

Bushfires and Community Safety



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POSITION

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About AFAC and Doctrine

AFAC

The Australasian Fire and Emergency Service Authorities Council (AFAC) is the Australian and New Zealand National Council for fire, emergency services and land management. It is a collaborative network of fire, emergency services and land management agencies that supports the sector to make communities safer and more resilient.

AFAC Doctrine

AFAC develops Doctrine to support the practice of emergency management. The information in Doctrine publications is evidence-based and drawn from academic research and the collective expert knowledge of member agencies. Doctrine is regularly reviewed and represents the official AFAC view on a range of topics.

Doctrine does not mandate action; rather, it sets aspirational measures. Publishing nationally agreed views, shared approaches and common terminology enhances cooperation and collaboration within and between agencies and jurisdictions.

Types of AFAC Doctrine

AFAC Doctrine is classified as follows:

Capstone Doctrine – includes publications, such as Strategic Intent, that are high-level accounts of the concepts of emergency management operations and service delivery. They describe the principles of what is practical, realistic and possible in terms of protecting life, property and the environment.

Fundamental Doctrine – includes Positions, which AFAC members are expected to support, as well as Approaches and some Frameworks. Fundamental doctrine may become agency or jurisdictional policy on a matter if adopted by individual services or jurisdictions.

Procedural Doctrine – includes Guidelines, some Frameworks, and Specifications. AFAC members are expected to be aware of procedural doctrine. A Guideline is an advisable course of action, a Framework provides a linking of elements to create a supporting structure to a system, and Specifications are a detailed description of a precise requirement to do something or build something.

Technical Doctrine – includes Technical Notes, Training Material and the Australasian Inter-Service Incident Management System (AIIMS). Technical Doctrine provides guidance of a technical nature: the 'how to do something', or the technical meaning relative to a situation.

About this document

This publication is a Position (Fundamental Doctrine). At the time of publishing it is supported by the following Guidelines (Procedural Doctrine):

- *Community Safety Messaging for Catastrophic Bushfires: Lessons learned from Black Saturday Bushfires, Victoria 2009* (Publication ID: 3043)
- *People in vehicles during bushfires* (Publication ID: 3008)

Purpose

This Position states and explains the collective view of AFAC member agencies regarding the principles that underpin their work to protect lives and property during bushfires. It also identifies the actions involved in applying these principles.

AFAC's Position on *Bushfires and Community Safety* is based on its well-developed understanding of, and evidence-based research into, the potential behaviour of people when confronted with the threat or actuality of a bushfire.

Audience

This Position is intended to provide current, reliable and evidence-based information to guide AFAC member agencies as they develop policy, procedures and guidelines. It is also intended to have supportive value for agencies and other stakeholders with a role in recovery and relief following a bushfire.

The Position may also be useful to non-member emergency services providers, local government bodies, NGOs, building regulators and land-use planners as they develop their own guidance material.

Scope

The *Bushfires and Community Safety Position* provides a nationally agreed and evidence-based view of the principles underpinning actions that AFAC member agencies take in their work across Australia and New Zealand. While not mandating particular action, the Position does identify stakeholders and actions most likely to be involved in applying the principles.

The focus of the Position is on supporting individuals and

communities to build resilience and develop capacity to manage the threat and occurrence of bushfire to best protect lives and property. Its scope includes preparation and planning phases, as well as response to a bushfire, including in the immediate aftermath and during the transition to recovery. The recovery phase itself is outside the scope of this Position.

Also outside the scope of this Position are operational matters related to bushfires, such as firefighting, that are rightly the responsibility of member agencies and other organisations, rather than communities.

Each Australian State and Territory has legislative and regulatory controls in place that address circumstances and experiences unique to that jurisdiction. AFAC member agencies should consider this Position in the context of their specific jurisdictional arrangements.

Statement of Engagement

This Position was prepared by AFAC's Community Safety Group. Members of the group contributed information and guidance from their jurisdictions and also provided feedback during the development of the publication.

Source of authority

The National Council endorsed this AFAC Position on *Bushfires and Community Safety* on 30 April 2019.

Acknowledgements

AFAC acknowledges the contribution made to this work by representatives of member agencies through the Community Safety Group.

Definitions

Community- refers to a group of people who share a common set of values, beliefs, circumstances, characteristics or interests. Communities may be defined by, but are not limited to, location, socio-economic status, age, gender, interests, abilities, religion and ethnicity. Community functions are enabled by a range of organisations and systems.

AFAC's Position on Bushfires and Community Safety

AFAC member agencies take the position that it is crucial to the protection of human life that individuals and communities be active participants in bushfire planning and response activities.

AFAC has formulated a set of principles to support member agencies in the development of best practice as they work with communities to enhance public safety during bushfires. These principles are evidence-based, reflecting current research and agency experience regarding bushfire and human behaviour and the response of individuals to perceived risk when threatened by bushfire. The principles are as follows:

1. Human life should be valued above all else.
2. There should be a collaborative approach to the management of bushfire risk, with early community engagement, and with all partners working together to take action to protect communities and save people's lives.
3. Community awareness and education programs and resources should recognise that prepared and knowledgeable communities are more resilient to the impact of bushfire.
4. Emergency management leaders should have the capacity and capability to provide quality leadership and expert guidance to the community during a bushfire.
5. Community resilience is increased through effective land-use planning and building controls, supported by legislation, policy, guidance material and advice.

While AFAC member agencies are expected to support this Position as Fundamental Doctrine, AFAC does not have authority to mandate member agencies to carry out particular tasks. However, Doctrine does set aspirational measures, and AFAC member agencies take the position that it is possible and useful to identify the actions required to apply these principles, along with the stakeholders best placed to do so.

Using the principles to best effect requires an understanding of the complex and dynamic environment in which member agencies work. To this end, AFAC considered current research and consulted emergency service practitioners to develop some contextual information to serve as background to the application of the principles by member agencies.

This contextual information is provided below to 'set the

scene’ and is then followed by a brief discussion of each principle and how it may be applied to enhance public safety during bushfires.

Context

The extensive experience of emergency service practitioners and a growing body of research has informed the following observations regarding bushfires and bushfire management in Australia and New Zealand.

Bushfire has been part of the natural environment on the Australian continent for thousands of years. This is quite different to New Zealand’s native flora and fauna, which are not adaptive to fire.

AFAC acknowledges and pays respect to Aboriginal and Torres Strait Islander peoples, past and present, as the traditional and original owners, and continuing custodians, of this land. Aboriginal and Torres Strait Islander peoples have traditionally used fire as a sophisticated tool to continually manage and modify the landscape.

AFAC also recognises the status of Māori as tangata whenua and as such, the importance of Māori communities.

AFAC recognise:

- Iwi and Māori as community leaders with an important role to play in preventing fires and other emergencies, building community resilience, and informing emergency response
- Iwi as our partners in risk reduction as significant and growing land and forest owners
- Māori are disproportionately affected by unwanted fires, and that needs to change.

By committing to work with tangata whenua, we contribute to a safer environment not only for Māori but for all New Zealand communities.

Details about patterns of burning and specific fire regimes are not well recognised or understood in the general community. However, there is good evidence that the patterns of vegetation observed in the landscape today are strongly influenced by the fire history, with a significant part played by indigenous land management practices. These patterns remain significant to Aboriginal, Torres Strait Islander and Maori peoples. Forest and grassland environments, as well as flora and fauna, have adapted and evolved to accommodate bushfire; some plants and animals are reliant on bushfire for their ongoing existence.

European colonisation of Australia and New Zealand saw the beginning of an uneasy relationship between new settlers and fire in the landscape. Over the years, many people have lost their lives and homes, businesses and community infrastructure has been destroyed, and

ecosystems have been damaged by intense bushfires. The community and their elected representatives have created fire and land management agencies whose charter is to prepare for and respond to bushfire in an attempt to minimise impact on life, property and the environment.

Bushfires are a normal part of the landscape, and predicted to become more severe, more frequent and an increasingly common part of life.

Bushfires have occurred for millennia and will continue to occur. Climate change modelling predicts increasing frequency and severity of fire events correlating with altered rainfall and drought patterns and increasing numbers of severe and intense heat events. As the dryness of more areas increases beyond levels historically considered ‘normal’, the footprint of areas with a propensity to burn are likely to increase.

In its contribution to an AFAC discussion paper on climate change and the emergency management sector, the Bureau of Meteorology (BOM) noted that there are more frequent and intense heat events throughout Australasia. Specifically, in relation to bushfires, BOM pointed to more dangerous bushfire conditions and increasing fire weather, particularly in southern and eastern Australia and regions of New Zealand (Dowdy, Pepler, Ashcroft, Jones, & Braganza, 2018).

This means more people will be affected by bushfire and more communities will be in the recovery phase at any one time. Any fire can have an impact, but significant events can have a lasting long-term impact on communities, including long-term health and wellbeing impacts.

This highlights the need for a shared responsibility within communities. Local emergency planning will be important, as will planning, preparation and response at a landscape, house and individual level. Fire planning activities need to balance the environmental impacts of mitigation activities (e.g. prescribed burns and other vegetation management actions) against the environmental impact of an unplanned fire. The range of factors influencing the impact of bushfires calls for a suite of measures that can be applied in a ‘right measure, at the right place, at the right time’ manner.

Bushfires can cause death and injury to people and animals, as well as damage to property and community's physical, cultural and social assets, including the environment.

Not all bushfires lead to loss of life. Bushfires of low to moderate intensity often pose little threat to life, property and community assets. Fire agencies are very successful at extinguishing low to moderate intensity fires before they lead to injury or death.

However, bushfires that burn during dangerous conditions have a much higher risk of leading to loss of life and property, and causing significant injuries and environmental losses. The risk is greatest when fire occurs on hot, dry windy days, and where ignition occurs in heavy fuels, and in steep terrain. These conditions present fire that can spread rapidly, crown in forests, produce powerful convection columns and create extensive spot fires ahead of the fire front. This often makes their control impossible until weather conditions moderate.

A risk-based approach is required to mitigate the impact of bushfires.

Prevention measures are the most cost-effective and efficacious means of reducing bushfire risk to life and property. Land-use planning as a prevention intervention can significantly impact risk, by directing settlement growth and development to areas of lowest bushfire risk and avoiding settlement and development in areas of highest bushfire risk.

Planning policy frameworks can strengthen the resilience of settlements and communities and prioritise the protection of human life by putting in place requirements for planning proposals and decision making.

Land-use planning underpins and sets preconditions for all other emergency management interventions in future developments.

Fire authorities can advocate for appropriate and early consideration of fire as populations grow and new settlements are considered.

Appropriate management of fuels in strategic locations can contribute to a reduction in the behaviour and intensity of a bushfire. By removing or modifying vegetation and fuel arrangements, the impact of bushfires on life, property and the environment can be reduced.

For existing communities, appropriately designed, constructed and prepared buildings may offer people options for sheltering during most bushfires, reducing the likelihood of bushfire-related injury and death.

Property losses may be reduced if structures are designed, built and maintained to resist bushfire. Australian Standards have been developed to guide the design and construction of buildings to resist the impact of bushfire. It is important to note that meeting the standards cannot guarantee that a building will survive a bushfire event; rather, it should provide a level of protection for the passage of the fire front. Influencing factors include the degree of vegetation management, the unpredictable nature and behaviour of fire, and extreme weather conditions.

There will be circumstances where fire agencies and other emergency services will not be able to assist or protect

every property that is threatened during a bushfire.

In some circumstances, fire agencies can provide sufficient firefighting resources to defend people and properties under threat from bushfire. However, there remain instances when agencies are unable to provide sufficient firefighting resources to prevent loss of life and damage to property, infrastructure and community assets. In addition, when fires reach a certain intensity, they are beyond the capacity of firefighting resources to suppress. Firefighting resources are allocated where they will be most effective at protecting lives, not necessarily where property losses are most likely. Firefighting resources are also unlikely to be allocated to property infrastructure and community assets that cannot be defended safely.

A number of key factors influence the potential impact of a bushfire and a person's response to bushfire.

An individual's vulnerability to bushfire risk is a combination of the physical location of the person under threat and the understanding, ability and capacity that person has that enables them to deal with the risk. Vulnerability is not static and can vary with context. A person may experience intermittent vulnerability due to specific circumstances and potential impacts may vary depending on the type of risk.

The intensity of a bushfire, which determines to a large extent how much damage it will do, is a product of the fuels burning (quantity, arrangement, size, moisture content), the weather at the time (temperature, wind speed and direction, relative humidity, atmospheric stability) and the topography of the land where the fire is burning (slope and aspect).

Lessons from Black Saturday showed that most people who are at risk from bushfire do not fully understand that risk, are unprepared or underprepared to deal with the impact of a bushfire and are more likely to wait and see what a fire will do before taking any steps to protect themselves. By the time they do act, safe options are either limited or non-existent (Victoria Police, 2014).

A person's ability to cope with the threat of fire is influenced by their knowledge of fire behaviour, awareness of the risk, awareness of what is happening around them, sensitivity to environmental cues relating to fire risk, the extent of the planning and preparation they have undertaken, and their physical and emotional strength in stressful circumstances (O'Neil & Handmer, 2011). A reluctance to act can be a result of uncertainty about what to do, what level of risk a person faces and whether they feel that taking any action will make a difference to their safety (Paton, 2009).

Relatively few people, even in very high-risk bushfire areas, make decisions or effective plans before bushfires threaten. When bushfires do threaten, many people don't make timely decisions about what they will do. Rather, they wait

until the fire is close before making decisions. Uncertainty about what is happening is an impediment to timely and appropriate decision making (McLennan, 2014) (McLennan & Elliot, 2011).

The safest action to protect life is for people to be away from the bushfire or threat of bushfire. There are no comprehensive, universal actions that will keep all people safe.

Leaving a high-risk bushfire location is the safest action and leaving before a bushfire threatens is always safer than remaining until a bushfire starts.

People living in bushfire-prone areas need to be prepared to leave at the very first hint of fire anywhere in their broader vicinity on high-risk days. When conditions are extreme, people should leave their homes the night before, or early in the morning, before there is any threat of fire.

Once a fire starts and people are under stress, their ability to make sound decisions may be compromised. Their issues of immediate concern are likely to be about the wellbeing of self, family and other people, as well as pets, livestock and horses. Decisions made at this time may well put people's lives at risk.

Many people still choose to stay to defend their homes during a bushfire. However, leaving early may be the only safe action- even for people who want to defend well-prepared buildings- when bushfires are burning on days when extreme weather conditions are predicted or when the topography or fuel loads of the area may create intense fire behaviour.

AFAC provides specific guidance on this subject in the Doctrine publication *Community Safety Messaging for Catastrophic Bushfires: Lessons Learnt from Black Saturday Bushfires, Victoria 2009* (AFAC 2016).

People who leave a place of refuge immediately in front of a bushfire, or during the passage of a bushfire, will be at risk.

Radiant heat is the primary cause of death or serious injury in a bushfire. In addition, wind conditions can cause branches and trees to fall and block access roads, making driving hazardous (AFAC, 2018). Smoke and embers will make driving even more hazardous. A further consideration is that these roads may be used by responding fire trucks requiring clear access.

AFAC provides specific guidance on this subject in the Doctrine publication *Guidelines for people in cars during bushfires* (AFAC, 2018).

Principles underpinning the Position

The following principles describe values and concepts that underpin the work that member agencies do as they support communities to enhance public safety before, during and after bushfires. Recommended actions and key stakeholders required to apply the principles are also identified.

Principle 1 – Human life should be valued above all else.

A commitment to the primacy of life and the reduction of harm and suffering is at the core of all bushfire planning and response activities.

Applying Principle 1

AFAC member agencies should apply this principle by:

- influencing and advocating for innovation and improvements through the development of legislation and Codes and Standards for the built environment
- developing strategies, policies, plans and procedures that help to keep people (including firefighters) alive and safe
- influencing and advocating for innovation and improvements in fire management practice
- working closely with community members and developing partnerships with agencies such as local government, regulators and community organisations and major land owners
- building community resilience and knowledge through awareness and education programs
- encouraging and working with individuals and communities to undertake risk mitigation activities
- issuing timely and tailored warnings to communities likely to be impacted by bushfires [Public Information and Warnings Handbook](#).

Principle 2 – There should be a collaborative approach to the management of bushfire risk, with early community engagement, and with all partners working together to take action to protect communities and save people's lives.

Managing the risk posed by bushfire is a responsibility shared by political leaders, State and local governments, fire agencies, community and business leaders, other emergency services and the not-for-profit sector, along with communities and individuals themselves.

It is important to note that shared responsibility does not mean equal responsibility. There are some areas where governments and its authorities (including AFAC members)

will assume greater responsibility than communities; for example, in identifying the risks associated with bushfire and developing strategies to minimise those risks. It is important, however, that collaboration and partnerships form the basis of all risk related actions.

In order to engage the whole community, AFAC and its members need to tailor their approach for each sub community that they interact with. These communities, their values and their needs, can vary significantly.

Communities are dynamic and constantly evolving. Individuals will belong to many different communities that interact and influence each other. Each community has its own priorities, resources, experiences, risks and strengths. Community activities are enabled by a range of organisations and service providers. It is essential to engage with members of the community, supporting organisations and service providers to understand community capabilities and needs.

Businesses will often have a strong network in their local community with a high level of interdependence. Businesses can, among many other things, be used for disseminating information and transport of relief. The longer it takes for businesses to reopen after an emergency, the longer it subsequently takes for the community to recover. Therefore, it is essential that AFAC member agencies involve the business community as a stakeholder in the emergency management cycle.

Commonwealth and state governments have a role in risk reduction through the provision of fire and emergency services. However, local government is uniquely placed to work with local communities proactively before an emergency to build community connections that are demonstrated to enhance resilience to emergencies and disasters.

It is vital that communities develop capacity for resilience and AFAC members and partners define their supporting roles. AFAC members and partners need to be adaptive and flexible when working with different communities to ensure a collaborative approach with open and effective channels of communication.

Applying Principle 2

AFAC member agencies should apply this principle by:

- developing appropriate community engagement approaches to consult and collaborate with the community to understand community capability and needs and adopt community-based planning approaches
- influencing bushfire management planning to:
 - direct settlement and development to areas of low risk and avoid development in areas where high bushfire risk intersects with high biodiversity values

- reduce the likelihood of ignition – ignition control strategies
- reduce the likelihood of fire growth – fuel modification and reduction
- reduce the potential for fire to run through the community – strategic fire breaks
- reduce the impact of fire on buildings – fuel modification/reduction on individual properties
- reduce the consequence of fire on properties – actively defending, when it is too late to leave.

Principle 3 – Community awareness and education programs and resources should recognise that prepared and knowledgeable communities are more resilient to the impact of bushfire.

While the specific needs of individuals and communities may differ, or vary over time, it is possible to identify some common signs of resilience. In the context of bushfire readiness and response, a resilient community is one where:

- people understand the risks that may affect them and others in their community
- people have the knowledge, skills and abilities to take appropriate preventative and responsive actions
- people have taken steps to minimise the possible impact of bushfires on their assets and livelihood
- there are strong social networks and structures that offer support to community members in a time of crisis
- people work in partnership with agencies and other relevant organisations to ensure that resilience activities are informed by local knowledge
- people understand assistance that is available and appreciate that support may be offered, in the first instance, to the most vulnerable members of the community.

Empowering people to be resilient involves awareness and education programs that work with the community. They should include accurate information that is accessible to everyone, along with tools to help them understand and take action.

Community education activities need to recognise that not all people will take action before a bushfire. This can be for a variety of reasons including, a lack of motivation or capacity to understand and act, or competing interests or priorities.

Regardless of the actions individuals and communities choose to take or not take at a particular time, advice and clear direction should always be available regarding best-practice bushfire prevention, preparation and response.

Applying Principle 3

AFAC member agencies should apply this principle by:

- ensuring that community awareness and education programs:
 - incorporate active and open community participation processes into program design
 - are developed with an understanding of the intended outcomes of the program, and evaluated to enhance evidence base of what works
 - promote the evidence-based view that the safest action is to leave well before a bushfire threatens people's safety, while accepting that people respond in various ways
 - encourage people to seek appropriate advice when making decisions about their bushfire prevention, preparation and response activities
 - are targeted to specific audiences, recognising and understanding the diversity, needs, strengths and vulnerabilities that exist within any community
 - provide information and advice that supports people to prepare a bushfire survival plan
 - encourage people to have a back-up plan in case their primary plan fails or cannot be carried out. The back-up plan might include, for example, sheltering in a well-prepared and actively defended structure at a nearby safer location or fire refuge
 - emphasise the importance of complying with relevant standards for buildings.
- providing timely and accurate information and warnings about bushfire threats, developed in accordance with the nationally agreed standard.

Principle 4 – Emergency management leaders should have the capacity and capability to provide quality leadership and expert guidance to the community during a bushfire.

The quality of the community response to a bushfire will be strongly influenced by activities undertaken prior to the fire, including risk mitigation and preparation of individual and community bushfire response plans.

During a bushfire, it is crucial that emergency management leaders can guide communities in a professional, flexible way, regardless of whether or not pre-fire mitigation activities and/or bushfire planning has taken place. Such guidance is most effective when it is responsive to the particular – and changing – circumstances and needs of the community during the bushfire event.

Applying Principle 4

AFAC member agencies should apply this principle by:

- developing emergency management leaders so that they understand the priority to issue warnings and

information to communities as a bushfire situation evolves. Protection of life will always be the primary consideration. Beyond that, there should be a balanced approach to the protection of infrastructure and community assets, the provision of warnings and advice, and fire suppression

- have ready access to knowledge and advice that will inform the decisions they make about recommending an evacuation to a community or relevant authority
- fostering a community centred culture for fire leadership.

Principle 5 – Community resilience is increased through effective land-use planning and building controls, supported by legislation, policy, guidance material and advice.

There is a hierarchy of controls in place, from planning schemes to design and construction to mitigate bushfire risk to communities.

Governments, agencies and organisations that share responsibility for the management of risk posed by bushfire may be involved in developing legislation, policy, plans, procedures, codes, standards, and safety advice to ensure the best public safety outcomes.

Applying Principle 5

AFAC member agencies should apply this principle by:

- driving the research agenda by identifying areas of research need for improved community safety outcomes
- advocating that effective land use planning at all levels reduces the risk to communities from bushfires. New communities should not be developed in areas of unacceptable bushfire risk
- taking appropriate action to develop and/or influence legislative and policy reform, based on current research and best practice.

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