



# Fuel Management Activities in Western Australia

Summary of 2017-2018

# Message from the Executive Director Rural Fire Division

I am pleased to present the Fuel Management Activities in Western Australia Summary of 2017-18 that demonstrates the ongoing commitment of local government, state government agencies and other land management organisations to reduce fuel levels and protect the Western Australian community from the risk of bushfire. This data provides a picture on the state of bushfire risk in WA and assists in the development and enhancement of strategies and programs to support ongoing improvement in bushfire management across the State.

April 2018 saw the formal launch of the Rural Fire Division (RFD) and the announcement of a significant financial commitment to bushfire risk mitigation. The Department of Fire and Emergency Services (DFES), through the RFD will guide the implementation of the Bushfire Risk Management Planning Program and allocation of funding to support organisations undertaking mitigation activities. The RFD is working to establish a new Bushfire Centre of Excellence (BCoE) to support the established network of partner agencies and organisations by functioning as a collaborative space for contemporary learning and training, at its hub facility in the Shire of Murray. The BCoE will be accessible to all of the bushfire management sector, with the aim to empower members of the public with the skills and information they need to mitigate their bushfire risk. The additional elements that add value to the RFD is the integration of DFES Land-Use Planning function, Bushfire and Technical Services and Office of Bushfire Risk Management (OBRM).

In a warming and drying climate, particularly in the South West of WA, fuel management is critical to protect social, environmental, cultural and economic assets, but it is not without its challenges in a large and varied landscape such as WA. The number of planned burn escapes in late May 2018 in the Southwest and Great Southern Regions highlighted the impacts of a drying climate and the highly varied level of awareness that some landowners and some decision makers have in regards to how they can manage bushfire risk. The escapes provided an excellent opportunity for private property owners, state government agencies/ departments and local governments to reflect on what is working well and where there are opportunities for improvement. A culture of learning from burn escapes is fundamental to ensuring risk is well managed into the future.

Data reported to OBRM in 2017-18 indicates that important steps are being taken at local, regional and state levels to reduce the impact of bushfires on communities and the things they value. It is worth noting that fuel mitigation does not solely involve planned burning but a combination of measures including slashing, mulching and spraying.

OBRM works collaboratively with local governments, state government agencies and non-government organisations on strategies to improve the way they identify, assess and mitigate bushfire risk. A fundamental element of this has been the alignment to risk management principles that require integration of risk management across an organisation. For government this translates to being able to identify areas of greatest risk and appropriately allocate resources to addressing these risks. OBRM will maintain its focus on strategic bushfire management policies, programs and projects that enhance collaboration in risk management. In the coming year OBRM will be collaborating to enhance some key programs that improve bushfire risk management including the OBRM Assurance Program, refinements of the Bushfire Risk Management Planning Process and key legislative measures such as the s33 Notice (Firebreak Notice).



I take this opportunity to congratulate the reporting organisations on their bushfire mitigation achievements for 2017-18.

**Murray Carter**  
Executive Director  
Rural Fire Division DFES



## Quick Stats

99 local governments and 16 State, Federal and private sector organisations reported on their fuel reduction activities in 2017-18, totalling:

- 9.1 million hectares of planned burning; and
- 65 thousand hectares and 1,800 kilometres of other fuel reduction activities.



Planned burning on Cape Arid in heath vegetation.  
Source DBCA – Parks and Wildlife Service



# Introduction

The Office of Bushfire Risk Management (OBRM), as part of the Department of Fire and Emergency Services' (DFES) Rural Fire Division, is tasked with supporting continuous improvement in the management of risks related to bushfire in Western Australia. One key feature of OBRM's support is an annual summary of fuel management activities undertaken by organisations (government, non-government and private sector) for the financial year. The Fuel Management Activities in Western Australia Summary of 2017-18 provides a useful insight into fuel management activities reported to OBRM across Western Australia.

Not all of the fuel management activities undertaken in Western Australia are captured by OBRM's reporting process and OBRM does not validate respondents' submissions. As such, while this report is indicative of the work undertaken in 2017-18, it may not be comprehensive.

## Report Contribution Rate

In November 2018, OBRM wrote to local governments and selected State, Commonwealth and other organisations with land or fire management responsibilities in Western Australia, requesting data on the fuel management activities they undertook during the 2017/18 financial year. The requested data included:

- The area treated by planned burning;
- The area treated by other fuel reduction activities;
- The number and effects of any escapes from planned burns;
- Any limitations to completing fuel management; and
- Impressions of community perceptions of their fuel management.

Responses were received from 99 local governments (see Figure 1), and 16 State, Federal and private sector organisations. Figure 1 depicts the 99 responding local governments. A list of the 115 total responding organisations is provided in Table 1.

**9.1 MILLION HECTARES OF  
PLANNED BURNING WAS  
REPORTED IN WESTERN  
AUSTRALIA IN 2017/18**



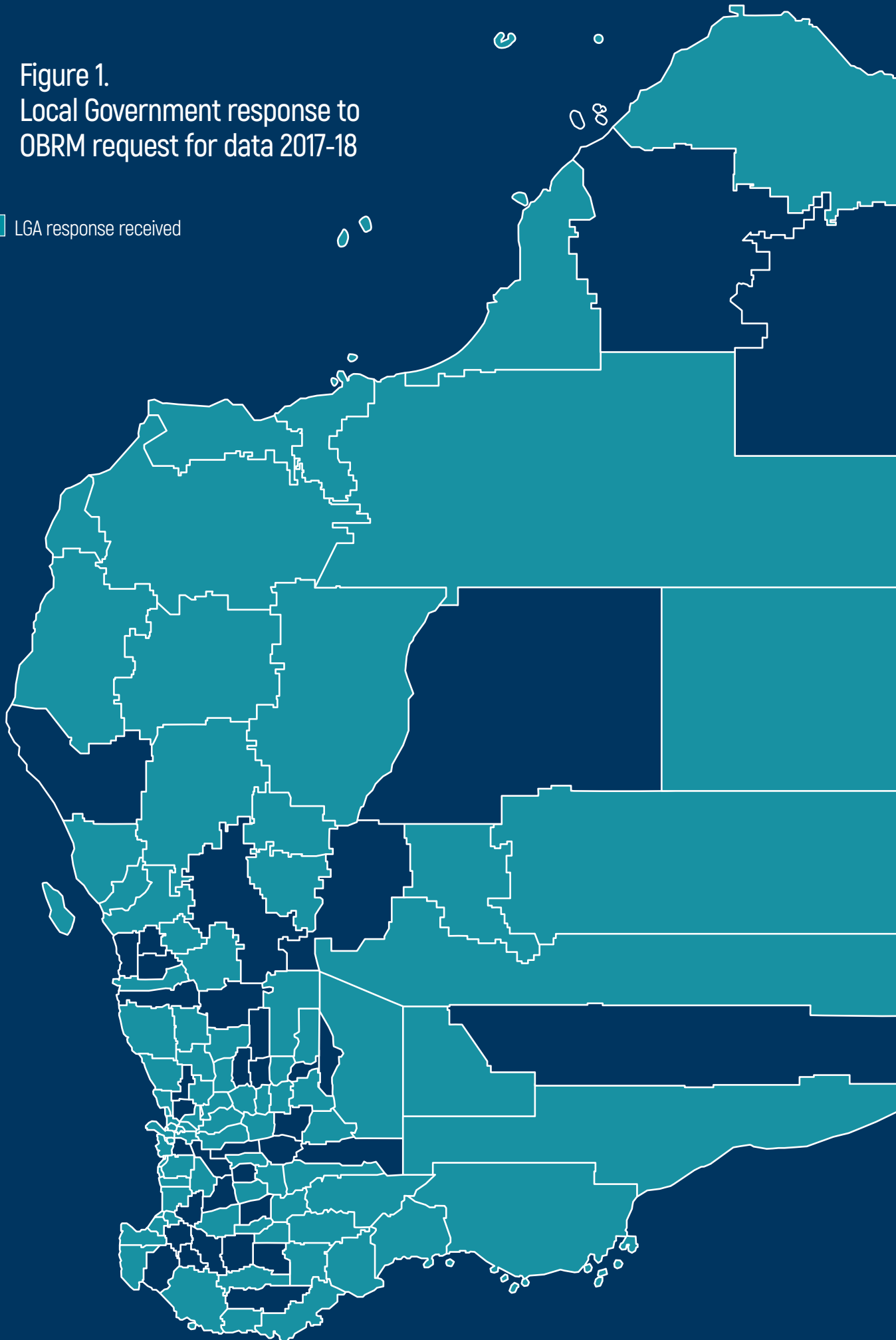


Traditional owners fire walking in the Kimberley.  
Source DFES



Figure 1.  
Local Government response to  
OBRM request for data 2017-18

 LGA response received



# Planned Burning

Planned burning is the most effective way to manage fuel over large areas and is an important tool for reducing bushfire risk to people and cultural, environmental and economic assets. The Department of Biodiversity, Conservation and Attractions (DBCA) and DFES are the state agencies with the most significant roles in fuel management. They reported the following planned burning activities in Western Australia during 2017-18:

- DBCA - 4.9 million hectares; and
- DFES - 0.3 million hectares.

The other 14 State, Commonwealth and other land management organisations reported 2.8 million hectares of planned burning, which included almost 2.1 million hectares of burning completed by the Kimberley Land Council. Large scale planned burns are conducted in the Kimberley during the early dry season to reduce the impact of late dry season bushfires. Reduced monsoonal rainfall has limited the opportunities for planned burning in recent years, which has correlated with larger bushfires in subsequent seasons.

Of the 99 responding local governments, 47 reported planned burning activities consisting of 406 planned burns, totalling more than 1.1 million hectares across the State.

This represents a 54% increase in the area burned compared with that reported for the 2016-17 financial year. This shows more organisations are using planned burning to reduce fuel loads across broad areas.



Planned burning in the Pilbara.  
Source Kevin Haylock



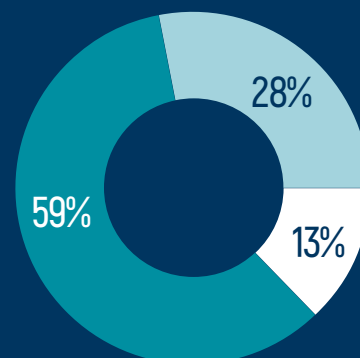
Planned burning in Jarrah Forest.  
Source DFES



Aerial view of planned burn for the protection of Solomon Mining Camp.  
Source Kevin Haylock

## Planned Burning – 2017/18

State Government Agency	5,433,000
Other	2,545,000
Local Government	1,165,000
<b>Total</b>	<b>9,143,000</b>



# Other Fuel Management Activities

Mechanical and chemical fuel management methods were used widely in 2017-18. These methods are most commonly applied to create strategic buffers along roads and rail lines, close to towns or to maintain access in vegetated areas. They may be the primary fuel management method in areas where planned burning is inappropriate or too risky.

Eighty-two (82) local governments reported a total of 16.5 thousand hectares and 500 kilometres of mechanical or chemical treatments. Other organisations reported about 49 thousand hectares and 1,300 kilometres of mechanical or chemical fuel reduction treatments.



Strategic fire breaks in Shire of Jerramungup. Source DFES



Parkland clearing in the South West of WA. Source DFES

## Mechanical and Chemical Fuel Management

Area – Type	Treatment (ha)
Local Government	16,500
State Government Agency	45,000
Other Organisation	4,000
<b>Total</b>	<b>65,000</b>

Length – Type	Treatment (km)
Local Government	500
State Government Agency	1,150
Other Organisation	150
<b>Total</b>	<b>1,800</b>

## Planned Burn Escapes

While planned burning is fundamental to managing bushfire risk in Western Australia, it also creates its own risks. Most notable of these is the possibility that a burn may escape from its planned area. OBRM's Assurance Program is a key strategy to support improved risk management by organisations utilising planned burning across Western Australia.

In May 2018, more than 150 planned burns in the South West and Great Southern Regions escaped during the passage of a severe weather system. OBRM reviewed the nature and impact of these escapes and published the Report of the circumstances that led to the escapes of planned burns in the South West and Great Southern Regions of Western Australia on 24 and 25 May 2018. The report identified several opportunities for improvement, including in local level governance arrangements, resource sharing and improved consistency in messaging leading up to severe weather events. The review into the escapes identified the involvement of additional organisations in the OBRM Assurance Program as an opportunity.





Additionally, OBRM has been working on contemporising key governance tools for local governments to manage bushfire risk. For example, an editable online permit to burn that local governments can access through their Western Australia Local Government Association (WALGA) Subscription Service. In 2019-20 OBRM will also be working with local government, WALGA and some state organisations to improve the consistency and scope of section 33 Notices.

Ten of the sixty-three organisations that reported burning activities reported some escapes. Generally, the reported escapes were during the restricted burning period when local governments require land managers to acquire a permit to burn.

Note that many of these escapes are not represented in the tallies of escapes from planned burns as they occurred from burns being conducted by individual landholders on private property. Data regarding the fuel management of private landholders was only included in this report if it was submitted by a local government.

## Focus on Working Together Better

The increased focus on collaboration in bushfire management is reflected by 15% of responding organisations having Memorandums of Understanding (MoU) for the management of bushfire fuel. These include MoUs between DFES and Department of Education, for management of areas around schools and between Department of Planning Lands and Heritage DFES and DBCA for the management of unallocated crown land.

The Fuel Management Activities in Western Australia Summary of 2017-18 is the first time that OBRM has gathered data about the use of volunteers and contractors to support fuel management. The continued rollout of the Bushfire Risk Management (BRM) planning process encourages collaboration between land owners and managers to determine appropriate treatment strategies for areas with high bushfire risk. Some of the treatment options, such as planned burning, require consultation within the community and collaboration between volunteer and paid firefighters to implement. In addition to facilitating planned burning, this collaboration provides opportunities for the exchange of knowledge about fire behaviour and fire management.

Planned burning is the main activity supported by volunteer brigades. Sixty-two per cent of respondents have some reliance on volunteer brigades to achieve planned burning with 34% of being very or extremely reliant on Local Government Volunteer Bushfire Brigades, and 20% being very or extremely reliant on DFES Volunteer Brigades. This highlights the important role of volunteers in bushfire management. Additionally, planned burning provides an important opportunity to understand fire behaviour and appropriate strategies to manage fire in different vegetation types. This is essential to enhancing the effectiveness and safety of fire fighters in Western Australia.

**62% OF ORGANISATIONS  
USED VOLUNTEER  
FIRE FIGHTERS  
TO UNDERTAKE  
PLANNED BURNING.**

Contractors are frequently engaged to undertake chemical and mechanical fuel management, with 54% of respondents being very or extremely reliant on contractors for this purpose. Bushfire consultants were engaged to support planning by 15% of respondents.

OBRM will continue to monitor the trend of increasing reliance on volunteers and contractors during the ongoing rollout of the BRM Planning Program.



The diverse landscapes managed for bushfire risk in Western Australia  
Source: DBCA- Parks and Wildlife

## Factors influencing Fuel Management

About 33% of respondents were unable to complete their planned fuel management program in 2017-18. However, most of these did complete more than 80% of scheduled works.

Climate and seasonal weather conditions were the greatest limitation to completing fuel management, with 81% of respondents limited by them in some way. Having the flexibility to undertake activities when appropriate conditions arise throughout the year is critical to overcoming seasonal constraints and achieving successful long-term fuel management programs. Effective planning processes foster flexibility by adopting a strategic approach to identifying priorities and planning and scheduling treatments across multiple years.

The next most commonly cited limitation on fuel management was access to funding, with 73% of respondents identifying this as an issue. The State Government has recently taken steps to address shortfalls in funding for fuel management. In 2017, \$15 million was allocated through the Mitigation Activity Fund (MAF) to manage bushfire risk on Crown land. In April 2018, Government announced in excess of \$50 million to fund the BRM Planning Program for four years, supporting the development of BRM Plans and implementation of mitigation activities arising from that process. 2017-18 was the first year of operation for the MAF and only 18% of respondents reported have accessed it during the reporting period.

Fuel management can require short-term trade-offs between bushfire risk reduction and effects on the natural environment. Seventy-one percent of respondents reported the presence of environmental assets or the need to complete an environmental assessment process impacted their fuel management program. This was only identified as 'very' or 'extremely' limiting by 21% of respondents, however. Environmental asset protection was also one of the most common concerns raised by the community regarding fuel management programs with 30% of organisations having had the community raise this concern with them. This highlights the importance of having the community involved in setting objectives for fuel management outcomes at a local level.



Organisations working in land and fire management put considerable effort into balancing risk management outcomes and environmental impacts. Where fuel management is required in environmentally sensitive areas, however, designing and employing appropriate strategies may increase the duration, complexity or costs of the work. The State Government continues to support simplifying and improving processes to synchronise fuel management and environmental outcomes where possible. The BRM Planning process has been designed with this principle in mind and guides BRM planners through the consultative processes.

## Factors Influencing Fuel Management

33% of respondents were unable to complete their planned fuel management program. The most common reasons were:

Type	Reason (% respondents)
Climate and seasonal weather conditions	81
Availability of funding	73
Environmental assets	71
Funding cycle/application process	62
Planning complexity	60
Contractor availability	57
Volunteer fire brigades availability	54
Machinery or resource limitation	54



## Working with Communities

Engagement with communities is an increasing focus when developing fuel management strategies. Seventy-five per cent of organisations reported undertaking external engagement in preparing and undertaking their fuel management plan. This engagement covered working with other organisations and government organisations (70%), volunteer fire brigades (55%) and the community including, environmental groups and other interest groups (41%). While most respondents found the community to be generally supportive of fuel management, some issues were reported. Community concerns were most frequently related to environmental issues; with consultation and engagement, the amount or location of fuel management and health impacts from smoke being other frequently cited issues.

**75% OF ORGANISATIONS REPORTED UNDERTAKING EXTERNAL ENGAGEMENT AROUND THEIR FUEL MANAGEMENT ACTIVITIES.**

Several respondents identified that early engagement was important in assisting the community to understand and support fuel management. This was particularly important with planned burning, as it allows people to predict and plan for possible smoke impacts. Both the Wine Growers of Western Australia and Asthma Foundation of WA have been working with State Government organisations and the Bureau of Meteorology to facilitate more effective smoke notification processes.

Improving community understanding of bushfire risk and fuel management are critical in improving the safety of people in Western Australia. This is particularly important in areas with high population growth, transient populations or high levels of tourism. Improved understanding helps communities to engage in fuel management programs on public land, plan and implement better fuel management on private land, and plan for bushfire events.

## Working with Communities

75% organisations engaged with other stakeholders in conducting their treatments. These stakeholders included:

**Local Governments**

**Volunteer Brigades**

**DFES, DBCA and other  
State Government agencies**

**Environmental groups**

**Aboriginal groups**

**Community and other  
interest groups**



Collaborative learning through a field trip to Perth Hills to discuss bushfire at the 2017 Australian New Zealand Emergency Management Conference. Source SEMC





# Activities in the South West of Western Australia

The south west of Western Australia has a concentration of people, communities and industries alongside extensive areas of heavy fuel in a highly fire-prone environment. Intense bushfires are common throughout summer, and increasingly, during spring and autumn. While accounting for a relatively small proportion of the State's fuel management program, activities completed in the south west contribute heavily to the protection of these important assets and so are critical for managing bushfire related risk in Western Australia.

## Activities in the Rural Urban Interface

The area where urban development meets rural or vegetated landscapes is often an area of higher bushfire risk. The expansion and intensification of urban development along the Darling Scarp and to the north and south of Perth on the Swan Coastal Plain, has exposed many more people to bushfire in these areas. The introduction of the bushfire planning and building reforms in 2015 will reduce the bushfire risk to future developments, however, fuel management is critical to managing the existing risk in the rural urban interface. Fuel reduction activities in interface areas tend to be complex and resource intensive and require extensive planning to design and execute. This work is ongoing and supported in particular through the BRM Planning Program.

## Other Key Findings

- The amount of fuel management being completed across the state is increasing. Funding, approvals and reporting processes need to improve to support ongoing increases in fuel management activities.
- Current reporting arrangements are not adequately capturing fuel reduction activities on private land, particularly where these activities do not require a permit. Mitigation work on private land is often critical to reducing bushfire risk close to communities, towns and assets. To fully understand the state of bushfire risk there needs to be a better awareness of the mitigation activities undertaken on private land.
- The most commonly reported mechanism for supporting fuel management on private land was the issuing by local governments of notices under section 33 of the Bush Fires Act 1954 (Firebreak Notices). These notices tend to be generic and do not offer site specific advice to landowners. Some local governments have developed processes for providing individualised support and information for higher risk properties and this practice should be encouraged for wider adoption.
- Community education and awareness programs are increasingly being considered as critical to support management activities. These programs include social media campaigns, advertising, letters to land holders, Bushfire Ready Groups, targeted campaigns and community meetings (including events such as 'Street Meets'). Most local governments reported that community awareness or education campaigns are a key part of a holistic bushfire risk management strategy.

# What next?

The Department of Fire and Emergency Services will continue to support many facets of bushfire management, including:

- Revising the BRM Planning Guidelines and piloting the reformed process. This revision aims to improve the way in which bushfire risk is quantified and addressed at a landscape level, ensuring the best application of mitigation activities ranging from fuel management to community education and planning.
- Reviewing the section 33 Firebreak Notices. OBRM will work with the Western Australian Local Government Association (WALGA) and local government personnel to improve the effectiveness of notices issued under section 33 of the Bushfires Act 1954.
- Establishing an Interdepartmental Committee (IDC) focused on bushfire mitigation on Crown Land.
- Developing a robust mitigation funding model. This will ensure mitigation activities are appropriately supported and subject to proper financial accountability.
- Commencing operation of the Bushfire Centre of Excellence in mid-2019. The Bushfire Centre of Excellence aims to improve rural fire management outcomes through leadership, collaboration and innovation across the entire sector. This will include elements of research and training for all bushfire practitioners.
- Forming a new State Bushfire Advisory Council (SBAC). As part of the reforms to the rural fire sector in Western Australia the SBAC is anticipated to be operational by the end of 2019. It will provide advice and recommendations to both the Minister for Emergency Services and Fire and Emergency Services Commissioner.

For further information on this report or the reporting requirements, please contact OBRM by email at [obrm@dfes.wa.gov.au](mailto:obrm@dfes.wa.gov.au)







Table 1 – Reporting organisations 2017-18

Local Governments		
Albany	Fremantle	Narembeen
Armadale	Gingin	Narrogin
Ashburton	Gnowangerup	Nedlands
Augusta Margaret River	Goomalling	Ngaanyatjarraku
Bassendean	Gosnells	Northam
Belmont	Greater Geraldton	Northampton
Beverley	Harvey	Peppermint Grove
Boddington	Jerramungup	Perenjori
Broome	Joondalup	Perth
Bunbury	Kalamunda	Pingelly
Busselton	Karratha	Port Hedland
Cambridge	Katanning	Quairading
Canning	Kellerberrin	Ravensthorpe
Capel	Kent	Rockingham
Carnamah	Kulin	South Perth
Carnarvon	Kwinana	Stirling
Chapman Valley	Lake Grace	Subiaco
Claremont	Laverton	Tammin
Cockburn	Leonora	Toodyay
Cocos (Keeling) Islands	Mandurah	Trayning
Coolgardie	Manjimup	Upper Gascoyne
Cranbrook	Meekatharra	Victoria Park
Cuballing	Menzies	Victoria Plains
Cue	Merredin	Vincent
Cunderdin	Moora	Wanneroo
Dandaragan	Morawa	Waroona
Dardanup	Mosman Park	West Arthur
Denmark	Mount Magnet	Wickepin
Dumbleyung	Mt Marshall	Wongan-Ballidu
Dundas	Mukinbudin	Woodanilling
East Pilbara	Mundaring	Wyndham East Kimberley
Esperance	Murchison	Yilgarn
Exmouth	Murray	York
State and Commonwealth Government organisations		
Department of Biodiversity, Conservation and Attractions		Department of Defence
Department of Communities - Housing Authority		Department of Education
Department of Fire and Emergency Services		Department of Justice
Department of Planning, Lands and Heritage		Central Regional TAFE
Forest Products Commission		Department of Health
Main Roads		
Non-Government organisations		
Arc Infrastructure	Kimberley Land Council	Horizon Power
Australian Wildlife Conservancy	Western Power	



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