting a bushfire or grassfire must now adapt to living with that risk. Others who merely visit or holiday in such areas must do so too.

Phase 1 of the Inquiry reflects upon broader issues around the management of fire emergencies in this state. In relation to the 2019–20 fires, it examines how well prepared the Victorian community and those tasked with their protection was before the events. Phase one looks at how the State, its agencies and the community responded to the fires. It also touches on the immediate measures taken to relieve people's suffering.

Against the backdrop of a national bushfire crisis, the 2019–20 fire season in Victoria was the most significant test of the reformed emergency management arrangements put in place after the disastrous 2009 Victorian bushfires. The outcomes in Victoria suggest that the planning, systems and procedures established since then have led to the more effective management of large-scale emergencies involving multiple agencies.

That is not to say there cannot be further improvement, but the fundamental underpinnings proved sound. There are many examples of positive practice that can be used to inform, refine and even rebuild emergency management arrangements in the future.

A number of significant issues raised by stakeholders in the emergency management sector and the broader community were noted during the Inquiry.



These include:

- understanding risk levels and risk reduction targets
- land and fuel management
- capacity considerations for prolonged events
- shared responsibility
- opportunities to build on the provision of public information
- the effectiveness of Victoria’s Code Red Day arrangements
- the impact of declaring a State of Disaster
- widespread evacuation of regional towns and communities
- isolated towns and communities
- command and control arrangements
- collaboration between the emergency management sector, the private sector, interstate, Commonwealth and international partners
- the impacts of climate change.

## Understanding risk levels and risk reduction targets

There are two critical elements to bushfire risk in Victoria. The first is to understand it. Bushfire remains the principal risk to life, property and community infrastructure. This is well understood by the State and significant resources are devoted on an ongoing basis to mitigating against, preparing for, responding to and recovering from bushfires.

A significant effort has been undertaken in Victoria over the past 30 years to encourage a deeper individual understanding of the risk that bushfire poses to everyone in our community. The State – and Country Fire Authority (CFA) in particular – has devoted significant energy and resources to elevating the consciousness of those who live in bushfire-prone areas to the risks they face. This has included extensive public information campaigns including television, radio and print advertising, and increasingly sophisticated use of social media. Tailored and targeted community engagement programs have been undertaken for almost 30 years and continue to evolve. All of these activities are aimed at highlighting, explaining and engaging people in the bushfire risk to the community.

Despite this strong effort it is clear from this Inquiry that community members have a variable understanding of bushfire risk and how it relates to their lives. This affects their ability to own and accept that risk – the second and in many ways most important element. Only when people accept that they themselves are at risk, can there be an expectation that they will act to mitigate effects through prevention and preparedness measures when that risk is translated into an actual threat. Risk acceptance includes not just those who live in areas where bushfires are likely but everyone who works in, travels through or holidays, in such locations.

No matter what measures are taken there will always be a level of residual risk.

In practical terms it is no more possible to eliminate the risk of fire from the Victorian landscape than it is to guarantee no Victorian will be involved in a motor vehicle accident. There are however measures that can be taken to minimise and mitigate that risk up to a point. The concept of residual risk is explored in some detail in the report in the context of fuel management.

FFMVic has achieved its residual risk target of 70 per cent for three consecutive years resulting in bushfire risk reduction on public land that aligns with the objectives set for the public land fuel management program. The question remains as to whether this target is appropriate, how it might be improved to address both public and private land risk and at what economic, environmental and social cost.

## Land and fuel management

Land and fuel management remains a contested and divisive issue in Victoria. This is despite a succession of investigations (including by IGEM) into its efficacy as a method of reducing bushfire risk, its effects on the environment and the community.

At one end of the scale are those who believe that regular and repeated planned burning will reduce or eliminate uncontrollable bushfires. At the other end are those who favour total exclusion of fire from the landscape. While planned burning (and other fuel management techniques) can alter fuel loads, it must be carefully applied to reduce the risk of bushfire.

Even with an extensive fuel management program, bushfire risk remains and increases as the vegetation regrows. Many forest types will readily carry fire within a couple of years at which point they cannot simply be reburned without environmental consequences. The total exclusion of fire from an environment which is uniquely adaptive to – and for some species dependent upon for regeneration – is equally at odds with sound management of Victoria's altered 21st century landscape.

Fuel management plays an important role in bushfire management; however, it is not a silver bullet. The extent to which it is effective and whether this effectiveness is measurable is limited by some key barriers identified in this Inquiry.

The complex legislative environment limits the delivery of a holistic, cross-tenure program by agencies, stakeholders and individuals working in partnership. This does not provide a strong foundation for other key processes and leads to a lack of consistent and measurable fuel management objectives across public and private land. It also contributes to variability in planning and monitoring, evaluation and reporting practices across land managers and fire agencies.

Accountability was another strong area of concern with roadside fuel management demonstrating the complexity of arrangements and how this can lead to inconsistencies and devolved responsibility.

Community dissatisfaction with the current fuel management practices on public land highlighted a desire to use alternative approaches including mechanical treatment to reduce smoke effects and overcome the small burn 'window of opportunity'. There was also significant interest in facilitating opportunities for Traditional Owners to care for Country through increased cultural burning.



## Capacity and capability considerations for prolonged events

Finding the right balance in maintaining a level of readiness to respond to bushfire in Victoria is a complex calculation. The required resources in terms of personnel, vehicles, equipment and aircraft need to be scalable according to seasonal requirements and cannot readily be switched on and off if conditions alter rapidly.

In Victoria there are significant standing resources spread across the responder agencies. In terms of equipment, much of this is geared towards forest and grassland firefighting, especially within FFMVic and CFA. Personnel engaged in the management of incidents and in operational firefighting comprise fulltime permanent, part-time, seasonal and volunteer staff. Aerial firefighting resources are contracted on a seasonal basis, either through national or state-based arrangements.

In recent years, greater reliance has been placed upon interjurisdictional cooperation which enables people and equipment moving between the states (and internationally) in order to supplement local resources.

Some of the factors affecting the capacity and capability of the emergency management sector to respond to protracted emergency events are beyond the control of the responder agencies and even the State. The incidence of multiple, concurrent major events across Australia stretches the available pool of resources and personnel. The extended fire seasons in the northern and southern hemispheres place pressure on the availability of significant aerial and incident management resources.

The organisations that provide fire services on private land in metropolitan and regional Victoria have undergone their most significant reshaping in more than a century. On 1 July 2020, a new organisation was launched – Fire Rescue Victoria – bringing together all Metropolitan Fire and Emergency Services Board (MFB) and career CFA firefighters. With this reform, CFA is now a community-based, solely volunteer firefighter organisation.

The extent to which the organisational changes attached to these reforms will affect the delivery of bushfire preparedness and response in Victoria remains to be seen. Suffice to say, it is the intent of responder agencies that any disruption to service delivery in this regard should be minimal.

## Shared responsibility

The idea that living with bushfire is a shared responsibility is not new. Judge Leonard Stretton alluded to it in the 1939 bushfires royal commission; and the VBRC was explicit:

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*...the State, municipal councils, individuals, household members and the broader community—must accept greater responsibility for bushfire safety in the future and that many of these responsibilities are shared.*

*2009 Victorian Bushfires Royal Commission*

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A significant challenge remains in ensuring people have a clear understanding of the risk they face when living in or visiting those parts of Victoria in which bushfire is possible. Similarly, many in the community currently do not have realistic expectations of the ability of emergency management sector organisations to mitigate or significantly reduce bushfire risk in the landscape, or respond to remote and inaccessible fires.

This may be addressed through clearer communications, yet it might also require a robust re-evaluation of risk targets (in preparedness and response) and the capacity required to meet these targets. These re-evaluations should include the community as a matter of priority.

The 2019–20 fires highlight the ongoing need to arrive at realistic community understanding about shared responsibility; and specifically, the role of the individual in addressing the risk of bushfire, its eventuality and consequences, versus the role of the State and its agencies. The recent past has already brought larger and more frequent bushfires. Adapting to a future in which that is the norm means shifting beliefs, approaches and actions on the part of both the emergency management sector and the wider community.

There are things for which the State is and must remain responsible, such as planning for and maintaining an appropriate bushfire response capacity in terms of people and resources. Individuals, however, must also accept responsibility for their own wellbeing, whether that be property preparation, engagement in community emergency management initiatives or by heeding emergency information and warnings.

## Opportunities to build on public information

One of the most profound developments since the 2009 Victorian bushfires has been the extent to which Victorians now have access to critical information before and during emergencies. This is in large part the result of a deliberate program at state and national levels to improve the advice and warnings to communities under threat from bushfires and other emergencies.

Innovations, such as the VicEmergency App and the national Emergency Alert telephony system are examples of this. Other information sources have grown organically and been adopted and adapted by government and agencies, such as various social media. The use of informal sources of information, such as trusted local networks, adds another layer.

Central to the provision of information is encouraging Victorians not to rely on technology or upon a single means of staying informed. In many of the areas affected by the 2019–20 bushfires, options such as apps and online sources of information are either unavailable or disappear as communication infrastructure is itself affected by fire. Sources such as free-to-air radio, face-to-face meetings, local radio networks and printed newsletters remain of critical importance in providing information in all locations.

Establishing a single source of truth for emergency information is a difficult but important objective, especially for communities where major emergencies are uncommon and unexpected, or where there are high transient populations such as tourists and holiday makers.

VicEmergency was created as a single, official source of information and warnings. It enables incident controllers to publish approved notifications through the VicEmergency website, smartphone application, telephone hotline, Facebook and Twitter, responder agency social media, official emergency broadcasters, and email to emergency management agencies for further distribution.



Emergency information is provided in three basic tiers: (Advice, Watch and Act, and Emergency Warning). Additional messages may include a Recommendation to Evacuate, Community Information, and All Clear.

IGEM's 10 Year Review acknowledges that there has been significant improvement in the formulation of community information and warnings in Victoria and their dissemination during emergencies. This was also evident during the 2019–20 bushfires. Yet to be undertaken, however, is a thorough review of the overall effectiveness of message content and frequency, and the efficacy of the various channels used. The 10 Year Review also found that stakeholders thought the warning system needed to be simplified to aid community comprehension.

Further work is needed to enable the sector to better understand how well the different levels of information and warning about bushfires is understood by the general public and how such information is interpreted, acted upon or simply ignored by the broader community.

## The effectiveness of declaring Code Red

The declaration of Code Red is the highest level of fire danger warning possible under the current system used in Victoria. The term 'Code Red' is specific to Victoria; in all other jurisdictions the term 'Catastrophic' is given to this rating.

The declaration of a Code Red in Victoria is rare. There have only been two previous declarations (in 2010) and these predate a revision of the applicable grass fire danger rating.

Fire Danger Ratings (FDRs) are used to inform the community of the potential for fires to spread and the likelihood of their suppression. These are currently based on dated modelling, and a national review of the FDR system is underway aimed at bringing greater scientific rigour and community understanding of the ratings and their meaning.

All levels of the ratings below Code Red are issued by the Bureau of Meteorology based on inputs including such factors as temperature, humidity, wind and the dryness of the landscape. A Code Red declaration differs in that, while it takes these factors into consideration, it is a determination by the Emergency Management Commissioner (EMC) in consultation with other emergency management leaders. The trigger for the decision-making process is a Forest Fire Danger Index (FFDI) of 100+ or a Grass Fire Danger Index of 150+.

In addition to the FFDIs, other factors considered are pre-existing fires, known arson activity, population movement, travel and holiday periods and major events attracting large numbers of people in high risk areas.

A Code Red declaration was made for parts of Victoria for 21 November 2019. Despite its relatively late declaration, the Code Red declaration was considered effective in alerting northern Victoria and the broader Victorian community to the extreme bushfire danger.



## Impact of declaring a State of Disaster

Before the 2019–20 fire season a State of Disaster had never been declared in Victoria.

A declaration may be made to increase the effectiveness of emergency response to an event that presents 'significant and widespread danger to life or property' where a breakdown in the normal system of government and emergency management is likely.

The power to declare a State of Disaster was first legislated in Victoria in 1983. The *Emergency Management Act 1986* provides that the Premier, acting on the advice of the minister and the EMC, may make a declaration of a State of Disaster for all or part of Victoria.

With fires causing significant destruction in the East Gippsland, North East and Alpine areas in late 2019 and early 2020, emergency response resourcing was stretched. There was concern for the safety of the communities in the potential impact area of the fires and a growing unease over the potential need to evacuate thousands of people from remote areas, akin to an unfolding situation in Mallacoota.

Acting on the advice of the minister and the EMC, the Premier declared a State of Disaster across six municipal areas and the Alpine Resorts late on 2 January 2020. This was to remain in effect until 9 January 2020. It was later extended for a further 48 hours.

The declaration of the State of Disaster was effective in raising Victorians' awareness to the extreme threats posed by the fires across the east of Victoria, encouraging large numbers of people to leave high-risk areas in the Gippsland and Hume regions. It also supported whole-of-government coordination. However, there was significant feedback from businesses in affected areas that the blanket declarations had a highly adverse effect, and in their view, more damaging than the fires themselves.

## Evacuation of regional towns and communities

There remains a degree of confusion in Victoria around 'evacuation' during bushfires – partly because it is rarely mandatory.

Fire and other emergency authorities have very limited legal powers to compel people to leave properties, in which they can claim a pecuniary interest, even when they are under direct threat.

In Victoria, the term evacuation encompasses a range of actions which largely hinge on the voluntary action of those involved.

During the 2019–20 fire season, recommended evacuation and relocation occurred on a scale in Victoria never before seen or experienced. It impacted residential communities and thousands of tourists and travellers. Evacuation and shelter-in-place warnings occurred prior to fire impacts in many areas. In some areas, evacuations happened after fires had hit, when roads were closed, and towns had become isolated.

The formal recommendation of an evacuation is the responsibility of an Incident Controller in consultation with other members of the Incident Management Team (IMT) and broader Incident Emergency Management Team (IEMT). Once an Incident Controller issues a warning recommending a community evacuate, Victoria Police (VicPol) becomes responsible for managing the withdrawal, shelter and eventual return of evacuees. Councils establish and manage relief centres, with emphasis on special considerations for vulnerable people and facilities.

Most evacuations in 2019–20 followed either the specific or general advice provided by the State and its agencies. The impact of two significant warnings – on 29 December 2019 advising people to leave East Gippsland and those accompanying the 2 January 2020 declaration of a State of Disaster – prompted tens of thousands of people to relocate.

In the case of the first warning, the generic nature of the message was considered by some as too broad and vague. While many heeded the advice, many did not, and both locals and visitors continued with holiday plans. This included travel to remote areas of East Gippsland, such as Mallacoota.

In the second case, while a State of Disaster enables police to compel evacuation, these powers were not invoked, and people responded to the recommendation to leave voluntarily. Between 3–6 January 2020, VicPol successfully facilitated the evacuation and relocation of more than 66,000 people from the potential impact zones in the North East, Alpine and East Gippsland areas.

Regarding the final evacuation option – moving to a local place of last resort shelter – the experience of the 2019–20 fires again illustrated a lack of understanding of what these facilities are intended to provide. A Neighbourhood Safer Place – Bushfire Place of Last Resort (NSP-BPLR) is only intended for use when all other bushfire shelter options (including leaving early) have already failed. It is not an alternative to evacuation. While it may be a location to which an Incident Controller directs people to take shelter in extreme conditions, there is no guarantee that it will provide safe shelter for people. NSP-BPLRs are often still confused with community fire refuges, relief centres, and evacuation points.

On balance, the success of evacuation advice and the individual decisions made by community members and visitors in fire affected areas was borne out by the small number of civilian fatalities in Victoria despite the severity and extent of the fires.

## Isolated towns and communities

The very location of the communities affected during the fires, especially those in the Alpine and Gippsland areas, meant that they were likely to be cut off for days – and in some cases weeks. Many of these communities (and individual properties) are already remote; the impact of the fires rendered them isolated.

Remoteness works both for and against communities in these circumstances. Such communities by their nature tend to be highly resilient and, in many ways, self-sufficient. These factors work in their favour during both the response and recovery phases of emergencies. While the expectation of external assistance in times of crisis may be lower the more remote the location, the sector and wider community maintain a responsibility to provide assistance to these communities at such times.

The State Emergency Relief and Recovery Plan states that where communities are isolated as a result of an emergency, control agencies have a role to support the delivery of relief services through outreach activities. Beyond this, there are no procedures or policies around planning for or responding to ‘isolation’. Instead, the focus of emergency management planning is on ‘how and when to leave’.



Issues around isolation of communities were compounded by the presence in some areas, of large numbers of tourists and holidaymakers, in addition to permanent residents. In Mallacoota the numbers involved were significant. As the fires impacted, it was estimated that between 4000 and 8000 people remained in Mallacoota and surrounds, with up to 4000 seeking shelter on the beach. With main roads into the community rendered too dangerous to use, the eventual evacuation of almost 2000 people necessitated the use of Australian Defence Force (ADF) aircraft and ships over a period of several days.

Dominant issues to emerge in relation to communities isolated by the 2019–20 fires were the loss of telecommunications, reinstatement of road access, power outages and access to water supplies.

Despite an apparent lack of specific planning for community isolation on this scale, the emergency management sector adjusted its readiness planning to support towns that had already or were about to become isolated. Issues such as loss of power and communications were able to be addressed in a reasonably timely manner. The reopening of roads was more difficult given the extent to which the road network was impacted and the need to make safe routes for traffic. The reopening of roads, including major arterials such as the Princes Highway, took many weeks.

There is a need for the sector – in collaboration with communities – to look at building future resilience to isolation during emergencies through preparedness plans and actions that address potential critical infrastructure failure (especially communications and power), food and water supplies and rapid response to immediate needs. This could involve planning for the use of community contingency caches – trialled for the first time during these fires – containing emergency supplies including satellite phones, torches, first aid and hygiene essentials, water, food and other equipment.

## Collaboration between the emergency management sector and the private sector, interstate, Commonwealth, and international partners

Fundamental to Victoria's emergency management arrangements is the concept of collaboration simply expressed as 'we work as one'. The arrangements emphasise the interdependencies of emergency management organisations, government departments, agencies, private sector and not-for-profit organisations with a role in emergency management, including relief and recovery.

The most sophisticated developments in this regard have been in relation to how responder agencies work together, as set out in a range of policies, operational structures, standard operating procedures and processes. The integration of other parts of state and local government into the emergency management arrangements in a systemic manner is more recent in both practice and procedure.

Less mature again are arrangements involving interstate, Commonwealth and overseas agencies. While interjurisdictional cooperation during emergencies is not new, agreements giving effect to this have previously been on an individual agency-to-agency basis (for example, between interstate fire services) rather than being coordinated at state level. Similarly, agreements with agencies in other countries are complicated due to sovereignty requirements implicit and explicit in international relations that require the involvement of the Commonwealth.

At a more local level, cross-border emergency management is not underpinned by formal arrangements between states but currently relies on personal relationships and dispersed governance in local and regional management committees and working groups.

The process of seeking assistance from the Commonwealth itself (for example, to use ADF resources) is set out in formal arrangements between the Commonwealth and the states. While these are effective, there is a perception that the process lacks agility and that the potential, appropriate resources available from the Commonwealth are not well understood at state level.

Finally, the integration of the private sector in the emergency management arrangements remains largely informal, except in relation to the energy sector and some other critical infrastructure operators.

## The effects of climate change

Concern over the future impact of climate change upon bushfires in Victoria was widely expressed to the Inquiry in submissions from government departments, emergency management agencies, community service organisations, councils, community groups and individuals.

The past is no longer a reliable guide to the influence of climate and weather upon bushfires into the future. Climate change is influencing the patterns of natural hazards globally. In Australia, increases in temperature and changes in rainfall patterns are contributing to an increase in extreme fire weather across much of the country. In south-east Australia there have been long-term decreases in rainfall. The bushfire season in the 21st century begins earlier and ends later.

The 2018 Commonwealth Scientific and Industrial Research Organisation *State of the Climate Report* predicts changes Australia will experience over the coming decades. Those that will influence the potential for bushfire are:

- further increase in temperatures, with more extremely hot days and fewer extremely cool days
- a decrease in cool season rainfall across many regions of southern Australia, with increasing drought
- an increase in the number of high fire weather danger days and a longer fire season for southern and eastern Australia.

Factors such as unforeseeable changes to the atmospheric composition and variability from influences such as specific El Niño and La Niña events increase the unpredictability of forecasts.

Climate change mitigation is a crucial step towards reducing bushfire risk in the long-term. The emergency management sector's climate change mitigation actions are part of a broader whole-of-government commitment to reduced emissions. IGEM acknowledges that considerations for preparation, readiness, relief and recovery activities for bushfires – and other emergency events – should be part of a broader approach to climate change mitigation and adaptation strategies being considered by Victoria.

The VBRC noted that the sector needed to consider the influence of climate change on future bushfire risk in its planning. A decade later, the need is even more apparent and urgent.



## Opportunities for the future

The 2019–20 fire season was a devastating season across Australia and Victoria, with the last of the fires that swept across the east of the state only officially declared safe on 7 July 2020. Tragically, five lives were lost as a result of the fires. Damage and destruction of property was also higher than in recent years with 313 primary residences damaged or lost, and another 853 buildings or infrastructure damaged or lost.

Communities and individuals are only just beginning the journey along the long road to recovery. This journey is being undertaken while further challenged by the global pandemic that first arrived in Australia in January 2020 as the fires in Victoria were still burning out of control.

While Victoria has no desire to see a repeat of the events of the 2019–20 fire season, given the impacts climate change is having on our environment, the likelihood of similar events occurring becomes more frequent. As a state, and as a nation we need to look at how we can best prepare for events like these in the future.

The sector and the community both have a responsibility to consider what the future may look like and how to work together to plan, prepare and respond to these events. There is no one mitigation strategy or response that will eliminate Victoria's risk. While opportunities identified by stakeholders and communities such as changes to fuel management practices, and the availability of appropriate aircraft will support preparation and response activities, these are not sufficient in isolation. It is only by taking a strategic approach that our collective performance will improve.

The emergency management sector has an opportunity to further enhance and increase collaboration with private organisations and communities to understand what can be achieved as a whole, rather than as individuals. This creates the ability to ensure the capability and capacity of emergency management sector personnel (paid and volunteer), government agencies, businesses and community service organisations as well as the community, are all considered through each aspect of emergency management – preparation, response, relief and recovery. This will ensure that Victoria is as prepared as possible to respond to the inevitability of similar events of significant size and duration in the future.



## Observations, findings and recommendations

### Chapter 3 Preparation for the 2019–20 fire season

Governance	
<b>Finding 3.1</b>	The Victorian emergency management sector applies well-established command and control arrangements that align with leading practice.
<b>Finding 3.2</b>	The Victorian emergency management sector demonstrates a clear ability to consider and prepare for immediate seasonal bushfire risk.
<b>Observation 3.1</b>	The Victorian emergency management sector's approach to the incorporation of medium and long-term risks and risk-based planning at municipal, regional and state tiers of emergency management is less mature than its approach to seasonal risk. There is an opportunity to further develop risk-based planning across the sector and with communities through strategic initiatives such as the 2030 Strategy and Planning reforms to address recommendations made by the Inspector-General for Emergency Management in previous reviews.
Planning and communications	
<b>Observation 3.2</b>	The State Bushfire Plan was endorsed in 2014 and is now out of date. There is an opportunity to update the content to accurately portray the roles and responsibilities of relevant organisations in the Victorian emergency management sector.
<b>Observation 3.3</b>	Across the Victorian emergency management sector efforts to assess the effectiveness of community preparedness programs are limited. Further evaluation of such programs would allow the sector to focus its efforts on bushfire preparedness initiatives that reach the target audience, are understood and support people to take action.
<b>Observation 3.4</b>	Where emergency management preparedness and planning are well-supported – and led by community – there is stronger community resilience to bushfires. This community-led approach could be broadened to consider all emergencies.
Preparation to protect flora and fauna	
<b>Finding 3.3</b>	Considerable work has been conducted to increase preparedness for the impacts of bushfire in wildlife welfare through reform of key conservation legislation, regulation, strategies and policies. While work for ecological biodiversity is less mature, the foundations for greater preparedness and protection of Victoria's wildlife and biodiversity have been established.
Personnel	
<b>Finding 3.4</b>	The number of career firefighters has increased over the last three years while the number of volunteer firefighters has steadily decreased.
<b>Finding 3.5</b>	The number of Level 3 Incident Controllers was below the target number in 2017–18 and 2018–19.
<b>Observation 3.5</b>	Across the sector there are examples of capacity and capability assessments, however, there is a lack of collective understanding of current and future capacity requirements.

Preparing and training	
<b>Finding 3.6</b>	The Victorian emergency management sector was prepared for the 2019–20 fire season through briefings, training and exercises conducted ahead of the season, and debriefs providing insights and learnings as to where improvements were required.
<b>Recommendation 1</b>	The Inspector-General for Emergency Management recommends that responder agencies and Emergency Management Victoria review preparedness arrangements to ensure procedural documentation (including plans), recruitment, briefings and training are completed before significant seasonal events are likely to occur. Seasonal preparedness should culminate in attestations of assurance to confirm that: <ul style="list-style-type: none"> <li>a) documentation reflects relevant risks and potential impacts</li> <li>b) briefings and training schedules have been tailored and delivered according to seasonal influences</li> <li>c) recruitment strategies enable the engagement of adequate numbers of appropriately skilled personnel for the entire season.</li> </ul>
<b>Observation 3.6</b>	The amount of training and experience required to be accredited as a Level 3 Incident Controller is high and makes it difficult to sustain appropriate numbers. There are opportunities to consider different training and accreditation options and to review the existing model of Incident Controller rostering to ensure that growth in the number of available personnel for the role is encouraged.
<b>Finding 3.7</b>	The early events occurring in the 2019–20 season and other business-as-usual demands reduced the ability of personnel across the sector to attend training opportunities.
Resources	
<b>Observation 3.7</b>	Cross-border emergency management between New South Wales and Victoria is not underpinned by any formal arrangement between the two states. It currently relies on formal arrangements between individual organisations, personal relationships and dispersed governance in local and regional management committees and working groups.
<b>Observation 3.8</b>	Multiple productive partnerships exist between the private sector and Victoria's emergency management sector. There is an opportunity for greater consideration of partnerships between the emergency management sector and the private sector to improve response capabilities and increase access to available resources.
Financial arrangements	
<b>Finding 3.8</b>	The Victorian emergency management sector relies heavily on grant-based programs and funding for mitigation and preparedness initiatives as there is limited strategic and long-term investment to prevent, minimise and prepare for emergencies and their consequences.
<b>Finding 3.9</b>	Treasurer's Advances are an appropriate supplementary mechanism to fund suppression activities in short-term emergencies. However, it is unclear how suitable Treasurer's Advances are in supporting the Victorian emergency management sector to resource emergencies that are longer in duration.
<b>Observation 3.9</b>	The current funding arrangements to support the broader requirements of bushfire response and relief are not supplemented through Treasurer's Advances and rely on a reimbursement process that can be delayed. In a protracted event such as the 2019–20 Victorian fire season, the funding arrangements and cost-sharing expectations can cause a strain on councils and departments.
<b>Finding 3.10</b>	Councils have roles before, during and after bushfires that exceed the resources and funding received through emergency management programs, grants or rate-payer levies.

## Chapter 4 Land and fuel management

Risk reduction treatment types	
<b>Finding 4.1</b>	The effectiveness of fuel management treatments for reducing bushfire risk is influenced by many factors such as vegetation, climate, and terrain.
Other planned burning approaches	
<b>Observation 4.1</b>	Work being done to facilitate opportunities for Traditional Owners to care for Country through cultural burning and land practices that informs other emergency management sector fuel management practices is producing positive results. There is significant interest shown by the sector, government and community to see more cultural burning occur across the landscape. Resourcing to support mechanisms for Traditional Owners to navigate the policy requirements for planned burning would support greater initiation, delivery of and sharing of cultural burning techniques.
Victorian arrangements for fuel management	
<b>Finding 4.2</b>	The establishment of Forest Fire Management Victoria (FFMVic) supports a more integrated workforce across public land fuel management with clear legislation, policy and procedures guiding fuel management on public land managed by FFMVic.
<b>Finding 4.3</b>	The level of fuel management conducted by private land managers and fire agencies is inhibited due to structural and policy issues within these organisations and conflicts between various, complex legislative requirements.
<b>Finding 4.4</b>	The current legislation enabling fuel management is complex and does not support a true cross-tenure approach, despite willingness from land and fire agencies to work together.
<b>Recommendation 2</b>	<p>The Inspector-General for Emergency Management recommends that the State review (and where necessary amend) legislation including but not limited to the <i>Country Fire Authority Act 1958</i>, <i>Forest Act 1958</i> and <i>Local Government Act 2020</i> to:</p> <ol style="list-style-type: none"> <li>clarify accountability for fuel management across land and fire agencies, public authorities, councils, private organisations and individuals</li> <li>define shared responsibility for fuel management across land and fire agencies, stakeholders and community</li> <li>enable organisations with a legislated responsibility for fuel management to conduct fuel management on behalf of other organisations on land outside of their legislated land tenure, where invited to do so</li> <li>provide consistent protections to all personnel, including volunteers, when carrying out fuel management functions on behalf of their legislated organisation.</li> </ol>
<b>Finding 4.5</b>	The Regional Forest Agreements support a more integrated approach to forest and bushfire management and require the explicit consideration of conservation, economic, cultural, bushfire and social land values.
<b>Finding 4.6</b>	Private land managers and fire agencies do not align their current fuel management planning with strategic bushfire management planning and there is no consistent inclusion of monitoring, evaluation and reporting mechanisms.
<b>Finding 4.7</b>	Forest Fire Management Victoria has invested significantly in risk-based planning across both objectives of the Code of Practice for Bushfire Management on public land and to other bushfire management strategies.
<b>Finding 4.8</b>	Private land managers and fire agencies use the Municipal Fire Management Plans as a common tool for planning fuel management activities on private land, however, there is no common monitoring or reporting requirement as part of these plans.
<b>Finding 4.9</b>	Land managers and fire agencies responsible for roadside fuel management have inconsistent policy frameworks, objectives, budgeting arrangements and reporting regimes. This has resulted in a lack of accountability and transparency for roadside fuel management and its contribution to bushfire risk reduction cannot be effectively measured.

<b>Finding 4.10</b>	The Safer Together program provides a solid foundation to support greater interoperability between public and private land managers and fire agencies. However, its outcomes are largely confined to Forest Fire Management Victoria and the Country Fire Authority.
<b>Recommendation 3</b>	The Inspector-General for Emergency Management recommends that the State support the Department of Environment, Land, Water and Planning (or the single entity referenced in Recommendation 4) and its partners to expand the Safer Together program to: <ul style="list-style-type: none"> <li>a) increase program uptake and adoption by legislated fuel management organisations including local government, the Department of Transport and VicTrack</li> <li>b) implement a consistent risk-based approach to fuel management program planning from strategic through to operational and tactical levels supported by appropriate risk assessment tools, monitoring and evaluation, and reporting mechanisms</li> <li>c) develop common spatial datasets for use by all road managers, standardising road and roadside fuel maintenance levels based on bushfire risk and sharing resources to maintain continuous roadsides managed by multiple parties.</li> </ul>
<b>Finding 4.11</b>	Cross-tenure fuel management is limited due to a lack of common arrangements or single, authorising body requiring land managers and fire agencies to plan, conduct, monitor, report and evaluate their fuel management programs in a coordinated manner.
<b>Recommendation 4</b>	The Inspector-General for Emergency Management recommends that in conjunction with Inquiry Recommendation 2, the State establish or assign responsibility to a single body or entity to lead and coordinate the implementation of evidence-based fuel management policy, practice and assurance and reporting on activities on both public and private land in Victoria.
<b>Fuel management in preparation for the 2019–20 fire season</b>	
<b>Finding 4.12</b>	Land managers and fire agencies with fuel management roles do not develop consistent fuel management objectives for private and public land and progress towards achievement of the objectives cannot be objectively measured. The 70 per cent residual risk target is currently only applied to public land.
<b>Observation 4.2</b>	Research and trials have commenced to strengthen the modelling capabilities of Phoenix RapidFire to include a number of variables that currently limit its application to all types of fuel management and accuracy in modelling overall risk reduction. This is valuable work that will strengthen land managers' and fire agencies' ability to accurately predict the effect of fuel management treatment on bushfire risk. The resultant product and methods for the calculation of risk should be continuously monitored and evaluated to ensure greater uptake across the sector and greater transparency in the process.
<b>Finding 4.13</b>	The calculation of residual risk is currently limited as the model used to calculate risk and risk reduction does not consider areas treated by mechanical means, roadsides and small parcels of land and is based on assumptions that consider housing assets only, the worst-case weather scenario and excludes multi-day events.
<b>Finding 4.14</b>	Forest Fire Management Victoria performs structured values assessments to ensure fuel management does not have a detrimental effect on protected values.
<b>Finding 4.15</b>	Forest Fire Management Victoria has achieved its residual risk target of 70 per cent for three consecutive years resulting in bushfire risk reduction on public land that aligns with the objectives set in the statewide fuel management program.
<b>Observation 4.3</b>	The timber industry provides an important support capacity to fire management in Victorian forests with a skill set, knowledge base and operational experience in forest landscapes. The cessation of native forest harvesting by 2030 poses challenges for the fuel management program and bushfire response capacity across the state. Planning currently being undertaken by the Department of Environment, Land, Water and Planning should be supported and continued to ensure the skills, knowledge and equipment of the industry remain accessible to land managers and fire agencies.

<b>Observation 4.4</b>	Land managers and fire agencies have been inhibited in their delivery of the planned burning element of their fuel management programs due to unfavourable weather over recent years. Despite achieving the residual risk target, there is a marked reduction in planned hectares treated since its implementation.
<b>Finding 4.16</b>	A significant percentage of community representations to this Inquiry were not satisfied with current fuel management practices on public land. The rationale for this dissatisfaction and proposed alternative approaches are not easily reconciled due to fundamental differences in the values and experiences underpinning these beliefs.
<b>Recommendation 5</b>	The Inspector-General for Emergency Management recommends that the Department of Environment, Land, Water and Planning (or the single entity referenced in Recommendation 4) – with support from all legislated fuel management organisations for public and private land – lead a community engagement process to improve the Victorian community’s understanding of: <ul style="list-style-type: none"> <li>a) the purpose of Victoria’s fuel management program and the concept of residual risk</li> <li>b) the conditions under which fuel management effectiveness is limited</li> <li>c) how fuel management is planned, conducted, evaluated and reported.</li> </ul>
<b>Finding 4.17</b>	Victoria’s use of mechanical treatments has not increased since DELWP committed to do so in 2015–16, indicating that it is not using mechanical means to compensate for lost opportunities due to the reduced planned burning weather windows.
<b>Finding 4.18</b>	There is significant interest from the sector and community to increase the variety of treatment types used in the fuel management program, including mechanical fuel treatments, cool burning and empowering Traditional Owners to conduct cultural burning.
<b>Recommendation 6</b>	The Inspector-General for Emergency Management recommends that the Department of Environment, Land, Water and Planning (or the single entity referenced in Recommendation 4) – supported by other organisations with a legislated responsibility for fuel management – plan for and increase the application of non-burning fuel management treatments including mechanical means. <p>The annual fuel management report should include the non-burn component of fuel management treatment, track annual change, and provide a comparison to the previous three years.</p>
<b>Measuring effectiveness of fuel management</b>	
<b>Finding 4.19</b>	Forest Fire Management Victoria has established a strong foundation of monitoring, evaluation and research that has resulted in regular reporting against clear objectives.
<b>Finding 4.20</b>	Private land managers and fire agencies are not held accountable for fuel management in the same way as public land managers due to the number and complexity of arrangements with the parties involved and a lack of common legislative requirements, policy and reporting requirements.
<b>Finding 4.21</b>	The effectiveness of Victoria's fuel management program cannot be comprehensively measured due to a lack of measurable objectives adopted by all land and fire agencies, gaps in the current tools and models used, and a lack of capacity and capability to support the requirements of this work across the sector.
<b>Recommendation 7</b>	The Inspector-General for Emergency Management recommends that the Department of Environment, Land, Water and Planning (or the single entity referenced in Recommendation 4) lead the development and distribution of evidence-based land and fuel management tools for use by all legislated fuel management organisations to ensure a common approach to fuel management.

<b>Recommendation 8</b>	<p>The Inspector-General for Emergency Management recommends that the Department of Environment, Land, Water and Planning (or the single entity referenced in Recommendation 4) – in conjunction with legislated fuel management organisations – develop a common set of objectives, metrics and reporting requirements for fuel management that form part of a compulsory regime that enables the Victorian Government to report publicly on a holistic fuel management program.</p> <p>The reporting requirements should:</p> <ul style="list-style-type: none"> <li>a) apply to all organisations with a legislated role in fuel management; across public and private land (all land tenures); and at all levels – state, regional and municipal</li> <li>b) include residual risk where appropriate - however, complementary metrics should be developed if residual risk cannot be determined.</li> </ul>
<b>Observation 4.5</b>	<p>Despite the achievement of the residual risk target on public land for three years, there is a high level of dissatisfaction in some parts of the emergency management sector and the community in relation to fuel management. The establishment of a schedule to regularly review the residual risk target and the land to which it applies would support greater understanding of fuel management and the effect it has on bushfire risk across the state.</p>
<b>Recommendation 9</b>	<p>The Inspector-General for Emergency Management recommends that the Department of Environment, Land, Water and Planning (or the single entity referenced in Recommendation 4) – in collaboration with the Country Fire Authority and local government – undertake a review of the current residual risk target to ensure that it remains contemporary in terms of its designated percentage value. The review should:</p> <ul style="list-style-type: none"> <li>a) involve engagement with land and fire management agencies; public authorities; private organisations; individuals and any other stakeholders with a role in fuel management</li> <li>b) define a pathway to expanding the residual risk target to apply to all methods of fuel management, with the expansion of the target to apply across all organisations with a legislated responsibility for fuel management</li> <li>c) become part of a program of review of the State’s land and fuel management policy occurring on a regular basis and not exceeding a five-year cycle.</li> </ul>

## Chapter 6 Events of the 2019–20 fire season

### First attack

#### Finding 6.1

Over the 2019–20 fire season Forest Fire Management Victoria exceeded its fire containment target for first attack and fire spread.

#### Observation 6.1

Fire agencies could improve engagement with communities around the strategies in place for dealing with bushfire outbreaks – especially in remote areas, – and the limitations of first attack. This is important to establish realistic expectations of suppression capability and allow communities to make decisions and take actions that will ensure their safety in high bushfire risk periods.

### Code Red declaration

#### Observation 6.2

In light of the delayed forecast and media conference, there was confusion as to when relevant organisations could activate Code Red arrangements and inform the necessary stakeholders. With greater clarity, the two hours between the decision and the media conference could have been used more efficiently especially for sectors such as health, community services, education, water and councils to advise and relocate clients as required and cancel services. There is an opportunity for Emergency Management Victoria and individual organisations to clarify what actions can be initiated ahead of future formal public Code Red declarations.

<b>Finding 6.2</b>	The decision to not call a Code Red for late December was appropriate given the resources already deployed across the state to respond to fires and the short duration of Code Red conditions forecast in the Loddon Mallee region. The decision meant that resources were not shifted away from the significant fire activity in Gippsland region to support Code Red capacity in the Loddon Mallee.
<b>Finding 6.3</b>	The community received mixed messages around staying or leaving following the Code Red declaration and as a result they were not clear on evacuation requirements.
<b>Finding 6.4</b>	Overall the Code Red declaration on 21 November 2019 was effective in alerting northern Victoria and the broader Victorian community to extreme bushfire danger and was supported by the sector in principle.
<b>Observation 6.3</b>	There appeared to be limited escalation options for the emergency management sector outside of the Code Red and State of Disaster called during the 2019–20 season. The current review of the Australian Fire Danger Ratings System should be considered as an opportunity for the sector to look more broadly across the ratings and escalation points available, especially during prolonged events such as the 2019–20 fire season.
<b>Staying to defend</b>	
<b>Finding 6.5</b>	The majority of community members who shared experiences of staying to defend property were well prepared, understood the risks, worked with neighbours and had fall back plans in place for the 2019–20 fire season. Unfortunately, due to the severity and swift moving fires this preparation was not always enough to successfully defend property, however it was sufficient to save lives.
<b>Finding 6.6</b>	Municipal Emergency Management Plans and local emergency management plans were implemented inconsistently across response activities and the access to and use of available resources including equipment and assets led to community frustration and confusion.
<b>Finding 6.7</b>	The emergency management sector's current approach for communicating with the public does not currently result in a consistent, accurate and reasonable understanding across the community of their responsibilities and the role of the sector before, during and after emergencies.
<b>Recommendation 10</b>	The Inspector-General for Emergency Management recommends that Emergency Management Victoria – in accepting that emergency management is a 'shared responsibility' – collaborate with the emergency management sector and community to: <ul style="list-style-type: none"> <li>a) establish clear guidance that clarifies the roles and responsibilities of individuals, communities, the private sector, responder agencies and government before, during and after emergencies</li> <li>b) develop, implement and evaluate an ongoing communications strategy that ensures these roles and responsibilities are well-understood and reiterated throughout the year.</li> </ul>
<b>Evacuations</b>	
<b>Finding 6.8</b>	The high volume of information and warnings issued via the VicEmergency platform made it difficult to ensure the accuracy and relevance of information to recipients and created situations where individuals may have received conflicting advice regarding the management of different fires in the area.
<b>Observation 6.4</b>	There have been significant improvements in the way Victoria's emergency management sector issues emergency information and warnings to the community. However, there remains a lack of analysis as to the effectiveness of the information and warnings. Further evaluation is needed to determine how the current system could be improved to ensure that message content, style and dissemination strategies promote safe decision-making within the community.
<b>Finding 6.9</b>	Information in the Evacuation Guidance Documents was considered, comprehensive, and drafted well ahead of the fires' potential impact.

<b>Observation 6.5</b>	Community views on the use of Traffic Management Points varied. The most common frustration was a lack of adequate information and communication about road access.
<b>Finding 6.10</b>	Information provided to tourists and holiday makers prior to the significant escalation of fires in late December did not necessarily deter them from visiting potentially dangerous areas or places with limited access, especially in East Gippsland (including Mallacoota).
<b>Observation 6.6</b>	There was a need for greater consideration in identifying key facilities in communities - particularly smaller, high-risk, and remote communities - that can provide informal shelter for people during an immediate threat. This consideration should include: <ul style="list-style-type: none"> <li>• how these facilities are promoted and identified to residents and non-residents</li> <li>• how to ensure supplies are available to support the community if they become isolated.</li> </ul>
<b>Recommendation 11</b>	The Inspector-General for Emergency Management recommends that Victoria Police – in collaboration with the community and the emergency management sector – reflect on events of the 2019–20 fire season to review and enhance evacuation plans and processes with consideration of: <ol style="list-style-type: none"> <li>a) high risk areas (including remote locations)</li> <li>b) early evacuation triggers</li> <li>c) the potential for isolated communities</li> <li>d) the presence of tourists and non-residents</li> <li>e) individual decisions to not evacuate</li> <li>f) the inability to evacuate</li> <li>g) consequence management and compounding events such as the loss of essential services or health impacts.</li> </ol>
<b>Observation 6.7</b>	There is an opportunity to consider advanced evacuation and relocation messages to communities when fire is in the landscape, weather and geographical variables indicate a high-risk of ignitions and extensive fire spread. The decision to restrict access to a tourist town based on a seasonal outlook cannot be taken lightly given the significant implications for the local economy, tourism operators and free movement across the state. However, there are opportunities to learn from other pre-emptive relocations that have been called in similar circumstances, such as the cancellation of the Falls Festival in the Otways earlier in December 2019.
<b>Observation 6.8</b>	The combined circumstances of the fire behaviour, Mallacoota’s isolation, high visitor numbers and the need for air and sea evacuations made the events in Mallacoota appear unique. However, there are similar locations across Victoria and many opportunities to learn from the events that occurred during the 2019-20 fire season. These relate to a number of other findings and observations throughout this report in relation to public communication, incident management, isolated towns and evacuations and cross-jurisdictional operations.
<b>State of Disaster</b>	
<b>Finding 6.11</b>	The declaration of the State of Disaster was effective in raising the community awareness of the extreme threats posed by the fires across the north and east of Victoria, supporting whole-of-government coordination and enabling the required evacuations to occur.
<b>Isolated towns</b>	
<b>Finding 6.12</b>	The current emergency management arrangements do not adequately consider wide-spread evacuation, potential for isolation, communications and variability in people’s motivation to leave an area.
<b>Finding 6.13</b>	The emergency management sector adjusted its readiness planning to support towns that were already, or were about to become, isolated.
<b>Observation 6.9</b>	There is an opportunity for the emergency management sector to work with communities (especially in remote locations) to incorporate the potential for isolation and critical infrastructure failure into relevant preparations and plans. Such planning would consider consequences of prolonged loss essential services and the pre-positioning of community contingency caches where appropriate.

<b>Finding 6.14</b>	The emergency management sector used new approaches to support isolated communities during the 2019–20 fire season which appeared to be effective in areas where traditional operational structures and approaches were not suitable.
<b>Finding 6.15</b>	The communication protocols and procedures for sharing information with community regarding the loss of critical infrastructure, assets or services and the roles of departments and service providers in distributing, timely, accurate and relevant communication was not clearly defined.
<b>Finding 6.16</b>	The prolonged and extensive closure of roads across Gippsland and the North East during the 2019–20 fire season had significant implications for response and relief operations, contributed to the isolation of remote communities and had major economic consequences for Victoria and Victorian communities. The Inspector-General for Emergency Management will consider the implications of road closures further in Phase 2 of the Inquiry.
<b>Observation 6.10</b>	Key procedural documents outlining the processes associated with road safety and road access were not interpreted or applied consistently across shifts. There is an opportunity to review the roles, responsibilities and procedures associated with road closures, hazardous tree assessments and traffic management to ensure efficient re-opening of roads while maintaining the safety of emergency personnel and road users.
<b>Finding 6.17</b>	The water sector was well prepared and resourced to respond effectively to the 2019–20 fire season supported by the ability to draw on resources through the mutual aid arrangements.
<b>Observation 6.11</b>	The level of inter-dependency between the critical infrastructure sectors increases the vulnerability of each sector as a direct disruption in one sector can have indirect consequences in other sectors. Strategies and regulations to mitigate this vulnerability are inherently complex as the governance and operation of critical infrastructure must consider state and Commonwealth legislation and regulations; government and private operation and ownership; and consumer interests.
<b>Environmental impacts</b>	
<b>Finding 6.18</b>	The emergency management response for the issuance of air quality notifications and advice around smoke has improved since the 2014 Hazelwood Mine Fire.

## Chapter 7 Response operations

### Operations and strategic oversight

<b>Finding 7.1</b>	Ministers and senior officials worked outside of the existing strategic oversight structures, creating time-limited, fit-for-purpose structures to ensure an efficient and coordinated whole-of-government response.
<b>Finding 7.2</b>	The command and control arrangements were adapted to respond to the changing nature of the fire hazard, significant scale of the emergency and complexities presented
<b>Observation 7.1</b>	There is an ongoing opportunity as part of after-action review processes for the Emergency Management Commissioner – in consultation with relevant control agencies – to continuously review control arrangements, and specifically appointment and rostering processes. This process should focus on ensuring the flexible, effective and sustainable application of control functions, and reduce potential exposure to adverse outcomes in control, at all levels.
<b>Finding 7.3</b>	During the 2019–20 Victorian fire season the regional tier of control was underutilised due to a lack of role clarity and breaks in the line of control.

<b>Recommendation 12</b>	<p>The Inspector-General for Emergency Management recommends that Emergency Management Victoria – in collaboration with the emergency management sector and as part of the emergency management planning reforms:</p> <ul style="list-style-type: none"> <li>a) review, update and confirm arrangements for all tiers of control, including the flexible application of areas of operations, with a particular focus on the triggers for activation, integration with other tiers of control and clearly defined roles and responsibilities</li> <li>b) exercise these arrangements to ensure they are appropriate and familiar during emergencies.</li> </ul>
<b>Finding 7.4</b>	<p>There was an inconsistency in the way incident management practices were applied between shift and rotations throughout the 2019–20 Victorian fire season. This led to difficulties in confirming incident objectives and priorities, and inconsistencies in the application of procedures.</p>
<b>Recommendation 13</b>	<p>The Inspector-General for Emergency Management recommends that Emergency Management Victoria – in partnership with agencies engaged in state, regional and incident control centres:</p> <ul style="list-style-type: none"> <li>a) review and update shift roster and handover processes to ensure they are procedurally consistent and support the achievement of objectives at all stages of a protracted event</li> <li>b) provide training and guidance to ensure shift roster and handover processes are consistently applied in state, regional and incident control centres.</li> </ul>
<b>Observation 7.2</b>	<p>There were multiple additional and parallel committees and structures established throughout the 2019–20 Victorian fire season to support the protracted and expansive event and fire impact. There is an opportunity to review the creation and function of these committees to ensure that they provide value that cannot be achieved through the use of existing committees and structures.</p>
<b>Observation 7.3</b>	<p>There were occasions where the line of control was broken through tactical decision-making occurring at the state level and poorly timed consultation and communication of these decisions. Strong agency command arrangements and inter-agency relationships across the tiers minimised potential negative outcomes associated with these decisions. There is an opportunity to review and if required exercise the arrangements for complex emergencies to ensure suitable flow of information and decision-making, particularly through the incident and regional controllers and in time limited circumstances.</p>
<b>Observation 7.4</b>	<p>Coordination and communication during the 2019–20 Victorian fire season was at times inhibited by the different boundaries, regions and districts used by the various government entities.</p>
<b>Observation 7.5</b>	<p>Work currently being led by Emergency Management Victoria to address recommendations previously made by the Inspector-General for Emergency Management in relation to impact assessment should be prioritised with a focus on the authority to share data and the mechanism to do so.</p>
<b>Resources</b>	
<b>Observation 7.6</b>	<p>Over the 2019–20 fire season resources were used as available, this included pre-positioning for days of extreme Fire Danger Rating to provide support for immediate response to fire starts. The availability of resources for deployment to the east of Victoria was impacted by fires in other jurisdictions as well the need to maintain sufficient resources across the rest of Victoria to respond to events.</p>
<b>Finding 7.5</b>	<p>The events of the 2019–20 fire season placed significant strain on the existing capacity and capability of the sector which had implications for the management of fatigue and the occupational health and safety of personnel both on the frontline response and in the control centres.</p>

<b>Recommendation 14</b>	The Inspector-General for Emergency Management recommends that Emergency Management Victoria – in consultation with relevant agencies – develop a system to manage personnel and asset deployments to all tiers of incident management to meet the needs of the emergency and support the health and wellbeing of personnel. Where appropriate and within occupational health and safety requirements, this may include: <ul style="list-style-type: none"> <li>a) standardised shift rosters across agencies and incident management tiers</li> <li>b) a single or integrated platform to allow consistent recording of shift times and locations</li> <li>c) records of accreditation, qualification, training and currency.</li> </ul>
<b>Finding 7.6</b>	The existing capacity (including surge capacity) across the Victorian emergency sector was challenged by the extended duration and severity of the 2019–20 fire season.
<b>Recommendation 15</b>	The Inspector-General for Emergency Management recommends that Emergency Management Victoria collaborate with the emergency management sector to develop a capacity model that considers current and future: <ul style="list-style-type: none"> <li>a) career and volunteer emergency management personnel requirements</li> <li>b) identified and trained personnel for surge requirements</li> <li>c) emergency risks and climate scenarios.</li> </ul>
<b>Finding 7.7</b>	The emergency management sector has placed significant emphasis and resources into managing personnel fatigue, however there is inconsistency in strategy and practice between departments and agencies. There is an opportunity to review and develop fatigue management guidance and principles for use across the broader sector.
<b>Finding 7.8</b>	The emergency management sector has an increased focus on supporting positive mental health of personnel with multiple mental health and wellbeing initiatives available before, during and after emergencies.
<b>Finding 7.9</b>	The mutual aid arrangements across the water sector and councils saw resources deployed from around Victoria to support response efforts. The ability to access additional resources meant that authorities were able to meet their obligation to communities.
<b>Observation 7.7</b>	The deployment of operational personnel to New South Wales and Queensland occurred at a critical time for Victoria, with a significant number of personnel deployed at a time of high fire occurrence in the Gippsland area. Personnel deployed were primarily Country Fire Authority volunteers. The workforce model in place in Victoria is underpinned by the number and strength of its volunteer agencies, when large scale concurrent events occur across Australia this model can be significantly tested.
<b>Finding 7.10</b>	Sector personnel and community members had to contend with different maps, terminology and communication platforms in New South Wales and Victoria.
<b>Recommendation 16</b>	The Inspector-General for Emergency Management recommends that Emergency Management Victoria works with the emergency management sector and relevant emergency management entities in New South Wales and South Australia to identify and address key cross border operational and resource management issues. This engagement should aim to enhance interoperability and maximise the capability and capacity of agencies to work together during emergencies along Victoria’s borders.
<b>Finding 7.11</b>	Australian Defence Force assistance was dispatched in a timely manner in response to COMDISPLAN requests from Victoria.
<b>Observation 7.8</b>	The support provided by the Australian Defence Force (ADF) was critical to the response and relief operations during the 2019–20 fire season. While stakeholders identified some issues around communication and lines of control this was resolved as the ADF was integrated with existing structures, especially as efforts moved from response to relief and recovery activities. There is an opportunity to capture the lessons learnt from working with the ADF to strengthen existing doctrine and inform future response and relief efforts where ADF personnel are deployed to work with Victorian agencies.

<b>Finding 7.12</b>	The response to the 2019–20 fire season was significantly strengthened through the support of international, Commonwealth and non-government (including the Australian Red Cross) resources.
<b>Observation 7.9</b>	There is an opportunity at a state, federal and international level to continue to improve interoperability, including shared training, policies and procedures to improve consistency and increase the effectiveness of resource sharing.
<b>Finding 7.13</b>	The use of private assets increased the capacity of response and immediate relief activities during the 2019–20 fire season.
<b>Observation 7.10</b>	The effectiveness of aerial firefighting resources and the deployment system in Victorian environments has not been extensively evaluated. A greater understanding of how aerial assets can support suppression efforts – including first attack – would allow Victoria to make more informed requests for aerial firefighting assets and ensure any assets provided are used to their greatest effect.
<b>Communications</b>	
<b>Finding 7.14</b>	There was significant use of the VicEmergency platform throughout the 2019–20 fire season that provided critical information to communities affected by bushfire.
<b>Finding 7.15</b>	The methods used to assist vulnerable people to access and understand emergency information are limited to the Translating and Interpreting Service or the National Relay service, and the use of AUSLAN interpreters during media conferences.
<b>Recommendation 17</b>	The Inspector-General for Emergency Management recommends that Emergency Management Victoria – in collaboration with the emergency management sector – develops and implements processes to ensure greater dissemination and improved understanding of information for all Victorians, and visitors to Victoria in an emergency event. This should consider but not be exclusive to individuals who: <ul style="list-style-type: none"> <li>a) are not familiar with Victoria and its environment</li> <li>b) find it difficult to understand and respond to emergency information</li> <li>c) are socially or geographically isolated.</li> </ul>
<b>Biodiversity and wildlife</b>	
<b>Finding 7.16</b>	The appointment of the Class 2 Controller – Wildlife greatly assisted in prioritising and coordinating the wildlife welfare and biodiversity response to better align with community expectations.
<b>Finding 7.17</b>	Opportunities to harness the capacity of volunteers in wildlife response and relief activities were not considered early in the response activities for the 2019–20 fire season.

## Chapter 8 The way forward

### Future-proofing the sector

<b>Observation 8.1</b>	Victoria needs to determine the level of preparedness it wants in place to reduce future risks. In doing so, consideration needs to be given to the predicted outcomes of climate change on weather patterns, increasing severity of events and the increasing likelihood of concurrent events occurring within Victoria, as well as nationally and internationally.
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