



# Follow-up of *Bushfire prevention and preparedness*

Report 5: 2018–19

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Your ref:  
Our ref: 9175P

9 October 2018

The Honourable C Pitt MP  
Speaker of the Legislative Assembly  
Parliament House  
BRISBANE QLD 4000

Dear Speaker

**Report to parliament**

This report is prepared under Part 3 Division 3 of the *Auditor-General Act 2009*, and is titled Follow-up of *Bushfire prevention and preparedness* (Report 5: 2018–19).

In accordance with s.67 of the Act, would you please arrange for the report to be tabled in the Legislative Assembly.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Brendan Worrall".

Brendan Worrall  
Auditor-General

# Contents

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<b>Audit objective and scope</b>	<b>1</b>
<b>Key facts</b>	<b>2</b>
<b>Introduction</b>	<b>3</b>
Report 10: 2014–15	3
<b>Summary of audit findings</b>	<b>5</b>
Progress made by QFES	5
Mitigating Queensland’s bushfire risk	6
Preparing communities for the threat of bushfires	7
<b>Audit conclusions</b>	<b>8</b>

# Audit objective and scope

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In this follow-up audit, we examined whether Queensland Fire and Emergency Services has effectively implemented the recommendations we made in *Bushfire prevention and preparedness* (Report 10: 2014–15). We also assessed whether the actions taken have addressed the underlying issues that led to our recommendations in that report.

Our scope included a detailed review and analysis of work undertaken by Queensland Fire and Emergency Services in addressing our original audit recommendations.

Appendix B contains more information about our audit objectives and methods.

## Reference to comments

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In accordance with s. 64 of the *Auditor-General Act 2009*, we provided a copy of this report to Queensland Fire and Emergency Services (QFES). In reaching our conclusions, we considered its views and represented them to the extent we deemed relevant and warranted. QFES's response is at Appendix A.



# Key facts

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Local governments in Queensland are primarily responsible for managing disaster events at the community level

*Source: Disaster Management Act 2003*

Queensland Fire and Emergency Services is the primary provider of fire and emergency services in Queensland

*Source: Fire and Emergency Services Act 1990*

Managing bushfires is vital for protecting our communities and maintaining environmental habitats

Up to 50 per cent of bushfires in Australia are deliberately lit or start under suspicious circumstances

*Source: Queensland Fire and Emergency Services (2017)*

The total insured loss from bushfires in Australia from 1966–67 to 2012–13 was \$5.6 billion in 2011–12 dollars

*Source: The Climate Institute (2013)*

The 2009 ‘Black Saturday’ bushfires in Victoria were the most devastating in Australia’s history, causing 173 deaths

*Source: Victorian Bushfires Royal Commission (2009)*



# Introduction

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Australia experiences many large, devastating natural disasters, including catastrophic bushfires. Bushfires are among the world's most dangerous natural phenomena, although they can be caused by human activity too. Since 1901, over 700 civilians and 90 firefighters have lost their lives, and over 11 000 homes have been destroyed in bushfires across Australia. On average, bushfires cause \$80–100 million of insurable damage each year in Australia.

Queensland's bushfire threat is not as acute as in Australia's southern states. Queensland experiences its hottest weather during its wet season. Current research indicates bushfire seasons will lengthen in the coming decade and fire frequency and intensity may increase during these longer seasons. Queensland's bushfire season typically extends from mid to late winter to early summer.

Queensland Fire and Emergency Services (QFES) is the primary provider of fire and emergency services in Queensland. Section 8B of the *Fire and Emergency Services Act 1990* sets out QFES's responsibility to prepare for and respond to bushfires. It states that some of QFES's key functions include protecting persons, property, and the environment from fire and hazardous materials' emergencies. It also states that QFES is required to provide an advisory service and undertake other measures to promote fire prevention and fire control.

One of the key strategies QFES uses annually in mitigating bushfire risk is 'Operation Cool Burn'. It is an operational period, generally from April to August each year, when QFES and key stakeholders (such as local governments) focus on identifying and preparing bushfire-prone areas against the threat of bushfires across the state. Whilst Operation Cool Burn is a focused operational period, bushfire risk-mitigating activities also occur at other appropriate times of the year.

QFES operations are divided into seven regions: South Eastern, Brisbane, North Coast, South Western, Central, Northern and Far Northern. QFES has about 36 000 rural fire service volunteers, 6 000 state emergency service volunteers and more than 4 000 paid firefighters (permanent and auxiliary). To measure the level of preparedness for fire and emergency events in Queensland, QFES conducts annual surveys with households across all its seven regions.

## Report 10: 2014–15

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In *Bushfire prevention and preparedness* (Report 10: 2014–15), we examined whether Queensland was better able to prevent and prepare for bushfires following the 2009 Victorian Bushfires Royal Commission, the Malone Review into Rural Fire Services in Queensland 2013, and the (Queensland) Police and Community Safety Review 2013.

The three reviews identified improvements that could strengthen Queensland's bushfire preparedness. The reviews made a total of 287 recommendations, of which 168 related to bushfire safety, QFES and its organisational capability.

In Report 10: 2014–15, we focused on whether:

- QFES and the Public Safety Business Agency had taken effective actions to address the relevant issues that led to the recommendations from the Victorian Bushfires Royal Commission



- these agencies were taking effective actions to address the recommendations related to bushfire prevention and preparedness from the Malone Review and the Police and Community Safety Review.

## We concluded

Queensland was not as prepared for the threat of bushfires as it could be because QFES was response-focused, to the detriment of coordinating effective mitigation programs. Without a central authority coordinating and overseeing mitigation activities statewide, QFES's ability to respond to a bushfire event effectively and efficiently was hampered.

Communities in high-risk bushfire-prone locations remained exposed to a higher level of risk than they should be. The inability of QFES to target effective educational activities efficiently meant QFES was unaware if community members were prepared for bushfires.

## We found

We found that while QFES had the legislative responsibility, its visibility and oversight of the state's bushfire risks was limited. As QFES's bushfire planning was response-focused, its plans contained minimal information about bushfire prevention and preparedness. QFES also was not recording fire hazard inspections or appropriately documenting its assessment of the bushfire hazard. QFES was unaware if required hazard-reduction burns (burn-offs) occurred and whether they were effective. It also didn't know if Queensland's fuel loads were being managed effectively (fuel loads refer to the volume of vegetation that is available to burn during a bushfire such as dry grass, fallen bark and leaf litter).

We also found that individual communities located in high-risk bushfire-prone areas did not have local bushfire plans and were less prepared for the threat of bushfires than they could be. Flaws in the bushfire warning systems also meant residents could receive inaccurate and conflicting advice about the action to take before and during a bushfire. Finally, QFES did not coordinate its educational activities well or direct them to communities most at risk.

## We recommended

We made two recommendations (with seven parts) in *Bushfire prevention and preparedness* (Report 10: 2014–15). QFES fully agreed to five parts of the recommendations and partially agreed to two parts of the recommendations where they needed input or expertise from other stakeholders to completely address the recommended action.

Figure A lists the recommendations and gives our 2018 assessment of the progress towards their implementation.



# Summary of audit findings

## Progress made by QFES

In March 2018, we set out to establish whether QFES had effectively implemented the recommendations we made in Report 10: 2014–15. We found that QFES has made some progress but has only partially implemented them. Figure A shows our recommendations and whether they have been implemented.

**Figure A**

### Implementation status of recommendations made in Report 10: 2014–15

Recommendation made in original audit	QFES agreed/ disagreed	QFES implementation timeframe	QAO 2018 assessment of status
<b>1. QFES strengthens its oversight role as lead agency for mitigating Queensland's bushfire risk to acceptable levels by:</b>			
1.1 Coordinating land managers' efforts to assess and mitigate bushfire risk	Agreed	Ongoing	Recommendation partially implemented
1.2 Formalising the role of fire management groups to manage Queensland's fuel loads, including reporting planned and conducted hazard reduction burns and effectiveness of hazard reduction burns	Partially agreed (1)	June 2015	Recommendation partially implemented
1.3 Amending its bushfire mitigation planning to address prevention, preparedness, response and recovery and to manage Queensland's residual bushfire risk	Agreed	December 2015	Recommendation partially implemented
1.4 Developing and implementing a coordinated strategy to address arson, deterring would-be offenders and rehabilitating convicted offenders	Partially agreed (2)	December 2015	Recommendation partially implemented
1.5 Working with local councils to develop and communicate local bushfire plans for communities located in high risk bushfire-prone areas	Agreed	June 2015	Recommendation partially implemented
<b>2. QFES improves engagement with communities to better prepare and respond to bushfires by:</b>			
2.1 Increasing focus on monitoring the effects of educational materials it develops	Agreed	Develop by June 2015. Ongoing application.	Recommendation partially implemented
2.2 Reviewing and amending its bushfire warnings and alert protocols to provide clear and consistent messages to residents about the action to be taken before and during a bushfire.	Agreed	March 2015	Recommendation partially implemented

Source: Queensland Audit Office.

Note: (1) - For recommendation 1.2, QFES partially agreed because landholders are responsible for managing fuel loads. We note that QFES has a regulatory role to ensure this occurs. Note: (2) - For recommendation 1.4, QFES partially agreed because it does not have expertise in rehabilitating convicted bushfire arson offenders.

# Mitigating Queensland's bushfire risk

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## Understanding risks

Queensland Fire and Emergency Services (QFES) has improved its visibility and oversight of the state's bushfire risks since 2014. It is engaging better with its stakeholders, which is helping it to better understand bushfire risks and coordinate mitigation activities. QFES has set up several bodies to assist in mitigating bushfire risk: the Office of Bushfire Mitigation, the State Inter-Departmental Committee for Bushfires, and area fire management groups.

Since 2014, QFES has begun using several tools, including a bushfire simulation model, Phoenix, to help with planning and mitigating Queensland's bushfire risk. QFES provides all its regions with access to the latest fuel and fire history through its bushfire simulation products. While all regions can use these products for activities such as planning controlled burns, not all regions are actively using these products for identifying high-risk bushfire areas and prioritising mitigation activities.

Most of the regions are using their local knowledge and the REDI-Portal tool (Risk Evaluation and Disaster Information) developed in 2015–16. REDI-Portal assists land managers in coordinating bushfire risk mitigation activities. However, it does not provide current and accurate information such as recent land management practices and recent fire history. QFES is trialling its simulation-based bushfire risk planning tools for the Operation Cool Burn period in the North Coast region. It plans to apply this methodology in its other six regions in the 2019 Operation Cool Burn period.

## Preparing bushfire plans

QFES's bushfire planning documents, including regional wildfire mitigation and readiness plans and bushfire risk mitigation plans, cover three elements of disaster management—prevention, preparedness and response—but not the element of recovery. QFES regions have also only started to develop bushfire risk mitigation plans at a local government level. Without these plans, and because QFES is not appropriately covering the recovery element, it is not addressing all key phases of disaster management as required by the *Queensland State Disaster Management Plan*.

QFES is now more aware of whether required hazard-reduction burns have occurred across the state, helped by formalising the role of area fire management groups and the Operation Cool Burn initiative. However, further work is required to assess whether the burns have been effective, and whether Queensland's fuel loads are reducing.

While communities in high-risk bushfire areas in Queensland still do not have local bushfire plans, QFES and local councils are using other tools to inform and prepare communities about bushfire risks. This includes encouraging individual households to develop their own bushfire survival plans.

Bushfire survival plans address many aspects of the local bushfire plan requirements at an individual household level. But local bushfire plans include some additional critical information such as local area bushfire exposure risk levels, and local area threat-maps. The purpose of local bushfire plans is to assist residents to identify their fire risk level and safety options, and to develop their own bushfire survival plans. Without these plans, households may not have access to important contextual information to prepare their own household plans.

Despite QFES's efforts in encouraging individual households to prepare their own bushfire survival plans, about half of the households QFES surveyed in bushfire risk areas do not have a bushfire survival plan. This may result in confusion and incorrect decision making by households during a bushfire, that could be life-threatening.



## Deterring would-be offenders

Queensland Government agencies still do not have full oversight of arson occurring across the state and there is no coordinated strategy to address arson. Arson offenders do not receive the education and rehabilitation required to deter them from reoffending. QFES is currently exploring opportunities for sharing data regarding bushfire arson with partner agencies, but further work is needed to ensure there is a well-coordinated statewide approach to arson prevention.

## Preparing communities for the threat of bushfires

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### Communicating and educating

Since our 2014 report, QFES has begun using tools such as REDI-Portal for identifying and targeting bushfire education to high-risk bushfire-prone areas. QFES uses a wide range of tools and media such as radio, television, social media and its website, to communicate bushfire advice and warnings to Queensland communities, including school children.

While QFES has recently completed a statewide review of its community engagement materials, it still needs to assess and ensure that its engagement materials are effective and help communities prepare for the risk of bushfires. QFES's recent review of its statewide community engagement materials identified:

- There is no formal structure for creating or reviewing community engagement materials.
- Materials are created at regional or local level without any guidance or quality control, resulting in duplication of resources and the risk of incorrect messaging.
- There is a current culture of providing educational materials without thinking about what message QFES is trying to give to the community.

QFES promotes bushfire education in schools by collaborating with the Department of Education. While QFES does not have control over the Queensland school curriculum, it has developed school-based bushfire education resources and made them available on its website. Despite these efforts, it is unclear whether schools in high risk bushfire prone areas are aware of QFES's bushfire materials. There is a risk that school children in high-risk bushfire-prone areas are not receiving the education they require to prepare effectively for bushfires.

In 2017, QFES partnered with the Queensland University of Technology to review its bushfire community warnings and implemented a series of language changes to ensure Queensland communities were better informed during fire incidents. Despite QFES's efforts in communicating bushfire advice and warnings to communities, a significant number of households QFES surveyed are still unaware of the bushfire warning levels.

Fire danger rating signs are one of the many tools QFES uses to inform communities about bushfire risks and fire dangers. These signs are not effective in communicating bushfire risks, as volunteers update the signs, with varying results. QFES cannot provide assurance that the signs across Queensland are displaying the correct fire danger rating and informing communities of the current level of risk. We acknowledge the national Fire Danger Rating system is currently under review and QFES will consider the outcomes of that review before it makes any changes to its process for fire danger rating signs.



# Audit conclusions

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QFES has made efforts to address the underlying issues we identified in our original 2014 audit. Through several initiatives, including establishing the Office of Bushfire Mitigation and area fire management groups, it has increased its focus on bushfire risk mitigation activities statewide. It has also improved its engagement with key stakeholders and is now able to better coordinate and manage Queensland's bushfire risk.

Despite these efforts, more work is needed to ensure Queensland communities are not exposed to higher levels of risk than they need to be. In response to our original audit, QFES committed to implement the agreed recommendations by 2015, but in this audit we found it has not yet fully implemented any of the recommendations. We acknowledge that fully implementing the recommendations is a challenge where contribution by multiple parties is required to complete them. For example, QFES in many cases is reliant on the actions of others—volunteers, other state agencies, or the federal government—to fully implement the recommendations.

QFES has not fully rolled out its new risk mitigation systems and tools across all regions. And more training and continuous improvement is needed to make sure they are effectively used to strengthen Queensland's approach to risk mitigation.

It is critical that QFES's efforts to improve its collaboration with key stakeholders continue. In particular, it should continue to engage with land managers and local governments to better identify bushfire risks and prioritise mitigation activities. Further improvements and use of evaluation systems are needed to measure the effectiveness of mitigation activities and identify improvement opportunities across Queensland. Better engagement with local communities is also needed to understand their risks and help them prepare for bushfires. These actions will enhance the ability of QFES to manage and respond to bushfires, and make our communities safer.



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