

An aerial photograph capturing a massive bushfire. A large plume of dark, billowing smoke rises from the fire, dominating the left side of the frame. In the center, a helicopter is seen in flight, suspended by a long line, likely dropping water or fire retardant. The fire itself is visible at the bottom right, with bright orange flames and thick white smoke. The background shows a vast, flat landscape under a clear sky, with distant hills on the horizon.

Queensland Bushfires Review

Report 2: 2019-20

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This report has been prepared using data collected from a diverse range of sources, many of which use unique methodologies and individual collation processes. It is therefore possible that some inconsistencies may be present despite the best efforts of the Office of the Inspector-General Emergency Management to validate and align the raw data utilised throughout this report.

10 February 2020



**Inspector-General
Emergency Management**

The Honourable Craig Crawford MP
Minister for Fire and Emergency Services
PO Box 15457
CITY EAST QLD 4001

Dear Minister

In accordance with your instruction of 17 September 2019, I present a report which provides observations and insights about the September 2019 bushfire events and consolidates recommendations of the 2018 Queensland Bushfires Review.

As requested, in conducting this review, my Office worked closely with the Queensland Police Service, Queensland Fire and Emergency Services and local and state disaster management entities and agencies.

The review focused on the bushfires around Sarabah, Stanthorpe and Peregian Springs and looks at hazard mitigation and risk reduction, preparedness and planning, and response. The review has also documented progress made towards the implementation and embedding of the 2018 Queensland Bushfires Review recommendations.

The approach to this review has been collaborative and aimed at maximising community safety outcomes, whilst providing independent assurance to the Government.

The observations and insights in this report build on good practice and aim to enable the system to continuously improve to deliver greater public value for hazard-specific events.

Yours sincerely

Alistair E Dawson APM

Inspector-General Emergency Management

Acknowledgements

The Office of the Inspector-General Emergency Management would like to acknowledge the Aboriginal peoples and Torres Strait Islander peoples as the Traditional Owners and Custodians of this Country. We recognise their connection to land, sea and community. We pay our respects to them, their cultures, and to their Elders, past, present and emerging.

The Office acknowledges the loss of livestock across the fire areas and the significant hardship and suffering of affected landowners due to stock and farming losses. The Office also recognises and acknowledges the many volunteers who have worked tirelessly to rescue and treat injured wildlife.

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Executive summary

The Office's 2018 Queensland Bushfires Review (the 2018 Review) identified three key opportunities for improvement in the management of bushfire in Queensland; bushfire mitigation, community education and warnings, and where primary agency response runs in parallel with disaster management arrangements. The purpose of this review is to provide observations and insights about the September 2019 bushfire events and to consolidate recommendations of the 2018 Review. The review summarises the bushfires around Sarabah, Stanthorpe and Peregian Springs. It looks specifically at community insights, hazard mitigation and risk reduction, preparedness and planning, and response.

Eleven houses and five commercial structures were lost in the Sarabah / Scenic Rim region, from fires that consumed over 5,000ha of land. The Stanthorpe fires resulted in four houses being destroyed and the New England Highway closed until 3:00am over the night of 6-7 September 2019. At Peregian Springs one house was destroyed and another severely damaged, and almost 1,000ha was lost in the fires.

The review methodology was structured in accordance with the Terms of Reference and the Standard. Inputs included oral and written data collection, research and community consultation. The review report defines observations and insights and presents them and case studies that highlight preparedness and response activities undertaken by government entities and the wider community. At the end of each section the review highlights how insights might apply to the broader disaster management sector.

Bushfire risk was identified by more than 80% of community members surveyed. Respondents recognised Queensland Fire and Emergency Services (QFES), local councils, State Emergency Service (SES) and Queensland Police Service (QPS) have lead roles in disaster preparedness and response. Respondents identified QFES, mailbox flyers, social media, councils, and radio as information sources that they would use. More than two-thirds of the survey respondents confirmed they had partially or fully prepared a household emergency plan, an emergency kit, an evacuation plan and an evacuation kit.

Three written submissions were received from members of the public who felt the limitations to local decision making around backburning negatively impacted the firefighting effort. Two organisations were concerned about the efficiency of Queensland's current firefighting equipment and resources and made suggestions for improvement.

In terms of risk identification and mitigation, in most areas studied a program of hazard reduction burning is in place and being managed. However, not all planned burns were able to proceed because of changing weather conditions.

Preparedness activities were found to be generally well done across the three subject areas. Pre-season exercises using bushfire scenarios provided substantial benefits in familiarising agencies with response coordination, communication and information arrangements. A strong example of this is the activities, education and consultative approach of the Area Fire Management Groups for the Toowoomba, Southern Downs, Goondiwindi and Western Downs Council areas. The review team recognises this as good practice. The focus on gathering locally identified risks from land holders in each of the council areas, and generating a regional Bushfire Mitigation Plan, ensured the highest risks were known. Mitigating the major bushfire risk, which was identified as 'anywhere south of Toowoomba' during the cool burn season, significantly reduced the fire threat to Stanthorpe. In this case the Office observed that vegetation management, bushfire mitigation and hazard reduction are more effective through an all sector consultative approach, supported and coordinated through Area Fire Managements Groups using a risk-based approach.

Public engagement activities were evident across all three fire areas. The Stanthorpe area was found to have an active community emergency planning and preparedness awareness campaign in place. Activities included popup events, school visits and social media advertising. Awareness sessions started early before the season. Community forums, before and after the fires, included relevant authorities and were live-streamed.

The issuing of bushfire warnings is an opportunity for improvement. A community survey found that high numbers of people expect individual warnings to mobile or landline telephones.

However, the Review heard there is confusion from both disaster management entities and community members of what some messages mean, particularly relating to evacuation, return, and advice around 'Watch and Act' warnings. Other jurisdictions have deployed solutions to similar challenges.

The Government Wireless Network (GWN) is intended to enhance interoperability between disaster management entities. Currently only police, fire and ambulance have GWN radios. All three fires required a multi-agency response however, QFES have a limited supply of extra GWN radios for other entities to use.

Media was generally managed well across the fires, and in most cases respected requests to ensure the privacy of affected residents. The Sarabah bushfire community engagement and media strategy was found to be collaborative and coordinated and had the welfare of affected community at its core. The return of individuals to their homes was particularly well handled.

Liaison officers in operations centres achieved better results for affected communities than in 2018. Embedding QPS liaison officers in QFES centres and co-locating the QPS forward command post with the QFES Incident Command Centre at Stanthorpe was crucial to inter-agency cooperation. Queensland Ambulance Service (QAS) and Queensland Parks and Wildlife Service (QPWS) also provided liaison officers to relevant centres to provide expert advice. However, there is scope to ensure that police and other entities are better included in decision-making, particularly about evacuation.

The fire conditions and behaviour prompted multiple observations about strategic thinking and decision-making during bushfire events. Current incident management courses provide by QFES are to Level 2 Incident Controllers. Given the experiences and recommendations from this review and the 2009 Victorian Bushfire Royal Commission, it may be opportune for QFES to review initial and ongoing incident management capability development for senior incident commanders.

The Review Team heard some good feedback about different areas of the response including, the QFES Situational Awareness Platform (QFES SAP) and its products; the SES participating in the QFES air operations training program and were deployed to refill aircraft with water; and the establishment of a temporary combined Logan/Gold Coast district disaster management group. Other successes included the evacuation of prisons at Palen Creek and Numinbah, however the Review Team also heard there are improvements that could be made for future similar actions. Improvements could be made by providing consistent maps for use by frontline responders during events.

Appendix C of the report shows progress of priority recommendations from the 2018 Review. Four of the 23 recommendations were assessed as immediate, with three having been implemented and the intent of the recommendation met through ongoing activities. Work to address the remaining one is well-placed with further opportunities to share the antecedents more broadly with other stakeholders. The remaining 19 recommendations have a due date post the delivery of this review.

The review of the September 2019 bushfires has documented progress made towards the implementation and embedding of the 2018 Qld Bushfires Review recommendations. Observations and insights contained in this report provide strong examples of good practice and learnings arising from the 2018 Bushfires Review. Through the observations there are opportunities for further progress that would enhance the strong disaster management arrangements throughout the state. However, the review highlights the state is well-placed in implementing the recommendations from the 2018 Bushfires Review. The report notes the work that has been done in finalising those recommendations and is supported by the strong innovative practices and lessons learned from previous fires.

Introduction

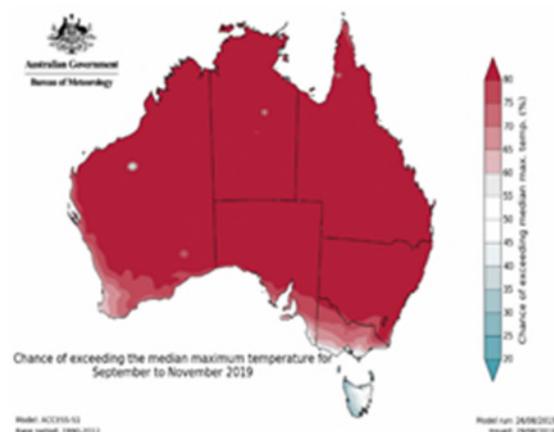
Operating environment

This review was conducted during a sustained period of evaluation and continuous change around bushfire management. In 2013, the Malone Review of the Rural Fire Service¹ provided a basis for reform and improvement of bushfire management across the state. The Malone Review saw some major changes to governance and capability introduced, not the least the establishment of Area Fire Management Groups (AFMGs). These changes have been embraced and incorporated into business as usual bushfire management. Since then, reviews by the Queensland Audit Office and the Office of the Inspector-General Emergency Management (the Office) have sought to consolidate and build on the growing sector-wide interest in identifying and learning lessons across the disaster management environment.

In particular, the Office's *2018 Queensland Bushfires Review* (the 2018 Review) identified three key opportunities for improvement in the management of bushfire in Queensland². The first was bushfire mitigation strategies and activities associated with acknowledging the risk of more prevalent bushfire events occurring, identifying the use of prescribed burns as the most effective means to decrease fuel loads, and subsequently reducing the risk of more intense fires. The second was community education and warnings, intelligence systems to support these and a common approach and language to improve community understanding. The third was in improving systemic adaptation to hazards where the disaster management system must run in parallel with a hazard-specific primary agency with its own decision-making and reporting structures. For this third aspect, key opportunities focus on collaborative planning, incident management and improving communication and information during events.

This review has been tasked with consolidating the 2018 recommendations through examining a selection of bushfire events that occurred between September and November 2019. It builds on the 2018 Review, to reinforce and provide examples of improvements and good practices implemented. Where possible and applicable, it identifies any further risks or opportunities to continue to promote collaboration, interoperability and cohesion across all agencies.

2019 overview



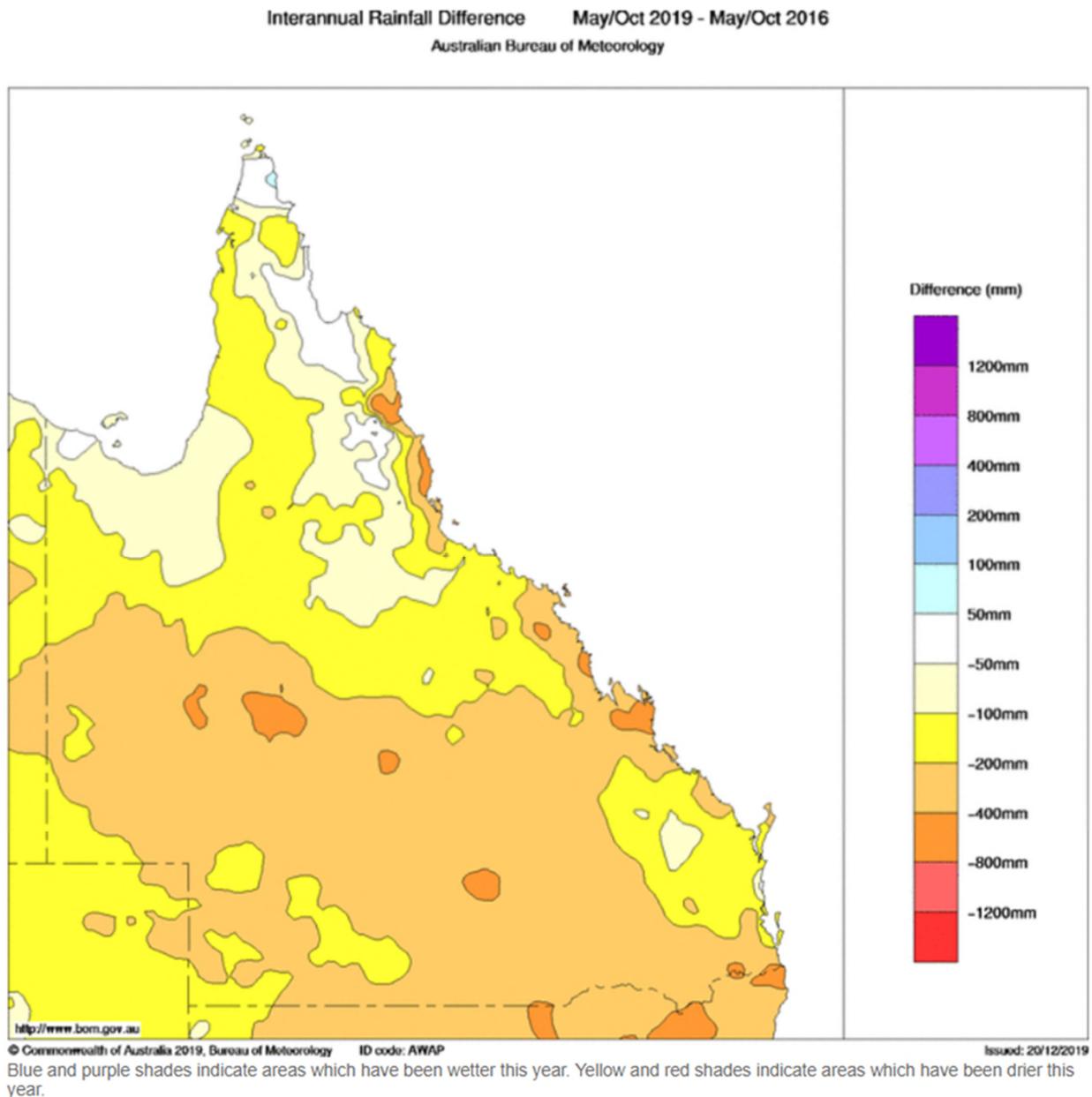
(Source: Bureau of Meteorology)

Over the course of 2019, conditions across south eastern Queensland (SEQ) developed towards an early bushfire season. Predictions from the Bureau of Meteorology (the Bureau) of hotter than average weather across SEQ were realised. Average temperatures were several degrees higher than preceding years, with maximum temperature anomalies particularly evident from August through to November.

For the last 18 months, most of Australia has suffered severe rain deficiencies, with parts of SEQ experiencing the lowest on record. From August to October 2019, areas of SEQ received up to 200mm less rainfall than the same period in 2018. This aligned with the Bureau's early predictions which forecast rainfall to reach only a fraction

of the average for the remainder of 2019. Aridity may also have impeded the firefighting effort. Soil moisture levels, from the upper surface layer to deep-root zones, were well below average in the lead up to the fire season and have since dropped to the lowest 1% of the average³.

The following summaries of the bushfires subject to this review are based on information released by the Queensland Government Fire and Emergency Services Newsroom.



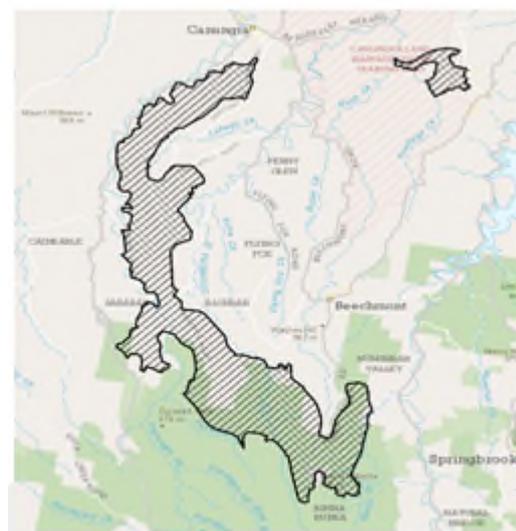
(Source: Bureau of Meteorology)

Sarabah

The afternoon of 2 September 2019 brought one of the first events of the fire season when a vegetation fire started at Sarabah in the Scenic Rim local government area. At the time, the fire danger rating was Very High, wind speeds were around 20km/h, humidity was very high and no fire bans or weather warnings were in place.

The next day brought dry conditions, the fire had spread, and residents were advised to stay informed. Backburning operations began in the area including Saddleback Ridge.

By 4 September, the fire was burning in difficult terrain between Sarabah Road and Upper Coomera Road spreading in both south-easterly and north-easterly directions. Residents were advised to prepare to leave. However, by nightfall the Warning Level* had been reduced from Watch and Act to Advice.



**Line scan of burnt area Sarabah, QLD
(Source: QFES Total Operational Mapping
(TOM) tool)**

On 5 September residents were warned to prepare for evacuation as though no properties were under threat, the conditions could change without warning.

By midday on 6 September, the fire was moving east towards Beechmont Road with wind speed up to 35km/h. Residents were told to leave now as an Emergency Warning was put in place. In the afternoon, the fire continued south, and a place of refuge was established at the Tamborine Village Memorial Hall. Residents were initially advised to evacuate in a northerly and easterly direction however were further advised that there was only the option of evacuating north. By 10:00pm, the warning level was again reduced to Watch and Act and the area was deemed safe to return.

Various media outlets reported several homes destroyed by 7 September. The fire continued to burn, heading east into Lamington National Park and Binna Burra from 11:00am onwards. A place of refuge opened at the Moriarty Park Community Sports Centre in Canungra and by 1:00pm the warning level was again reduced to Advice as the fire ceased to threaten properties.

Shortly after the danger subsided on 9 September, a slow-moving fire burned to the west of Sarabah Road, south of Rymera Road. The advice remained at Stay Informed for the following three days as wind speeds increased with peaks of 55km/h, and the fire continued to burn in Lamington National Park.

Just before midday on 13 September, residents were again given the advice to prepare to leave with instructions to travel north on Lamington National Park Road to Moriarty Park, Canungra. By 5:30pm, the advice was again reduced to Stay Informed as the fire continued to travel in a north-westerly direction. Crews continued to monitor the fire over 14 September and managed to subdue any threat to the community. A total of 11 houses and five commercial structures were lost in the Scenic Rim region⁴ from fires that consumed over 5,000ha of land.

* That for those who do not have a plan or intend to leave then they should be ready to leave the area as it may get worse.

Stanthorpe

Bushfires propelled by strong winds in the Stanthorpe and Applethorpe area consumed around 2,000ha of land and four homes from early September 2019⁵. On 6 September 2019, Stanthorpe's fire danger rating escalated from Severe to Catastrophic and a local fire ban took effect over Southern Downs Regional Council area. A bushfire broke out at about 3:00pm in Amiens. It headed towards the Stanthorpe Racecourse before strong winds of up to 40km/h rapidly spread the fire to the east and then north-east.

By 5:30pm, residents had been advised to either leave now or seek shelter immediately and the fire warning level had been increased from Watch and Act to Emergency Warning. An evacuation centre was established at the Stanthorpe Fitness Centre as the fire continued to travel east, towards Nelson Crescent, McLeod Court and Michelle Road (in Happy Valley), and then north-east towards Passmore Road and Caves Road.

Four houses were destroyed over the course of the night and the New England Highway was closed some time before 3:00am on 7 September. The highway was reopened by 7:00am when the warning level had returned to Watch and Act. Fires continued to burn around Stanthorpe and Applethorpe over the following days as wind speed picked up to 50km/h. A total of 67 houses in Stanthorpe and 83 in Applethorpe were without power by 7 September⁶ and evacuation centres remained open at Stanthorpe Fitness Centre and YMCA Leslie Dam Active Recreation Centre for the duration of the bushfires. In response to this event, Southern Downs Regional Council temporarily lifted their critical water restriction of 100L per day until 18 September for those affected by the fires⁷.



*Line scan of burnt area Stanthorpe, QLD
(Source: QFES Total Operational Mapping
(TOM) tool)*

Peregian Springs, Peregian Breeze and Peregian Beach

Closely following the Stanthorpe event, in the late afternoon of 9 September 2019 with the danger rating at Very High, a bushfire broke out west of the Sunshine Motorway at Peregian Springs on the Sunshine Coast. Winds up to 45km/h carried the fire east and by 5:30pm, residents in its path were warned to evacuate north, towards Noosa. Soon after, residents in the southern section of the potential impact zone were also advised to leave to evacuation centres at the Coolum Beach Surf Club and the Multisport Centre at Coolum Beach.

By 6:25pm, the fire was quickly travelling east/north-east and the evacuated areas had extended. A further evacuation centre opened at The J Theatre Noosa. As the fire progressed, Peregian Beach and Marcus Beach came under threat and were also evacuated, and the warning level was increased to Emergency Warning.

From 1:15am on 10 September, advice was to either leave immediately or seek shelter as the fire continued to travel rapidly in a north-easterly direction, towards Weyba. Additional evacuation centres were established at the Cooroy Library, the Noosa Leisure Centre (north of fire) and the Nambour Showgrounds (south of fire).

Emergency warnings and advice remained consistent throughout the day and residents south of Lake Weyba were advised to evacuate as the fire travelled in both north-east and north-westerly directions, supported by 10-35km/h winds. The Emergency Warning level was reduced to Watch and Act at around 8:00pm.

Residents of Peregian Beach, Marcus Beach and Castaways Beach, east of the Noosa National Park, were not able to return home safely until the following morning. This was followed by the remaining population at around 4:00pm. Almost 1,000ha was lost in the blaze, including 1 house destroyed and another severely damaged⁸.



*Line scan of burnt area Peregian Springs, QLD
(Source: QFES Total Operational Mapping
(TOM) tool)*

Purpose

The purpose of this review is to provide observations and insights about the September 2019 bushfire events in Queensland and to consolidate recommendations of the 2018 Queensland Bushfires Review.

Context

The review aligns with the functions of the Office as outlined in section 16 of the *Disaster Management Act 2003* (the Act)⁹.

The *Emergency Management Assurance Framework* (the Framework) contains the *Standard for Disaster Management in Queensland* (the Standard). The Standard establishes the performance requirements for all entities involved in disaster management and forms the basis of the Office's assurance activities. The Standard has informed the basis of assessment for the review, including the shared responsibilities, good practice attributes, and accountabilities.

The purpose of an assurance activity under the Framework involves discerning a level of confidence in the effectiveness of, or any component of the arrangements for, disaster management in Queensland. Assurance activities are part of an overall continuous improvement strategy.

Scope

The Terms of Reference (ToR) for the 2019 Queensland Bushfires Review (Appendix A) supports continuous improvement of Queensland's disaster management arrangements.

The review report provides observations and insights into the preparedness for and response to the Sarabah, Peregian Springs and Stanthorpe bushfires in September 2019.

The review considers a number of recommendations from the 2018 Review that are relevant to the observations provided by stakeholders involved in preparing for and responding to the 2019 Bushfires.

A review of recovery from the bushfires is out of scope, as are other fire events not specifically mentioned within this report.

Methodology

The methodology for this review was structured in accordance with the ToR and the Standard and sought to collect observations from stakeholders. A level of analysis was applied to observations to develop insights into a theme or area of interest. Where good practice is identified the review will highlight this to share with the sector and ensure this practice is sustained where practicable. Where gaps in effectiveness in practice are observed, those insights developed through the review will highlight where opportunities for improvement exist.

The Review Team collected evidence from a variety of entities about preparedness, planning and response activities in areas affected by the Stanthorpe, Sarabah and Peregian Springs bushfires.

Drawing from the analysis and validation of data, research, stakeholder and community feedback, this report presents observations, insights and case studies that highlight preparedness and response activities undertaken by government entities and the wider community. Stakeholder extracts (observations) in this report are taken directly from stakeholders that were interviewed as part of this review.

An observation in the context of this review is:

a record of a noteworthy fact or occurrence that someone has heard, seen, noticed or experienced as an opportunity for improvement or an example of good practice¹⁰.

An insight in the context of this review is:

a deduction drawn from groups of observations analysed to form the evidence which needs to be further considered. Insights provide guidance for future analysis and potential action. Insights can be positive or negative and can contribute to reinforcing positive behaviour or changing practices. Insights may be developed when a single observation poses a high risk to the organisation or when a number of similarly themed observations have been collected¹¹.

Lines of inquiry used to build the observations and case studies presented in this report include:

- bushfire mitigation, preparedness, planning and implementation
- the extent to which bushfire risk and preparedness is understood within the community
- bushfire response operational arrangements, including decision-making
- communication, community engagement, public information
- cross-agency collaboration during response operations, including evacuation
- resourcing, infrastructure and technology support elements
- evidence of progress on recommendations from the 2018 Review.

The review team collected observations which are evidence of practice that occurred during the September 2019 Bushfires across the Planning, Prevention and Response (PPR) functional roles and activities. Where relevant, further application of the observations and insights in this review provide entities with opportunities for continual improvement.

Data collection

The focus of data collection was preparedness and response activities by local, state and federal government entities and supporting non-government organisations in the context of the September 2019 Sarabah, Peregian Springs and Stanthorpe bushfires. Progress made by entities on implementing actions from the recommendations of the 2018 Review were also considered.

Sources of evidence for this review included:

- face-to-face discussions with entities across the sector, including local, state and federal government agencies, and non-government organisations
- reviewing documentation including legislation, policies, plans, guidelines, maps, departmental and sectoral data, processes and practices, previous reviews and recommendations from the Office and other entities, and other associated data analysis
- a telephone survey of residents in areas affected by the Sarabah, Peregian Springs and Stanthorpe bushfires
- an invitation (via the Office's website and media statements) for public submissions.

Research

Analysis of evidence was conducted using the OILL (Observations, Insights, Lessons identified, Lessons learned) methodology. Consideration of the level of evidence and analysis required to develop a theme to insight level meant inquiries focused on independent observations and insights from stakeholders and entities, analysed in the following ways:

- Qualitative research was conducted to inform the observations and insights of this review.
- Discussions, stories, anecdotes and observations were analysed using the OILL methodology.
- Evidence to affirm observations was cross-referenced.
- Previous reviews and research undertaken by the Office and other entities were considered.
- Insight development and evidence validation were conducted through discussions, desktop analysis, requests for clarification, further evidence gathering and multi-source affirmation.

Community consultation

This review also sought to understand the disaster preparedness and response knowledge and capability of community members. An invitation to open public submissions was announced by the Minister for Fire and Emergency Services on 17 October 2019. This provided residents in the areas of focus of this review, effected by the fires the opportunity to share their feedback and observations on the preparedness and response to the 2019 Bushfires.

Additionally, in November 2019, a telephone survey was conducted in various areas across the state to provide community input to multiple reviews being conducted by the Office. For this review, 300 surveys, with 16 survey questions, were conducted by telephone in the following localities:

- 121 in the Stanthorpe area; 90% in Stanthorpe and the remaining across Applethorpe, Dalveen, Cottonvale and The Summit
- 90 in the Sarabah area; 70% in the Beechmont and Canungra localities, and the remaining in Witheren, Natural Bridge, Springbrook, Numinbah Valley and Sarabah
- 89 in the Peregian Springs area; with 86% in Peregian Springs and Peregian Beach and the remaining in Castaways Beach and Marcus Beach.

The results of the telephone survey are included at Appendix B.

Community members who participated in the survey were asked about the extent of their awareness of local disaster management arrangements and their confidence about local preparedness and response capabilities. Survey questions addressed types and likelihoods of local disaster events and hazards, knowledge of local disaster management plans and responsibilities, distribution and receipt of disaster preparedness material, and steps taken to prepare family and property. The survey also queried where respondents would seek information and warnings for a forecast or impending disaster event, what types of warnings they would expect to receive and are registered to receive. While it is important to acknowledge the small sample size surveyed, the data obtained provides useful insights into how disaster management entities can contribute to increasing local disaster preparedness and response knowledge and capabilities at the community level.

The points raised in these submissions will be referred to the relevant agency as appropriate for their consideration.

Community Insights

Community survey

Of disaster events considered most likely to impact the local community, bushfire was identified as the most likely disaster type to occur in all three regions surveyed. The community survey results below show that 81% of respondents in Stanthorpe, 97% in Sarabah and 85% in the Peregian area identified bushfire as their highest risk.

Stanthorpe	Sarabah	Peregian
Bushfire (81%)	Bushfire (97%)	Bushfire (85%)
Drought (59%)	Floods (39%)	Storms (27%)
Floods (27%)	Storms (14%)/Landslides (14%)	Cyclones (19%)

(Source: MCR)

Of community members surveyed across all three regions, 90% to 99% had experienced a disaster in the community in which they are currently living. Awareness of local disaster management arrangements was self-rated highly in the Peregian area (69%) and balanced across the scale of 'not aware' to 'completely aware' in the other two regions.

As survey respondents listed Queensland Fire and Emergency Services (QFES), local councils, the State Emergency Service (SES) and the Queensland Police Service (QPS) have lead roles in disaster preparedness and response, for local disaster events few identified the Local Disaster Management Group (LDMG) as having a role (2% in both Stanthorpe and Sarabah and 12% in the Peregian area). When asked specifically about their knowledge of the LDMG and its role in local disaster events, less than 50% had heard of the LDMG (39% in Stanthorpe, 45% in Sarabah and 22% in the Peregian area) and less than 20% were aware the LDMG plays a lead role (14% in Stanthorpe, 20% in Sarabah and 11% in the Peregian area). These results show there is significant opportunity to build community awareness around LDMG functions.

Community awareness of a Local Disaster Management Plan to consider risks and community preparedness rated 20% in Stanthorpe, 26% in Sarabah and 14% in the Peregian area. This meant that 80% in Stanthorpe, 74% in Sarabah and 86% in the Peregian area were not aware of the plan until the time of the survey. The majority of survey respondents had sought or received disaster preparedness information in the past 12 months about getting ready for the impact of disaster events (44% in Stanthorpe, 62% in Sarabah and 56% in the Peregian area), and the majority recalled the following as the key messages of this information: be prepared, prepare supplies and have an evacuation plan.

Key information sources about local disaster events and preparedness were identified as: QFES, mailbox flyer, social media, councils, radio, and to a lesser extent, newspaper and television. Messaging from councils and QFES rated more highly in Stanthorpe (23% and 33% respectively) and Sarabah (27% and 34% respectively), while social media and mailbox flyer more highly in the Peregian area (24% and 26% respectively).

More than two-thirds of the survey respondents confirmed they had partially or fully prepared a household emergency plan, an emergency kit, an evacuation plan and an evacuation kit to prepare their family and property for a disaster event. More than 80% in all three regions answered yes, they would know, during a disaster event, where to get accurate and reliable information about whether to shelter in place or confirm a safe route to an evacuation centre.

To obtain information about an emergency warning, forecasts and/or alerts during a disaster event, emergency services websites or Facebook pages, local radio, television, council and Bureau websites, and utility providers were identified. The single most likely source to be consulted was emergency services websites or Facebook pages (Stanthorpe 28%, Sarabah 44% and the Peregian area 58%).

In the lead-up to a forecast disaster event, and in the event of an immediate local threat, most survey respondents said they would expect a text message to their mobile phone, local radio and television bulletins, updates on government websites and Facebook pages, a Standard Emergency Warning Signal (SEWS) siren on radio, television or localised in their area, and, to a lesser extent, advice from local community organisations or a voice message to a mobile or landline phone. For an immediate threat, more than two-thirds of survey respondents expected to receive advice via a text message to their mobile phone or a localised warning such as a doorknock, loud-hailer or siren. Less than 50% of survey respondents in each area are registered for an emergency information or alert system.

Confidence ratings, for being prepared for and knowing how to respond to and recover from a local disaster event, and understanding local risks, were more than 90% in all three regions. More than 80% of respondents across the three regions were confident they would receive adequate information or warnings, and more than 80% of respondents across the three regions were confident the official local response to a local disaster event would be effective and coordinated.

Survey respondents noted that their confidence of local disaster preparedness and response arrangements would be increased through the provision of additional information and communication from authorities, on topics such as how to prepare appropriately, warnings and alerts, and advice on what local authorities do to conduct disaster preparedness and response.

Public submissions

Three written submissions were received from members of the public and a further two were received from organisations. Five informal enquiries and comments were received, however did not result in submissions. All public submissions are treated in accordance with relevant confidentiality provisions under the Act.

Three submissions were made by individuals who felt the limitations to local decision making around backburning negatively impacted the firefighting effort. These each called attention to the issue of overgrown land being an increasing source of fire fuel. In some submissions this was under the premise of environmental conservation and in others, resulting from neglect by new landowners. Two of these submissions suggested increasing the council rate levy to 'reflect land use' as conservation areas and non-farming properties, often have unmanaged fuel loads and pose a bushfire risk.

The Office received submissions from two organisations concerned about the efficiency of Queensland's current firefighting equipment and resources. The first submission offered recommendations and opportunities for further training and assistance. These suggestions included the integration of a specific intelligence gathering, collation and distribution system and the use of aircraft providers for simulation training exercises. The utilisation of organisations whose purpose is to provide available aircrafts to disaster management was also suggested as an alternative solution to securing Queensland's firefighting capacity through the purchase of new aircraft.

Both organisations highlighted the fact that, while a Very Large Air Tanker (VLAT) can carry and release a significantly greater amount of water over a fire, helicopters can be more agile and time efficient when fighting fires in difficult terrain or with rapidly changing conditions.

Hazard mitigation and risk reduction

Hazard reduction burning

Relevant 2018 Review recommendations

Recommendation 9

Given an increasing risk of intense fires, the framework of legislation relating to vegetation management, bushfire mitigation and hazard reduction, together with mitigation and preparation priorities should be re-assessed. The re-assessment should aim to enable more appropriate and flexible means at the local level for the reduction of intense fires.

Queensland Government Response – Accepted-in-principle

The Review acknowledges the Queensland Government has the necessary framework in place for mitigation. QFES, in finalising the State Bushfire Plan is assessing the appropriateness of the bushfire preparedness and prevention framework. The plan will be developed in the context of increasing risk of intense fires and the need for local flexibility.

A variety of mitigation strategies can be used to reduce the risk of fire such as slashing, clearing a fire break, and burning. Hazard reduction burning aims to reduce fuel loads in an area and therefore the risk of fire. The 2018 Review found that planned burning is considered a very effective form of bushfire hazard reduction by key entities responsible for land management. The 2019 Review Team found in most areas that a program of hazard reduction burning is in place and being managed, although not all planned burns were able to proceed because of changing weather conditions.

Case study – Stanthorpe hazard reduction burn

Forty thousand years ago, Aboriginal peoples learnt to harness naturally occurring fire in the landscape to make access through thick vegetation easier, to maintain a pattern of vegetation to encourage new growth and develop plants as a food source¹². Since this time cultural mitigation strategies have been used across Queensland as they burn smaller areas of land more frequently at lower intensity. Also known as a cool burn, this type of fire protects the upper layers of the forest and maintains the seed bed and fauna for regeneration¹³.

This constant use of fire by Aboriginal people as they went about their daily lives most likely resulted in a fine-grained mosaic of different vegetation and fuel ages across the landscape. As a result, large intense bushfires were uncommon.¹⁴

Higher intensity fires still have a place in burning practices, for example when fire has been absent for ten to fifteen years a hot fire is required to re-start the germination rate and enhance growth.

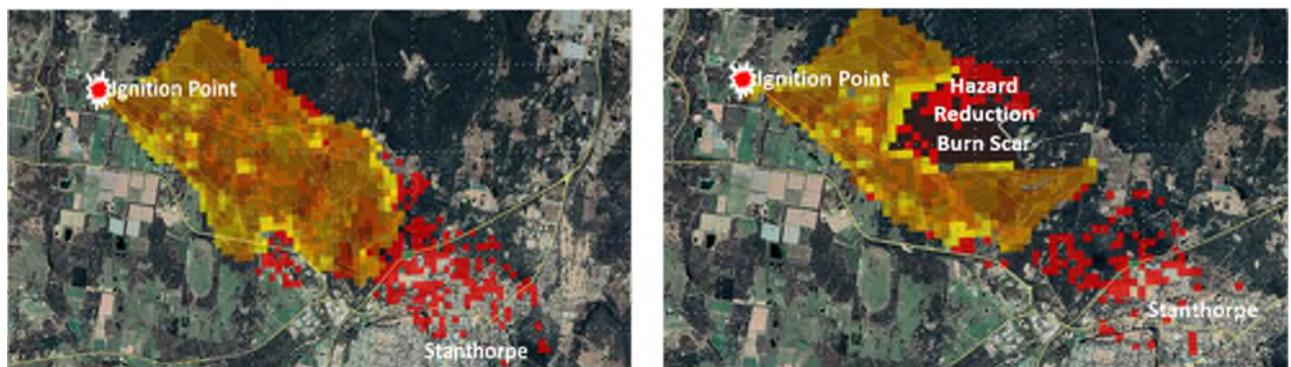
In the Stanthorpe area, Queensland Parks and Wildlife Service (QPWS), as part of the AFMG, works closely with local Aboriginal people to ensure cultural burns are used in appropriate areas. When planned burns are conducted in urban areas, there are often complaints about smoke and associated health issues. Ideal weather conditions are not always present on the scheduled day and winds may blow the smoke into residential areas or further than expected. When burning 700 hectares near a town it is also difficult to ensure the fire is completely extinguished and smoke is minimised.

A burn was conducted on 21 and 22 July 2019, despite some resistance from community members. The below map shows the burn scar, and the strong north westerly winds that were present near the ignition point on the day of the fire¹⁵.



(Source: QPWS)

The below map on the left, models where the September fire could have spread from the ignition point, assuming there was no hazard reduction burn. In comparison, the below map on the right shows the actual hazard reduction burn scar significantly reduced the magnitude of the 6 September fire and very likely saved a significant number of houses¹⁶.



(Source: QPWS)

Post the fire, the same residents who were resistant to the hazard reduction burn praised staff from QPWS for saving their homes as a direct result of the pre-season burn that was conducted.

This hazard reduction burn also highlights the important role of the AFMGs prioritising those hazard reduction burns identified during planning, and the importance of land owners submitting prescribed burn plans to the AFMG.

Stakeholder interview extracts (observations)

The fires highlighted the importance of planned burn programs as a recent burn in one area prevented the fire travelling down the mountain and into a township in the valley.

The cultural pattern burning that had been undertaken pre-season was effective and reduced the risk of the fire destroying more infrastructure.

Cultural Burns - used to drive the conversation but it is really Mosaic Burning - it is another way to do it - educating brigades how to do things differently (not just burning off with drip torches) - drop a couple of matches and see what it does – this creates strategic firebreaks through persistence – there is a need for a mindset change around prescription burning – it's not about the fact that I want to burn the table (for example) but why I want to burn the table - then working with and engaging landowners.

Insight

Where management of the fuel loads within the landscape is approached using local knowledge and the most suitable method of hazard reduction, risk to the community and infrastructure is reduced.

The application of this insight for the broader disaster management sector should be considered in the following ways:

- There is a shared understanding of bushfire risks and hazard mitigation strategies.
- Mitigation and risk reduction activities are informed by, and prioritised based on risk assessments and available resources.
- Mitigation and risk reduction activities be included in operational and strategic plans and considered as business-as-usual.
- Entities understand hazard and risk and encourage and enable community to help manage their own risks.

Preparedness and planning

Lessons management

Good practice

Lessons management has matured across the disaster management sector with a culture that embraces learning and change, supports continuous improvement and sharing of lessons. Lessons management refers to collecting, analysing, disseminating and applying learning experiences from events, exercises, programs and reviews¹⁷. The value of taking a formal approach to identifying and learning lessons is that the sector can reduce the risk of mistakes reoccurring and increase the chance that successes are repeated¹⁸.

Numerous disaster management entities have established lessons management programs. The Review Team heard from entities across the Stanthorpe, Sarabah and Peregian Springs bushfires how lessons management is enabling learnings from events, exercises and good practice to be identified, and how those lessons learnt are benefitting the community. Disaster sector entities including the QAS, QFES and the QPS have used lessons learned from previous events including recent fire events, to improve preparedness and response for the September fires. The Review Team also notes that QFES has a comprehensive lessons management process that is applied state-wide. QFES used lessons learned from the Wallangarra Fires in February 2019 to put in place improved community engagement programs including a number of education sessions, advising the community on how to prepare and enact Bushfire Survival Plans. As one senior QFES commander observed about the use of the QFES lessons management system during the February 2019 Wallangarra fires:

We used the new QFES lessons management for the first time during the Wallangarra fires. They flagged things for us that we probably had already thought about but hadn't got around to doing. We now have a document that suggests we should do these things so let's go and do them.

Stakeholder interview extracts (observations)

The QFES process is amazing. The results we got and the interaction from the volunteers was very good. The way it is structured works very well and it is not a blame fest. The documentation we got back from it with some of the recommendations were excellent and they weren't prescriptive.

We received some clear information through organisational and community debriefs from a previous fire, that the community were not prepared, and they didn't understand the risk of bushfires.

We are continuing to look at what we did and develop lessons from these - a lot of the learnings from the Wallangarra Fires were used for the Stanthorpe Fires.

A policy of not introducing any more fire to the fire ground (e.g. back burning) due to volatility of the fire conditions (e.g. wind, fuel) and state of anxiety in the community proved to be the right decision - this in part was based on lessons learned from interstate experiences.

The team considered all previous known and unknown possibilities when it came to preparing for an expected catastrophic fire event, and this consideration of "the new normal" ensured a flexible and timely response.

Very good debriefing process with Knowledge Management (very good with good feedback) which identified some really good lessons - one lesson is getting staff to understand preparedness better.

Our lessons management is working really well. We will have our framework for Lessons Management completed in January. We have gone back to 2011 and now have all our PIA's in a lesson's management spreadsheet. From the September Fires we have documented our lessons which will be allocated to a responsible manager to action.

Insight

The planning, preparedness and response to the fires was enhanced through the lessons management process.

The application for this insight for the broader disaster management sector should be considered in the following ways:

- Lessons management is contributing to reducing the impact of fires on the community.
- Entities are proactively working together in a cooperative environment including sharing identified lessons to achieve better results for the community.

Seasonal preparedness

Relevant 2018 recommendations

Recommendation 19

All disaster management groups should run an exercise that has full involvement of a hazard-specific primary agency in the next 12 months and regularly thereafter.

Queensland Government Response – Accepted-in-principle

Disaster management groups at all levels will be encouraged to implement an appropriate program of exercises, based on risk, and including hazard specific primary agencies.

Good practice

The ability to rapidly implement and escalate a bushfire response is significantly enhanced by effective planning and preparedness activities. Regular multi-agency forward planning, engagement and exercising, which is communicated and practised often and particularly pre-season, ensures entities are familiar with roles, processes, capabilities and resources. Pre-season training of new and experienced personnel, conducting scenario modelling, resource and asset assessments, and pre-season planning of where additional resources can be deployed from, is critical for scaling up a response when required. Pre-established relationships and communication mechanisms are crucial for an agile response to be activated and effectively coordinated. Regular pre-season engagement, training, exercising, briefing and knowledge sharing opportunities, that are cross-sector and cross-agency, provide entities and key stakeholders with the skills, linkages and confidence to affect a timely response operation that can be escalated commensurate with the threat.

Pre-season exercises using bushfire scenarios held in the Sunshine Coast and Stanthorpe areas provided substantial benefits in familiarising agencies with response coordination, communication and information arrangements. In one case, a location used in the exercise mirrored an actual bushfire location some months later. These preparedness and planning activities including relationship building, exercising and regular cross sector and multi-agency engagement supported the ability to rapidly deploy and escalate operational command and resourcing in response. It also assisted the pre-deployment of incident management teams, assets and personnel for the Stanthorpe bushfires. The use of predictive modelling and intelligence in the days before the Stanthorpe fires, which forecast a catastrophic event, enabled the incident command structure to be activated and fully staffed before the fire. This ensured an immediate operational response could effectively be scaled up and maintained for the duration of the response. By scoping in advance how to reinforce and maintain a response of such magnitude, through the deployment of skilled personnel and assets from other regions, sectors and interstate, continuity of response was maintained.

Case study – Noosa hazard reduction burn

The Noosa 'Links Burn' was completed on Wednesday 21 August 2019 and was identified as one of the highest priorities for QPWS and QFES across the Sunshine Coast. The relatively small 53ha high profile burn, backs onto Noosa Junction shopping precinct, a large aged care facility, residential development, several schools, sporting fields, and is bounded by major arterial roads. The complexity and delicate nature of executing this burn cannot be understated, however remained a priority for QPWS and QFES to ensure a reduction of fire risk in the area.

The QPWS-led burn was made possible by a high level of interagency support that took months of planning. Execution of the burn included incident management and operational support from QFES Urban and Rural brigades, QPS, SES, QAS and the Noosa Shire Council. Liaison was also required with Education Queensland with regards to affected schools, Ozcare aged care facility regarding the management of a vulnerable community, the Dolphins Rugby Club, as well as the general community. Traffic controllers were also required to control traffic in a busy part of Noosa Junction.

The high level of cooperation ensured this burn was managed and coordinated exceptionally well. In addition to QPWS community announcements, QFES and Noosa Shire Council social media was used to advise people in the area about the burn taking place and its importance. On the back of the success of the burn, Noosa Shire Council also utilised social media promoting community awareness around preparing for the upcoming fire season. Overall, the level of interagency and community cooperation for this burn was exceptional.



(Geographic area of the Noosa Links Burn. Source: QPWS)

Stakeholder interview extracts (observations)

A multi-agency exercise conducted 3 months before the fire (which almost mirrored the actual fire) really helped with the planning and response of the September fires as all agencies were well practised and well-rehearsed.

Relationships, key contacts and processes were known and practised pre-season.

The region was well prepared in that a Regional Operations Centre had been already stood up and this allowed us to be agile to support regional operations.

Activating the Incident Management Team based on the warning of a catastrophic fire, ensured able readiness and rapid response.

Frequent engagements with local governments established good relationships which helped in preparing and ultimately responding to the fires.

The regular training, preseason workshops, relationship building, and practiced communication channels with local Council and the LDMG and community groups, meant roles and responsibilities were clear and practised.

The pre-identification of fire-fighting water sources (from non-drinkable sources), and the infrastructure to rapidly deploy this water to aircraft, was a critical preparation activity that ensured a rapid response to a fire in a drought-stricken area.

By organising IMT staffing roles for QFES, SES, QPS, Parks, logistical, operational, planning and long-range forecasting capabilities, and staffing these capabilities 24/7 ensured a ready response to the fire versus 5 hours of response time being lost to IMT activation.

The level of preparedness is dependent on the level of the incident and the use of intelligence received assisted this - QFES command were therefore able to scale up accordingly.

Response is more effective where pre-planning is commensurate with the level of threat.

The relationships across all sectors that are built up through meetings, exercising etc was crucial to the response for the September fires.

Due to the positioning of senior staff on the fire ground and the direct intelligence they were providing senior command were able to provide a high level of support including resourcing and community warnings activated very early - this was critical to the outcome of the event.

The use of a designated hanger (QFES owned) and having aircraft on standby allowed the region to bring these assets to bear quickly - air operations is now a key to our effectiveness.

Insight

Queensland Fire and Emergency Services and other entities' response to the September fires; including the ability to be flexible, agile and quickly scale up to respond to changing weather and fire conditions as required; was enhanced through planning and preparedness activities including:

- frequent engagement with key stakeholders;*
- multi-agency exercising and planning;*
- pre-season briefings and the development of action plans;*
- use of predictive modelling and intelligence; and*
- early pre-deployment of assets and personnel (including early stand up of Regional Operations Centres and Incident Management Teams).*

The application of this insight for the broader disaster management sector should be considered in the following ways:

- Entities develop integrated capabilities and shared capacity to operationalise a disaster response.
- Planning outlines and details how the impact of fires on the community will be reduced.
- Entities are working proactively together in a cooperative environment to achieve better results for the community.
- A collaborative culture exists within disaster management.
- Entities proactively and openly engage with communities.
- Shared understanding of how the impact of fires will be managed and coordinated.



(Aerial photograph of the Noosa Links Burn. Source: QPWS)

Area Fire Management Groups

Relevant 2018 recommendations

Recommendation 4

A good neighbour policy such as that of the Queensland Parks and Wildlife Service, setting out clear expectations, be developed to guide all landholders.

Queensland Government Response – Accepted

Elements of the good neighbour policy will be included in enhanced guidance material for landholders.

Recommendation 5

All Area Fire Management Groups should adopt and be guided by a good neighbour policy.

Queensland Government Response – Accepted

Enhanced guidance based on elements of the good neighbour policy will be provided to Area Fire Management Groups.

Recommendation 6

Area Fire Management Groups should share seasonal risk information with local groups and actively and appropriately contribute to disaster management planning.

Queensland Government Response – Accepted

Area Fire Management Groups will be more closely aligned to disaster management arrangements with a view to greater sharing of risk and planning information.

Opportunity for improvement

The 2018 Review found that '*successful fire management groups are inclusive, engage well with stakeholders and do not appear as an extra layer of bureaucracy*'¹⁹. The 2019 Review Team found during consultation with disaster sector entities, that there was a diverse understanding of the role of AFMGs and in some cases a very limited knowledge. The Review Team also heard that there was a disparate set up and management of AFMGs across the review areas. For example, Noosa Shire Council is readily included on the AFMG in their local government area and have representation from both the facilities and disaster management aspects of council operations, however this is not replicated across all areas. Potential issues include a membership structure for AFMGs that may not necessarily include consequence management agencies, and in some cases a lack of engagement and information sharing with councils and other disaster management groups and agencies in the area. The Review Team was advised this can be an issue particularly if community members contact councils or police about fires that are planned burns that these agencies are unaware of.

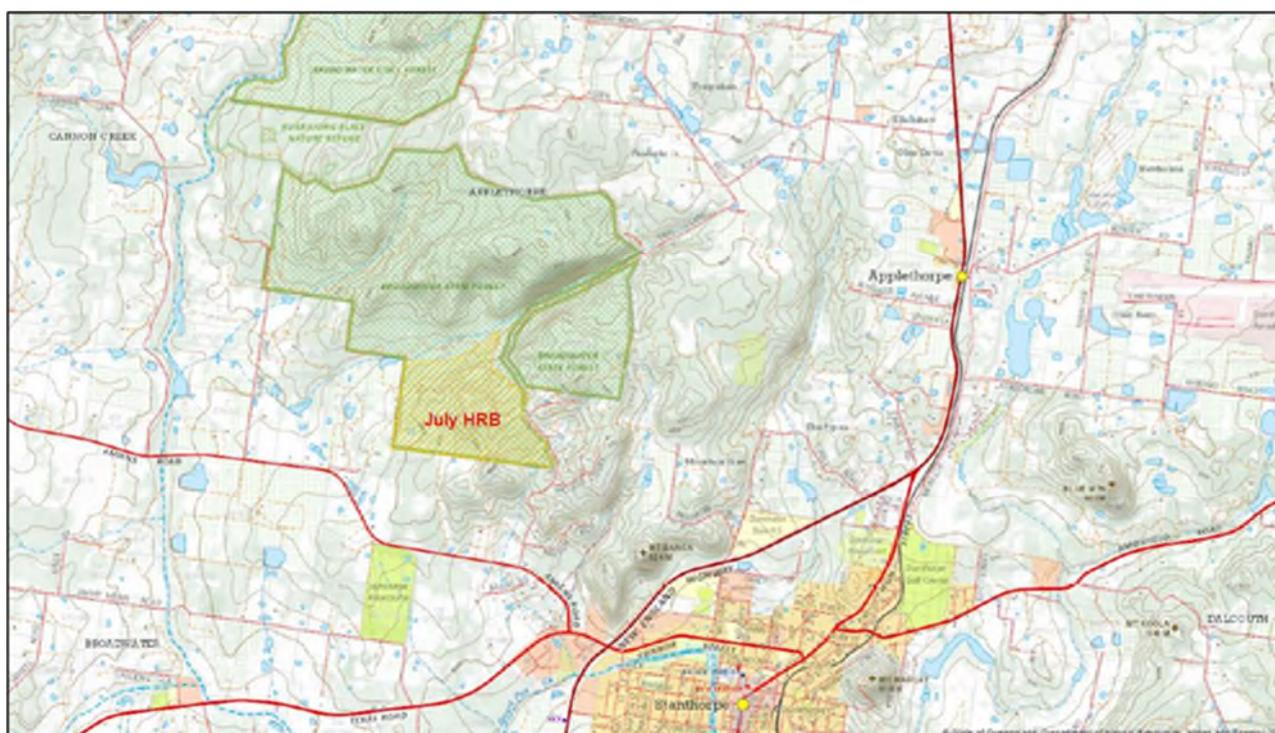
Case study – Area Fire Management Group (Toowoomba, Southern Downs, Goondiwindi and Western Downs Councils)

One AFMG that has demonstrated particularly effective bushfire mitigation, hazard reduction and stakeholder involvement is in the South West Region. The below case study highlights some of the activities undertaken by this AFMG in the Toowoomba, Southern Downs, Goondiwindi and Western Downs Council areas.

In December 2018 and followed up again in January 2019, AFMG stakeholders across the four council areas and Rural Fire Brigades were asked to complete a locally developed Bushfire Risk Assessment Report. The Bushfire Risk Assessment is about encouraging local stakeholders and brigades to assess the bushfire risk in ‘their local patch’. The bushfire risk assessments also looked at fuel loadings, type and fire history. Brigades were asked to nominate a mitigation measure to address the risk and identify the owners of the land. This information was collated and documented by the Bushfire Safety Officer, based on local government areas and the regional Bushfire Risk Mitigation Plan was developed. The document was tabled at the AFMG meeting in March 2019, with discussions around the identified risks. From this, it was determined that anywhere south of Toowoomba was the major bushfire risk.

The conversations at the AFMG then focused on reviewing the local Bushfire Risk Assessment Reports and determining strategies to deal with the risks, including a major focus in the Stanthorpe area. This resulted in QFES working extensively with council and QPWS, the two biggest land holders in the area. QPWS identified a number of strategic hazard reduction burns across the area, including in the Broadwater State Forest. QFES worked extensively with senior management at QPWS to facilitate this hazard reduction burn. This significantly reduced the fire threat to Stanthorpe.

The following map shows the location of the Broadwater State Forest hazard reduction burn conducted on 21 and 22 July 2019.



(Source: QPWS)

Through the AFMG it was also identified that more community awareness sessions were needed. Three sessions were conducted in mid-August in the Stanthorpe area including one meeting in Happy Valley (the location of one of the September fires) with approximately 150 community members attending.

A pre-bushfire season preparedness workshop was also conducted with QFES staff with stakeholders including QPWS, Queensland Rail, Department of Transport and Main Roads, Southern Downs Regional Council, the QPS and other disaster management stakeholder agencies. Four discussion-based exercises were conducted to discuss roles within the respective scenarios. This created a good understanding across the group on roles and responsibilities and how entities could work together.

One scenario discussed was almost identical to the subsequent Stanthorpe fire in September. The council advised they had a much better understanding of the fire based on attending the pre-season workshop and work undertaken through the AFMG.

Stakeholder interview extracts (observations)

AFMG identifies high risk areas for Operation Cool Burn each year and also identify risks around common operating picture.

Would be useful to look at legislated authorities of AFMGs.

There is currently no requirement for key land owners to share information or engage with the group.

All AFMGs, stakeholders and brigades complete a Bushfire Risk Assessment, they go and assess the bushfire risk in their local patch and nominate what they feel is the mitigation measure and who is the owner of the land.

Bushfire Risk Assessments are tabled at AFMG meetings and the AFMG then determines strategies to deal with the identified risks and very closely work with local councils and Parks and Wildlife.

We had all AFMGs (70 people) present at debriefing workshops - we ran scenarios (4) with each entity for example what was the police role in the scenario. One of the scenarios we ran was what we actually experienced during the Stanthorpe fire.

Facility was not ideal and needed to get up and running earlier with all relevant agencies (not just firefighting agencies) co-located to support information flow. Suggest this should be planned between the LDMG and the AFMG.

We had a number of people approach us after the September fires saying that I am alive because I had a bushfire survival plan that I learnt how to do from you at the information session.

Insight

Vegetation management, bushfire mitigation and hazard reduction are more effective through an all sector consultative approach, supported and coordinated through Area Fire Management Groups.

The application of this insight for the broader disaster management sector should be considered in the following ways:

- To achieve better results for the community, entities work proactively together in a cooperative environment.
- Plans outline and detail how the impact of bushfires will be managed and coordinated.
- Entities proactively and openly engage with communities.
- There is a shared understanding of bushfire risks and hazard mitigation strategies.

Emergency communications

Public engagement

The Review Team heard that public engagement activities are prevalent across all three subject areas. This includes a number of different preparedness activities including emergency management days, specific area information sessions and ongoing engagement with community to ensure residents are aware of their risks and how to prepare and act if those risks eventuate. The following case study identifies how one area moved its community engagement from preparedness to response phase to ensure community members remained engaged with events affecting them.

Case Study - Community forums

The Stanthorpe fires occurred within the Southern Downs Regional Council local government area. The council, and the LDMG, commenced an active community emergency planning and preparedness awareness campaign within its region two years ago with bi-monthly 'pop-up events'. These engagement events, in local townships and places of significant risk, were hosted for one to two hours at a community meeting place or emergency services facility in the town.

Prior to each pop-up event, LDMG representatives visited the school/s closest to the community, to talk about the role of the LDMG and emergency services, as well as educating about disaster and promoting the upcoming pop-up event. The events were also advertised on social and local media, and often coincided with another event in the town, such as a local show or testing of the community warning siren. Representatives from the local emergency services, including the Rural Fire Service (RFS) and the SES, attended the event with council representatives to raise awareness about locally relevant disaster-related issues, share educational print materials, and encourage community members to develop their own personal and family emergency plans.

Building on this rolling series of emergency preparedness engagement sessions, the Southern Downs LDMG commenced its bushfire pre-season community awareness sessions early and regularly in preparation for the bushfire season. These forums were very well received by the community, with feedback indicating the information and engagement process was comprehensive and effective at increasing preparedness, resilience and capability across the community.

The LDMG proactively escalated its community engagement efforts when the catastrophic fire warning for the Stanthorpe region was declared. To dispel misinformation, and ensure the community received accurate and timely information, three Bushfire Community Forums were held. Prior to, during, and after the Stanthorpe fires, these meetings were an opportunity for local emergency services and council representatives to address questions, provide information, instil confidence and provide assurance that community awareness was a priority.

Notably, the forums were live-streamed, and the Review Team heard that this allowed thousands of people to participate in the meetings virtually. Building on the regular weekly online meetings that the Mayor conducts for the region, the online format was expanded for these forums to include authoritative speakers from QFES, the QPS and the council. These speakers provided situational information and answered questions through virtual Question and Answer sessions. This meant a variety of questions were fielded both from in person attendees and from online viewers. The Review Team were told that the positive open engagement across this community was significant, and the forum continued until all questions were answered.

More than 200 people attended the first forum in person. The Review Team heard that more than 17,500 viewers from across Australia and around the world streamed forum two. By the third meeting, attendance in person was significantly less, as attendance online was managed so comprehensively. The forums were streamed simultaneously on the QFES Newsroom. The cross-sharing of community messaging and information facilitated the collating and dispersal of accurate information and helped to dispel rumours.

By proactively communicating directly with the public, the LDMG provided timely, accurate and relevant information and key messages to the wider community, and importantly, fielded and answered questions in real time. By using this variety of accessible mediums, the LDMG sought to reach the maximum number of community members possible, with the advice of local council and emergency services.

Insight

Activities that provide continuity of engagement and information provision from preparedness through to response, and that take advantage of available technology to reach the maximum number of residents, may result in better informed and more proactive communities before, during and following disaster events.

The application of this insight for the broader disaster management sector should be considered in the following ways:

- Entities proactively and openly engage with communities.
- The community makes informed choices about disaster management and acts on them.
- Entities proactively work together in a cooperative environment to achieve better results for the community.
- A collaborative culture exists within disaster management.

Community messaging and warnings

Relevant 2018 recommendations

Recommendation 13

The national messages for catastrophic fire danger ratings should be integrated with all existing and new community bushfire safety information.

Queensland Government Response – Accepted

Bushfire safety messaging will be assessed to ensure integration of catastrophic fire danger messaging.

Opportunity for Improvement

QFES is responsible for issuing bushfire community warnings, managed through the QFES Media Unit. The process for issuing warnings was designed following recommendations from the 2009 Victorian Bushfires Royal Commission to minimise potential delays in the approval process and provide the greatest opportunity to issue an accurate and comprehensive warning quickly. Warnings are published on the QFES Newsroom, Facebook, Twitter and the RFS Service Bushfire Current Incidents webpage.

Community consultation conducted for this review indicated that emergency service agency websites and/or Facebook pages were the most likely sources for community members to access information about disaster events. This was particularly relevant for the Peregian Beach area where 58% of respondents indicated these sites as their preferred source of information. Stanthorpe and Sarabah were less so, with 28% and 44% respectively, however were still the preferred options. Significant numbers expected warnings and alerts to be distributed via updates to websites and Facebook pages (Stanthorpe 72%, Peregian 71% and Sarabah 53%). These results identify the importance of emergency service and lead agency messages distributed via web-based platforms, particularly those prescribing or reinforcing emergent actions to be taken by the community, providing a fit for purpose effective resource to promote community awareness and safety.

Further results identified high numbers of respondents who expect individual warnings to mobile or landline telephones in the lead-up to a disaster event. The majority of these expect to receive a text message to a mobile phone, and this is particularly relevant when there is an immediate threat to persons or property. Given roles and responsibilities around disaster messaging, these would likely be provided through subscriber-based messaging services, or via Emergency Alert where urgent action is required. These results show the importance of messages distributed via mobile phone text message being concise, clear and with instructions that can be acted upon by those receiving them.

Further, across the three subject areas between 32% and 45% of respondents are registered for at least one subscription information service. However, the majority of these are currently subscribed to the Bureau of Meteorology (the Bureau) or a utility provider, not emergency services or local government. This may identify opportunities for emergency service agencies and local governments with subscription services to promote and expand their subscriber bases to ensure community receipt of warnings matches their expectations and preferred messaging sources.

The Review Team heard that there is confusion from both disaster management entities and community members as to what some messages mean, including uncertainty as to what actions should be taken. Disaster entities involved in evacuations advised there was confusion within the community about when to evacuate or when they could safely return to their residences. This is primarily within the Watch and Act level of warning, where the specific advice to people receiving these messages needs to be clearer, particularly if any action is to be taken.

The Review Team also heard of instances where messaging being sent out was not accurate and did not reflect what was happening on the ground. An example of this is that residents were still receiving advice to leave via telephone messages, when they had been told they could safely return to their residences by staff on the ground. Further issues included:

- Refresh and resending messages through QFES Newsroom meant that a large amount of information was sent out which may no longer have been relevant, with the community required to scroll through this information to find those messages that are relevant to them.
- Bushfire messages are not displayed in the QFES Newsroom in order of urgency.
- Responders on the ground who had firsthand awareness of worsening fire and weather conditions that had the potential to put communities and individuals at significant risk, had no capability to immediately issue alerts and warnings.
- Some confusion about the interaction between the process for bushfire community warnings and emergency alerts, and how these two processes interact to provide clear, concise and timely warnings to potentially affected communities.
- Some confusion around evacuation terminology where evacuation centre, place of refuge and neighbourhood safer place were all used but not always explained to the community members receiving the messaging.
- Responders advising that the inclusion of a map (which included streets) of the fire location on the warning alerts would be a very effective messaging tool and would enhance community safety.

The Review Team also notes observations from stakeholders that messaging and warning platforms used in New South Wales (<https://www.rfs.nsw.gov.au/fire-information/fires-near-me>) and Victoria (<http://emergency.vic.gov.au/prepare/#understanding-warnings>) provide the community with:

- intuitive navigation and real time updates
- interactive mapping including the ability to identify individual user's locations through mobile global positioning systems and provide multiple watch zones within a preferred radius
- clear, simple messaging which also allows the user to determine whether they need more details or information and
- links to services for hearing and visually impaired users.

Stakeholder interview extracts (observations)

If they want people to leave now, take the watch and act off the front so people can just know to leave.

Emergency Alert wording and updates were clunky and confusing for agencies and the public, which affected the efficiency of evacuation and traffic management activities.

Putting a map of the fire on the warning alerts including streets would be a very effective messaging tool and could be helpful with non-English speaking visitors.

The way we display and visualise information for the public is coming up a fair bit. It is not just about what the message says but how we communicate it and display it.

We need much simpler messaging such as red, green and yellow, stop lights, red get the hell out of there, yellow get ready to go, green it is okay.

Insights

Bushfire Community Warning Messages, particularly those at the Watch and Act level, are not always able to be clearly understood by the community and disaster sector entities.

Warnings and alerts may be more effective when the community receives simpler messaging, including provision of fire location and direction maps as part of the messaging.

Community safety may be enhanced if forward commanders who have direct situational awareness of fire and weather conditions on the ground, have delegated authority to directly issue emergency warnings to a localised area.

The application of these insights for the broader disaster management sector should be considered in the following ways:

- Warnings and alerts are more effective when:
 - entities distribute communications that use plain language
 - community receive relevant, timely, consistent and easy to understand information
 - when they meet the needs of the community
 - are tested for understanding and effectiveness.

Government Wireless Network

Opportunity for improvement

The Peregian, South West Region and Sarabah Fires occurred within the Government Wireless Network (GWN) area or footprint. The GWN network provides end-to-end encryption from the radio terminal to radio consoles to support mission critical services. A key component of the GWN was to enhance interoperability between disaster management entities:

Interoperability is required amongst emergency services to ensure that a coordinated and well communicated response and recovery plan is well executed. In an All-Hazards response environment QFES must interoperate with Public Sector Agencies and other government and nongovernment organisations to ensure that effective service delivery is achieved for the well-being of Queensland communities. Achieving interoperability is about setting up the structures and processes to allow emergency service organisations the chance to work together more effectively, and within networked systems and processes²⁰.

The Peregian, Sarabah and Stanthorpe fires required a multi-agency response with QFES and other government departments working on the fire ground. Currently only police, fire and ambulance services have GWN radios. As of Sunday 28 February 2016, the UHF analogue network is no longer available for use by QFES in the greater south east corner of the state including the South East Region, Brisbane Region, the Caloundra area of the North Coast Region and part of the Toowoomba area of South West Region.

Major fire ground and regional operations communications in September utilised the GWN. QFES have a limited supply of extra GWN radios which, during other fire events, have been allocated for other entities to use. Given the response required across three regions, including the need to equip non-GWN regional QFES staff, it would not have been possible for QFES to supply radios to all entities who required them. The safety of crews on the fireground is maintained through many methods and not solely through the use of GWN. The use of GWN forms part of a multiple path way communications plan that has to be designed to cater for agencies that choose not to use the GWN. The Review Team heard that the lack of GWN radios and access to the GWN, impacted firefighting operations for other responding government agencies. The Review Team heard that the lack of integrated strategic communication plans impacted on the effective interoperability of responding entities including on some occasions, responders not communicating on the same channels or interoperability channels not being established.

Stakeholder interview extracts (observations)

QFES only have a certain amount of spare GWN radios.

There is an app that turns phones into GWN radios, but it can't be used if you are not on the GWN platform.

You can't coordinate air attacks if you don't have GWN radios.

GWN radios are not being used to the full extent particularly in applying situational awareness on the ground.

There was no communication plan for this event, you need TAC channels and Command Channels. We operated on different channels. The Incident Controller needs to set up how the communications will happen.

We need to think about communications before we deploy into an area.

We need a shared communication emergency channel for officer safety.

There was no combined communication plan for all agencies, and no one had allocated a combined operations channel.

Insights

When entities are deployed to fires within the GWN footprint, responders are more effective when they are equipped with GWN radios.

Observations indicate that capability integration and community safety maybe enhanced when strategic communication plans are collaboratively developed by all entities, in all facets of response operations.

The application of these insights for the broader disaster management sector should be considered in the following ways:

- Resources including communication systems being shared with entities who need them, when they need them.
- Entities developing integrated capabilities and shared capacity (including communication) to reduce the impact of fires on the community.
- Entities working together in a cooperative environment to achieve better results for the community including
 - understanding different needs and
 - understand the capability limits of the resources.

Media management

Good practice

The Review Team heard that, in general, media was managed well across all three bushfire events. Media crews were sensitive to and listened to requests and instructions from councils and other relevant agencies when dealing with members of the public affected by the bushfires. There were minimal observations of media intruding on the privacy of affected people, even though it seemed there was a substantial 'thirst for knowledge' from media outlets about the fires and their impact on people and properties.

The community engagement and media strategy employed for the Sarabah bushfire is a good example of a collaborative and coordinated approach that has the welfare of affected community at its core. During the Sarabah bushfire a close liaison was established and maintained between the QPS District Disaster Coordinator (DDC), the QFES Commander of Regional Operations and the Mayor of Scenic Rim Regional Council. The joint strategy ensured structured control of the media to keep them updated with enough information to satisfy their needs, while limiting their access to affected areas and evacuation centres. Combined media conferences were held daily at 9.00am and 3.00pm and media was given controlled access to affected areas to provide footage opportunities and keep the broader community informed.

Following the media conferences, community meetings were held daily at 4.00pm with no media permitted. Returning community members into the affected areas was also handled very well. People were told about any impact to their homes in a private setting away from any media. Residents were then escorted into the affected areas before any media were allowed access. This enabled residents to manage any interactions they had with the media and the opportunity to process any impact in their own time and way.

Insight

Media management may be more effective when a collaborative and coordinated approach is taken between key agencies.

The application of this insight for the broader disaster management sector should be considered in the following ways:

- Entities proactively and openly engage with the community.
- The community makes informed choices about disaster management and acts on them.
- Entities develop integrated capabilities and shared capacity to reduce the impact of fires on the community.

Response

Liaison Officers

Relevant 2018 recommendations

Recommendation 20

All agencies should identify the capacity and appropriate positions for the role of liaison officers, and ensure sufficient numbers are trained

Queensland Government Response - Accepted

Liaison officer roles will be identified and relevant training provided.

Recommendation 21

Coordinated arrangements for liaison officer deployment should be considered and documented by disaster management groups across the full spectrum of risk identified for their area of responsibility, and not rely on a singular inflexible approach.

Queensland Government Response – Accepted-in-principle

Liaison officer deployment principles will be developed and made available for the consideration of disaster management groups.

Good practice

The Review Team was advised that the placement of QPS, QPWS and QAS liaison officers (LO) in Regional Operations Centres (ROCs) and the State Operations Centre (SOC) facilitated a proactive and cooperative environment to achieve better results for affected communities.

Embedding QPS LOs in the QFES incident command operations was crucial to inter-agency cooperation. Collaborative tasking and a flow of accurate situational awareness information between entities was enabled. The Review Team heard there was a clear understanding of the roles of QPS and QFES in the ROCs, which facilitated the more effective deployment of QPS resources focusing on public safety and traffic management.

By co-locating the QPS forward command post with the Incident Command Centre (ICC) at Stanthorpe, situational and message verification was managed efficiently, and communication issues were minimised. By being positioned in the Stanthorpe Regional Operations Centre (ROC) from the time it was activated, Queensland Police Service (QPS) Liaison Officers (LO) were able to channel fire prediction advisories directly to QPS to inform evacuation and road closure decisions. The Review Team was told how a significant amount of disinformation from various social media sources created confusion for agencies and communities, so a single line of communication from fire through to QPS and LDMG stakeholders created a single point of factual truth.

The success of the QPS LO in the QFES incident command posts was replicated in Peregian. Obtaining and sharing accurate situational awareness information and resourcing, enabled agencies to coordinate, prioritise and share resources as required to meet operational requirements.

The Review Team also heard the placement of a QAS liaison officer in the SOC assisted in the effective coordination of support to those entities involved in firefighting operations, including providing medical and first aid support as required. The QAS also provided advice on evacuations, including of aged care facilities. Given the success of the placement of the liaison officers, QAS is now working with other entities to formalise this arrangement.

The placement of QPWS officers in ROCs and ICCs provided other disaster management entities with expert advice on vegetation management, including fire behavior through various vegetation types. This resulted in more effective use of fire-fighting resources. The Review Team also heard that due to a QPWS officer being attached to a ROC, approval was granted quickly to use fire suppressants through an aerial drop, in a fragile environmental area.

Opportunity for improvement

Although the Review Team was told about good practices relating to use of LOs, there were some instances where police and other disaster management entities were not always included in incident management teams or advised of key decisions. This is particularly relevant to the QPS, which has responsibility for mandatory evacuation under the State Disaster Management Plan and declaration of a disaster under the Act. Ensuring a police presence as part of decision making in all incident management teams, will allow relevant information to be provided to decision makers at the district level, including the DDC, and allow police resources to be deployed in the most appropriate way to maximise community safety.

Additionally, providing the opportunity for representatives from affected councils will ensure that any decisions about evacuations can be transmitted to Local Disaster Coordinators and Local Disaster Coordination Centres in a timely manner. This will also support the provision of appropriate information to allow activation of plans for evacuation centres, places of refuge and other community support mechanisms.

While the Review Team understands the need for urgency in some cases around decisions to evacuate, including members from QPS and affected councils in incident management teams will ensure decisions take into account all aspects of community safety. This may also improve the ability to better manage the consequences of these decisions.

Stakeholder interview extracts (observations)

In the incident management team structure, we had QPS liaison officers. This was the first time that they were in (the incident management structure and rooms) from the get go. We had them in the ICC, the ROC and the SOC. It was a clear decision process, are we evacuating people? Quick message, no confusion.

Placing a QPS liaison officer in the regional operations centre allowed for cooperation between QPS and QFES and allowed QPS to respond to incidents as they arose (and position staff/resources safely).

The police forward command post was co-located with the Incident Command Centre ... which was effective.

It was effective as the incident scaled up getting a QAS Liaison Officer into the SOC. This is evolving very positively, and we can provide direct support and advice to the other agencies. We are moving to formalise this through Queensland Health.

Fire prediction services in the ROC and police liaison allowed us to feed information direct to the police which helped inform evacuations and road closures.

Police liaison officers were very effective in the ROC which allowed for QFES to give direct communication on issues such as where evacuation was needed and safe zones to travel.

Because a high-level Parks official was in the ROC approval was granted quickly to use suppressants in a fragile eco area.

QPS liaison in the ROC was crucial to inter-agency cooperation including effective tasking of police by the liaison officer.

An advantage to standing up ROCs, ICCs and IMTs early was the deployment of resources.

Insights

The early placement of Queensland Police Service liaison officers in Regional Operations Centres resulted in enhanced cooperation with Queensland Fire & Emergency Services and allowed disaster management entities to respond to incidents as they arose, including more effective management of evacuations and road closures.

The placement of Queensland Ambulance Service liaison officers in the State Operations Centre and Queensland Parks and Wildlife Service officers in Regional Operations Centres assisted in the effective coordination of support to entities involved in firefighting operations.

Including the Queensland Police Service and affected councils on incident management teams may result in more collaborative and informed decision making, improved resource management, increased situational awareness and more timely and informed consequence management.

The application of these insights for the broader disaster management sector should be considered in the following ways:

- Shared understanding of how the impact of fires will be managed and coordinated.
- Collaborative culture within disaster management.
- Entities develop integrated capabilities and shared capacity to reduce the impact of disasters on the community.
- Centralised point of truth for collecting and confirming situational awareness, resourcing and staffing requirements for operations.
- Resources are prioritised and shared with those who need them, when they need them.

Temporary District Disaster Management Group

On 8 September the Logan/Gold Coast temporary district disaster management group DDMG was established, under section 28A of the Act, in response to the spread of the Sarabah bushfire across disaster district boundaries. The decision was made in consultation between key disaster management stakeholders, QPS personnel in strategic state disaster management positions, the Minister for Fire and Emergency Services and the Acting Chair of the Queensland Disaster Management Committee. This was the first time a temporary district disaster management group has been established during a response.

The Review Team were advised of some challenges in establishing the group, primarily due to limited governance processes and forms for establishment and approval. These were quickly developed and are now available for future similar actions. While some minor delays were experienced during the approval process, the temporary group was enacted within a suitable timeframe given the novelty of this process.

The Review Team heard that management of the group between Logan and Gold Coast was a worthwhile and beneficial undertaking. The Logan DDC became the combined DDC, with the Gold Coast DDC acting as the deputy on standby in case of a protracted activation. The Gold Coast Executive Officer (XO) became the primary XO responsible for operations, while the Logan XO became the deputy and was responsible for administration. The Review Team heard this worked exceptionally well due to the constant communication between the two, and the clear delineation of roles and responsibilities.

The district disaster coordination centre was established at Coomera. Geographically situated centrally between the two district offices, this was a good location to support collective resourcing. The Review Team heard that benefits of establishing the temporary group included more effective fatigue management and rostering, better communication and information flows.

Evacuation of correctional facilities

During the 2019 fire period, two correctional centres were evacuated. The Numinbah Correctional Centre which was evacuated on the 7th September 2019, is a low security centre for female prisoners located 100 kilometres south of Brisbane in the Gold Coast hinterland. The Palen Creek Correctional Centre which was evacuated on the 12th November 2019[†], is situated 100 kilometres south of Brisbane and is designed to accommodate low security male prisoners²¹. It is a working farm including livestock and at the time of evacuation housed 133 low security male prisoners.

While it was the first-time correctional centres were evacuated for a fire, Queensland Corrective Services (QCS) are well practiced and experienced in evacuating centres due to experience gained and lessons learned from cyclones in Northern Queensland. These experiences and lessons have been formalised within the organisation through the development of policies, procedures and business continuity plans that include regular exercising.

The decision to evacuate both centres was a result of smoke in the area, potentially affecting the health and wellbeing of prisoners and staff. In addition to smoke at Palen Creek Correctional Centre, staff were concerned about potential contamination from the fires of the centre's only water supply which is drawn from a natural spring. Planning for the evacuation of both centres took into account that evacuations had to occur during the day, given its less ideal to transport and process prisoners at night.

The male prisoners from Palen Creek were evacuated to a secure correctional centre at Borallon and were housed there until their return when conditions had improved. The female prisoners from Numinbah Correctional Centre were initially evacuated and housed temporarily at the Nerang Country Paradise Parkland. The Parkland is an approved community service site and prisoners have previously been sent to the parkland to conduct community service work. After the initial evacuation to the Paradise Parkland, and as conditions had not improved, the prisoners were moved to the Brisbane Women's Correctional Centre the following day.

The review team heard some concerns about the evacuation of prisoners to the Parkland site, including late notification from QCS to other entities that the prisoners were being temporarily evacuated to this location. Concerns regarding the notification meant that other agencies thought that suitable plans had not been put in place to manage security or public access to the site; although the review team confirmed with QCS that their evacuation plan included full security and transportation by QCS staff and concluded that QCS were well-practiced and resourced for evacuations. Enhanced communication by QCS for future evacuations may include consulting with relevant agencies in a timely manner prior to evacuating prisoners to non-correctional facilities.

The review team acknowledge that QCS has made further enhancements to their evacuation procedures following the learnings from the two recent evacuations, which include enhanced communication with relevant agencies prior, during and post evacuation of prisoners to any alternate site.

The evacuation of centres did have unforeseen advantages for fire-fighting operations. The use of the evacuated correctional centres as staging centres for responders and support agencies represents good practice in capability integration, collaboration and coordination. QCS were able to provide direct support to firefighting operations in allowing responders to use centres such as Palen Creek as rest areas including the provision of meals, fuel and water vital to fighting surrounding fires.

[†] While the evacuation of Palen Creek Correctional Centre occurred outside of the September fires period it has been included as it presents an opportunity to highlight good practice and opportunities for improvement.

Capability development

Good practice

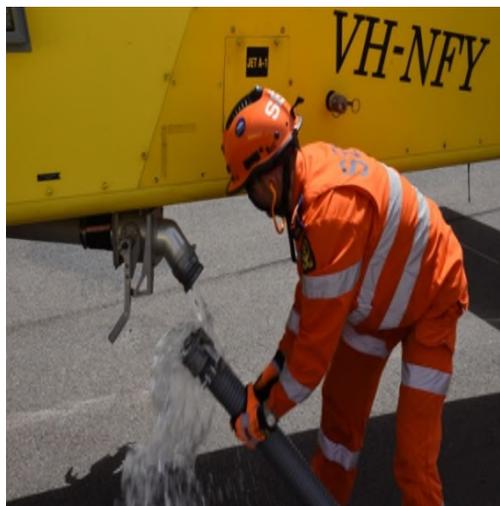
Strategy 2030 reflects how the QFES proposes to meet future challenges and realise opportunities that will be present in Queensland through to 2030. A guiding principle of Strategy 2030 is interoperability:

All parts of the system are able to work together effectively, in a coordinated way and can connect to neighbouring systems when needed. We will support individual parts or systems to complement each other for a seamless whole, without duplication or gaps²².

The *Standard* identifies the importance of capability integration. This includes entities developing capabilities to work together in an integrated manner to achieve disaster management outcomes²³. During consultation, the Review Team heard of the effective utilisation of trained SES officers to refill aircraft with water at regional airports. This allowed for trained fire fighters to be freed up to fight fires. The Review Team also heard of the enthusiasm, pride and professionalism that the SES officers brought to this new role. The below case study represents good practice in capability integration and interoperability and demonstrates how service areas within QFES shared capacity to reduce the impact of the fires on the community.

Case study - State Emergency Service aircraft handling

As part of the training and development pathway, QFES have developed, through the Air Operations Unit, a training program for five tiers of air operations. To qualify to work at QFES Air Base facilities and perform tasks including the replenishment of water and foam supplies on aircraft, the following courses must be completed:



- Air Operations Awareness AOPC005 – Awareness course broadly giving information about the aircraft utilised in operations and key aspects for working with aircraft at an incident.

- Air Base Operator AOPC110 – Enables participants to work effectively on an Airbase supporting air operations on an all hazards approach²⁴.

Over the past 18 months this training has been extended to the SES and 34 members have completed the required training enabling them to work safely around aircraft including refilling water bomber aircraft with water²⁵.

The purchase and development of a hangar at Toowoomba City Aerodrome has provided QFES State Air Operations Unit and the QFES South West Region, a hub for operations outside of the busy Brisbane airspace for training and innovation support. It also provides coverage across a greater landmass. The hangar has excellent facilities including training and briefing rooms and rest areas.

During the September fires, qualified SES staff were significantly involved in aircraft operations, including refilling aircraft with water and firefighting foam at airbases including the permanent facility at Toowoomba (Toowoomba City Aerodrome) and ad-hoc air base locations like Stanthorpe (Stanthorpe Aerodrome) to provide critical support to on the ground fire fighters. Also, during September, the SES significantly supported operations at the Stanthorpe Airbase for fires at Stanthorpe and Ballandean. As a senior QFES commander noted:

Having this capability available within our SES staff and volunteers and the benefits it provides, shows the true power of QFES when working as integrated services. It allows us to be more efficient and effective in the delivery of services to the community.

The use of trained SES staff in air support operations such as water refilling, allowed firefighters to be freed up to fight fires and resulted in more effective turnaround of air assets. Due to this capability, aircraft were able to be turned around in just over three minutes. The turnaround time for aircraft is a significant factor in the effectiveness of aerial suppression.

Air bases similar to Stanthorpe can also be established at locations including Tara and Inglewood and staffed by SES Airbase Operators, whose skills include developing innovative solutions to pipe water to the aircraft.



Stakeholder interview extracts (observations)

Engaging with SES and Rural Fire Service early, in the preparation and Lean Forward stages, and embedding these personnel with QFES operators for the fire response, ensured staffing capabilities were reasonable.

Use of trained SES staff in air support operations such as refilling of water allowed fire fighters to be freed up to fight fires and resulted in more effective turnaround of air assists used in fire fighting.

Also released a 7 day all hazards action plan which is being used currently - good liaison with other QFES RMs (SES & RFS).

More effective ROC could have been realised by including suitably trained SES and RFS to perform ancillary roles such as planning support.

Use of trained SES staff in air support operations such as refilling allowed fire fighters to be freed up to fight fires and resulted in more effective turnaround of air assists used in firefighting.

SES are a key operational support organisation for bushfires particularly through their new roles as aircraft refuelers and this capacity needs to be built up.

SES support extremely good.

Insight

The response to the fires was significantly enhanced through the deployment of suitably trained SES officers to refill aircraft with water. The use of SES officers in this new role, demonstrated effective integrated capabilities and shared capacity and consideration of opportunities for further support roles for SES officers will enhance community safety.

The application of this insight for the broader disaster management sector should be considered in the following ways:

- Entities develop integrated capabilities and shared capacity to reduce the impact of disasters on the community.
- Entities proactively work together in a cooperative environment to achieve better results for the community.
- A collaborative culture exists within disaster management.

Incident management skills and knowledge

Opportunity for improvement

The Review Team heard from senior QFES incident commanders that they faced unprecedented fire conditions and fire behaviour, including severe and catastrophic fires. QFES incident commanders involved in the September fires identified that consideration will need to be given to how to continuously improve planning, preparation and response to these changing fire conditions to minimise negative aspects of future fire events on the community. As one senior QFES incident commander noted:

We have seen a shift in fire weather patterns including cooler, dryer but more intense wind behaviour. We are not keeping up with trends, changes in climate and equipment may have to change. Consideration of our thinking and tactics needs to change. We need greater strategic capability in our thinking and decision making. It is not enough to only think about what is happening now – we need to think days and weeks in advance – we need to think more strategically including considering political, economic, social and community issues. New training such as a level three incident course would provide us with this capability.

QFES offers a number of courses through its Australasian Inter-Service Incident Management System (AIIMS) training program.

AIIMS will give all QFES personnel the basic skills and underpinning knowledge to support future incident response. Further experience and exercises will empower individuals to manage an escalating complex incident²⁶.

The Review Team heard of a significant effort undertaken by the Rural Fire Service in one region affected by the September fires to train experienced volunteers to national qualifications as Level 2 Incident Management Team members across the AIIMS functions and selected staff as Level 2 Incident Controllers. A training program was developed and subsequently rolled out over a two-year period and was delivered by an external provider. The program was gauged as a success with over 60 volunteers now trained to national qualifications Level 2 Incident Management Team members. Because of the training, volunteers were able to fill incident management roles during the September fires.

The QPS also offers a number of training packages in incident command, which includes virtual reality training. These are targeted at all supervisory levels, particularly sergeant and senior sergeant. The training equips officers to manage critical incidents at a number of levels and is a compulsory requirement for promotion to inspector level.

A key observation from the 2009 Victorian Bushfires Royal Commission included:

Initial and ongoing training for senior incident commanders needs to ensure that best practice knowledge and skills are provided to allow commanders to prepare, plan and respond to current and emerging fire conditions and behaviour including catastrophic rated fires²⁷.

Recommendation 17 from the Royal Commission stated:

The Country Fire Authority and the Department of Sustainability and Environment establish before the 2010 –11 fire season:

- *a uniform, objective and transparent process based on the current DSE approach for the accreditation of level 3 Incident Controllers;*
- *a performance review system for level 3 Incident Controllers; and*
- *a traineeship program for progression from level 2 to level 3 incident management team positions²⁸.*

As at November 2019, the Victorian Country Fire Authority (CFA) has trained and awarded 189 accredited level three Incident Management Team (IMT) units to senior incident commanders²⁹. By comparison, QFES currently have four Fire and Rescue staff who hold Level 3 Incident Management[‡] qualifications³⁰. The unprecedented fire conditions and behaviour of the September fires required incident commanders/controllers to consider a broader range of values and probabilities than would normally be experienced. The decisions are inherently complex, and decisions cannot be made from a single perspective. Enhanced strategic capability may enable senior incident commanders to more effectively plan, prepare for and respond to severe and catastrophic fires. Examining lessons from this, and other comparable events, would inform how best to develop strategic capability at a senior level. Given the unprecedented fire and weather conditions that were experienced in Stanthorpe, Sarabah and Peregian Springs in September, it would be opportune for QFES to review initial and ongoing incident management training for senior incident commanders/controllers, to ensure that best practice knowledge and skills are provided to allow commanders/controllers to prepare, plan and respond to current and emerging fire conditions including extreme and catastrophic rated fires.

[‡] QFES currently holds on its scope of training, the accredited unit PUAOPE019, Control a Level 3 Incident however no training material has been developed for this unit.

Stakeholder interview extracts (observations)

There is a gap between the training provided to QFES incident commanders and what was seen and experienced during the catastrophic fire conditions.

The nature of these catastrophic events means that all responders need to keep ahead of the trends and change old tactics to ensure the best intelligence is used.

There is a need to reinvigorate our AIIMS training to reflect the new normal.

All of those involved in incident management AIIMS is still a must however for Superintendent's above they should do controlling major incidents or something similar (Level 3 Incident Management).

A course similar to what QFES ran Managing Major Incidents is needed and at the AC level we need further training- media interviews, case studies etc. Queensland level 3 controller course should be all about all hazards.

Given the catastrophic fire conditions more people need to be trained to level three incident management.

Training should be a capability focus. We do need to look at training and in the future training model needs to be built around the capabilities the organisation has and training is consistent across the organisations for everyone.

Incident management is not a training problem, it is more a con-op^s problem - we need to explain to people how to operate and apply the AIIMS concept in our authorising environment including the politics, policies, procedures, legislation which is different from AIIMS now as it focuses historically on filling out forms.

Incident management is not about the technical piece; it is a system of management and command. An Incident Commander particularly at the level 3 incident command doesn't need to know how to squirt a hose or the tactical stuff, it is a consequence management role, dealing with the political consequences, making sure all the partners are well informed etc.

Insight

Future capability to plan, prepare and respond to severe and catastrophic fires may be enhanced through the provision of best practice knowledge and skills for senior incident commanders/controllers.

The application of this insight for the broader disaster management sector should be considered in the following ways:

- Entities further develop strategic integrated capabilities and shared capacity to reduce the impact of severe and catastrophic disasters on the community.
- Future capability development for senior incident commanders to plan, prepare and respond to severe and catastrophic fires should be:
 - determined by needs, roles and responsibilities
 - informed by evidence, risk and doctrine
 - informed by local, state, national and international best practice and research
 - examining lessons from this and other comparable events
 - consistent with recognised methodology.

[§] Concept of Operation

Operational information and intelligence

Relevant 2018 recommendations

Recommendation 12

The ability to share, analyse, interrogate and display information from disparate entities should be progressed as a matter of some urgency.

Queensland Government Response – Accepted-in-principle

Improved information sharing across disaster management stakeholders will be progressed through existing multi-agency initiatives.

Good practice

The Review Team heard some good feedback about the QFES Situational Awareness Platform (QFES SAP) and the products available from it during these events. The Queensland Disaster Management Arrangements (QDMA) Data Sharing Group was established to collect relevant data from QFES and other stakeholders across prevention, preparedness, response and recovery and allow it to be used and shared. The data is used through the QFES SAP to provide a range of resources to assist in multiple areas of operations. This includes a number of dashboards that illustrate disaster management group status; a Public Information Officer dashboard that includes numbers of different levels of warnings, locations by region and direct click links; and the ability to provide maps with various layers showing damage assessments, burnt areas, infrastructure and other information useful for planning and response.

Following the 2018 bushfire season, improvements made to the QFES SAP include data layers for the following:

- Emergency alerts
- Linescan burnt areas
- QPWS Flames Feed data (QPWS bushfires)
- Bureau of Meteorology fire weather warnings
- Bureau of Meteorology daily precipitation
- QFES local government area fire bans.

Across this same time period, use of the QFES SAP has dramatically increased due to product improvements, engagement and education activities and higher uptake of access. Figures provided by the QFES Planning Cell show that during the 2018 events, the total items viewed were 1,989, an average of 13.09 per day. To illustrate the improvement in access to and use of the platform, in 2019 this increased to a total of 6,580 items viewed averaging 43.29 items per day.

Some examples of products available include the Operation Redux dashboard and the Public Information Officer dashboard shown over the page.



Stakeholder interview extracts (observations)

What a great job you and the team have done to develop this tool.

It provides us the ability to monitor events as they occur and has improved situational awareness and planning capability. Our visibility of events has greatly increased.

A picture tells a thousand words.

I've been using the SAP over the last few weeks non-stop. It's been invaluable for providing updates and maps to my CEO/LDC and Mayor.

There is opportunity for the data sharing tool to be used better.

Opportunity for improvement

Information and intelligence are best used to protect the community when shared with all entities involved in a fire response and used in a consistent way. The Review Team heard from multiple stakeholders that a variety of maps (i.e. with different map layers) were used in predicting the fire behaviour and in ICCs planning how to fight the fires. It was strongly reinforced to the Review Team that the provision of consistent map layers would ensure all those responding during an event were using the same information and intelligence. A vegetation layer on a map provides critical information for decision makers about what type of vegetation is in an area and how long it takes to burn. Maps with black out / burn scar areas are also useful in understanding how a fire will behave in an area it is approaching. Advice from those who worked on the fire ground is that, as a minimum, the maps provided should include vegetation and black out layers.

The provision of consistent, standardised maps that are up to date should be provided to regions. It is understood by the Review Team that supplying these maps in PDF format allows for ease of printing in regions, as access to hard copy maps are crucial to best practice planning, coordination and response. There is also an opportunity to increase situational awareness by providing maps to LDMGs and DDMGs. This could be encouraged through the uptake of the QFES SAP product.

Stakeholder interview extracts (observations)

Hard copy maps need to be made available to all ICCs, ROCs and Incident Teams and a process must be improved between State and ROCs to facilitate this.

The provision of consistent map layers would ensure all those responding during an event were using the same information and intelligence. A vegetation layer on a map provides critical information for decision makers about what type of vegetation is in an area and how long it takes to burn. Maps with black out areas are also useful information to layer on a map.

The ability to have maps available at ROCs and ICCs and the ability of the GIS people to map current fire fronts and mitigation burns onto maps to provide to front line fire fighters is essential.

The use of PolAir for aerial mapping including thermal imaging (FLIR) mapping was very useful, this was however late in the piece. If this resource had been provided earlier, it would make predictive modelling more accurate and beneficial.

Troops need actual maps to use. We are using different systems to produce maps. We need a simple system to share maps.

Insight

The provision of consistent maps and map layers (in hard copy), using the same information and intelligence, enhances entities ability to develop integrated capabilities and shared capacity and reduce the impact of fires on the community.

The application of this insight for the broader disaster management sector should be considered in the following ways:

- Entities making decisions based on the best available intelligence and the capability and capacity of all entities.
- Resources including mapping layers being shared with entities who need them, when they need them.
- Entities developing integrated capabilities and shared capacity (including map layers and hard copy maps) to reduce the impact of fires on the community.

Conclusion

This review report focusses on a small proportion of the fires in Queensland at the beginning of the long 2019-20 fire season as a sample of the greater effort. It demonstrates clearly that changes have been made in arrangements since the 2018 Queensland Bushfires Review covering the previous season. The report deals with individual examples of exemplary practice in places. It shows the innovation, flexibility and partnerships which were illustrative of fire-fighting best practice where it occurred.

Also emerging from conversations and interviews are the commitment, courage, and resourcefulness of all involved; from professional firefighters and emergency services staff, through volunteers of the rural fire brigades, SES and members of the community. The review team heard of many acts of bravery, and of individual and collective resilience. Thanks, are particularly due to those members of the community who supported the firefighting effort. Without their support for activities such as essential mitigation burns and for their practical and emotional support of firefighters, the collective effort would have been much harder to deliver.

The season has not finished. The next will inevitably follow in a few months. It will be important in the intervening period for work already underway to address the opportunities for improvement identified here through observations and insights. The Office looks forward to seeing good practice evident in Area Fire Management Groups continue and grow. The emergency service sector has the opportunity to capitalise on the need for clarity in warnings, acknowledging that much work is already taking place, both in Queensland and nationally. Radio communications - a perennial issue in reviews of emergencies - would benefit from all first responders having access to the most appropriate radio communications for the area they are working in. Universal application of the excellent use of liaison officers would benefit communities across the state. Finally, enhancing capability of Incident commanders/controllers to prepare, plan and respond to trending conditions will enhance community safety.

It was encouraging to find there is a maturing of lessons management across the disaster management sector, with a developing culture that embraces learning and change and supports continuous improvement and lesson sharing. Numerous disaster sector management entities have established lessons management programs. Comments about their use suggests that they are effective.

The Office looks forward to highlighting this continuing work.

Appendix A: Review terms of reference

INSPECTOR GENERAL EMERGENCY MANAGEMENT

REVIEW TERMS OF REFERENCE 2019 Queensland Bushfires Review

Purpose

Section 16C of the *Disaster Management Act 2003* provides the Inspector-General Emergency Management with functions including:

- to regularly review and assess the effectiveness of disaster management by the State, including the State disaster management plan and its implementation;
- to review, assess and report on performance by entities responsible for disaster management in the State against the disaster management standards;
- to report to, and advise, the Minister about issues relating to the functions above
- to make all necessary inquiries to fulfil the functions above.

In accordance with these functions, the Office of the Inspector-General Emergency Management will undertake a review of the September 2019 bushfire event. The review is to be undertaken with consideration of the recommendations from the 2018-19 Bushfire Review report (2018-2019 recommendations), delivered by the Inspector General Emergency Management in June 2019.

The focus will be on providing observations as to the September 2019 bushfire event with a view to using these observations to consolidate the 2018-2019 recommendations, to ensure the Queensland Government has the best advice on the capability necessary to effectively prevent and respond to the threat of bushfires in Queensland.

In addition, in assessing the September 2019 bushfire event, the Office of the Inspector General Emergency Management will ensure best practice has been identified and highlight any areas where possible improvements could be made.

It is noted that the review maybe expanded to take into consideration the remainder of the bushfire season if conditions continue to show above normal bushfire potential.

Approach

The Review team will consult with the Queensland Police Service, Queensland Fire and Emergency Services, local, state and federal agencies, and other relevant entities to inform the findings of the review. The timing and the consultation arrangements must take into account any impact on first responders during the current fire season.

Where required, observations will inform continuous improvement in fire management and disaster management arrangements in Queensland in line with the Standard for Disaster Management in Queensland and other relevant doctrine.

Reporting

The Review report will be based on relevant Shared Responsibilities of the Standard for Disaster Management in Queensland.

The Review report will be provided to the Minister for Fire and Emergency Services.

Before finalising the Review report, the Review team will consult with relevant entities on draft findings and recommendations.

Appendix B: Community Survey Results



MCR Market & Communications Research

2019 Queensland Bushfires Review

Research with Community Members

Stanthorpe Infographic

Prepared for: The Office of the Inspector-General Emergency Management
Job #: 191774
Date: 5th December 2019



Queensland Government



RISK AWARENESS AND KNOWLEDGE OF LOCAL ARRANGEMENTS



PERCEIVED LIKELIHOOD OF DISASTER EVENTS



PREVIOUS EXPERIENCE OF A DISASTER EVENT



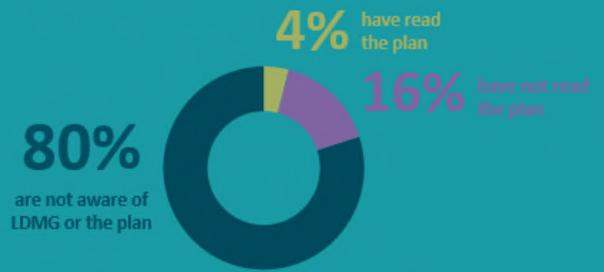
MOST COMMON DISASTERS EXPERIENCED BY COMMUNITY MEMBERS



2



HAVE EVER READ THE LDMG PLAN



ORGANISATION THOUGHT TO BE RESPONSIBLE FOR COORDINATING DISASTER RESPONSE

Queensland Fire and Emergency Services	28%
Local council	17%
State Emergency Service/SES	17%
Queensland Police Service	6%
Local Disaster Management Group	2%
Don't know	22%

STANTHORPE

DISASTER PREPARATIONS AND CONFIDENCE

▶ DISASTER PREPARATION BEHAVIOUR

Percentage of community members who have reported preparing the following:

A household Emergency Plan **66%**

An Evacuation Kit **63%**

An Evacuation Plan **61%**

A plan for what to do with family pets or other animals **59%**

An Emergency Kit **55%**

▶ COMMUNITY CONFIDENCE



96% were confident in their understanding of the local disaster risk to themselves and their property



94% were confident they were prepared for and know how to respond to and recover from a local disaster event



92% were confident that the official local response to a disaster event would be effective and coordinated



91% were confident they would receive adequate information or warnings about a potential local disaster event

▶ ACCESS TO DISASTER ADVICE

3

During a disaster situation, would you know where to get accurate and reliable information?



▶ DISASTER PREPARATION INFORMATION

Have you sought or received any disaster preparedness information in the last 12 months about getting ready for a local disaster event in your area?



44% have sought or received disaster preparedness information in the last 12 months

▶ EVACUATION ASSISTANCE

Would anyone in your household have a level of mobility that would require assistance from a carer to help evacuate?



14% would require assistance

STANTHORPE

DISASTER EVENT INFORMATION AND WARNINGS

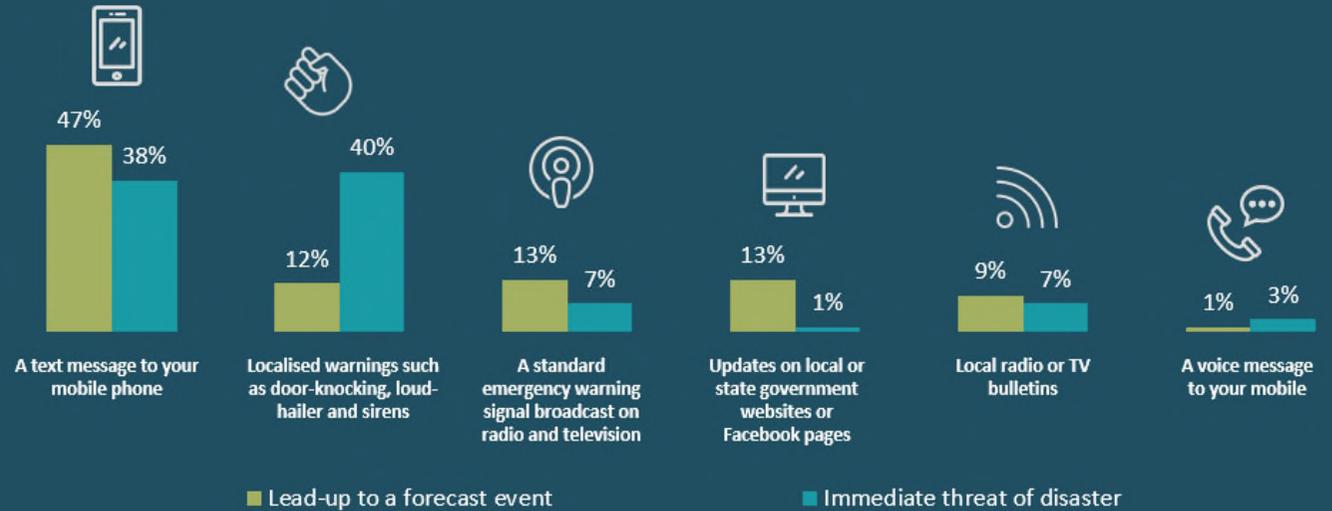
INFORMATION SOURCE WOULD GO TO IN THE EVENT OF A DISASTER

If you heard that a disaster event was about to impact you, which of the following would you be most likely to go to for more information?

Emergency services websites or Facebook pages (e.g. police/fire and rescue)	28%
Local radio	18%
Council website	17%
Television	11%
Bureau of Meteorology website	6%
Local council Facebook page	5%
Phone council/SES/Police	4%
Neighbours/Friends/Family	3%
Newspaper	2%
Facebook (local community/friend pages)	1%
None of the above	1%

MOST EXPECTED WARNING – IN LEAD-UP AND DURING AN IMMEDIATE THREAT OF DISASTER

Which of the following types of warnings would you most expect to receive in the lead-up or during an immediate threat of disaster?



REGISTERED TO RECEIVE WARNINGS/ALERTS

Are you registered to receive disaster information or warnings?



STANTHORPE

2019 Queensland Bushfires Review

Research with Community Members

Sarabah Infographic

Prepared for: The Office of the Inspector-General Emergency Management
Job #: 191774
Date: 5th December 2019



Queensland Government

RISK AWARENESS AND KNOWLEDGE OF LOCAL ARRANGEMENTS



PERCEIVED LIKELIHOOD OF DISASTER EVENTS



PREVIOUS EXPERIENCE OF A DISASTER EVENT



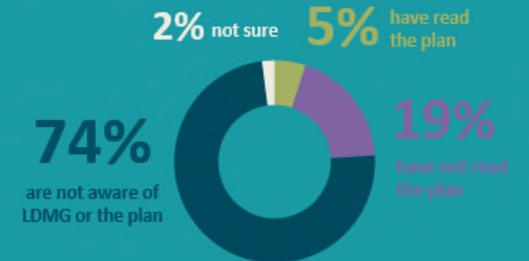
MOST COMMON DISASTERS EXPERIENCED BY COMMUNITY MEMBERS



6



HAVE EVER READ THE LDMG PLAN



ORGANISATION THOUGHT TO BE RESPONSIBLE FOR COORDINATING DISASTER RESPONSE

Queensland Fire and Emergency Services	60%
Local council	12%
State Emergency Service/SES	10%
Local Disaster Management Group	2%
Don't know	13%

SARABAH

DISASTER PREPARATIONS AND CONFIDENCE

▶ DISASTER PREPARATION BEHAVIOUR

Percentage of community members who have reported preparing the following:

A plan for what to do with family pets or other animals **81%**

An Evacuation Plan **74%**

An Emergency Kit **73%**

A household Emergency Plan **72%**

An Evacuation Kit **57%**

▶ COMMUNITY CONFIDENCE



93% were confident in their understanding of the local disaster risk to themselves and their property



91% were confident they were prepared for and know how to respond to and recover from a local disaster event



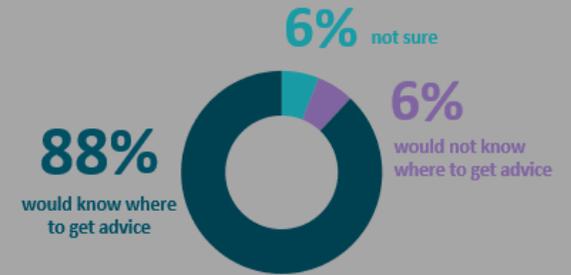
87% were confident that the official local response to a disaster event would be effective and coordinated



83% were confident they would receive adequate information or warnings about a potential local disaster event

▶ ACCESS TO DISASTER ADVICE

During a disaster situation, would you know where to get accurate and reliable information?



▶ DISASTER PREPARATION INFORMATION

Have you sought or received any disaster preparedness information in the last 12 months about getting ready for a local disaster event in your area?



61% have sought or received disaster preparedness information in the last 12 months

▶ EVACUATION ASSISTANCE

Would anyone in your household have a level of mobility that would require assistance from a carer to help evacuate?



11% would require assistance

SARABAH

DISASTER EVENT INFORMATION AND WARNINGS

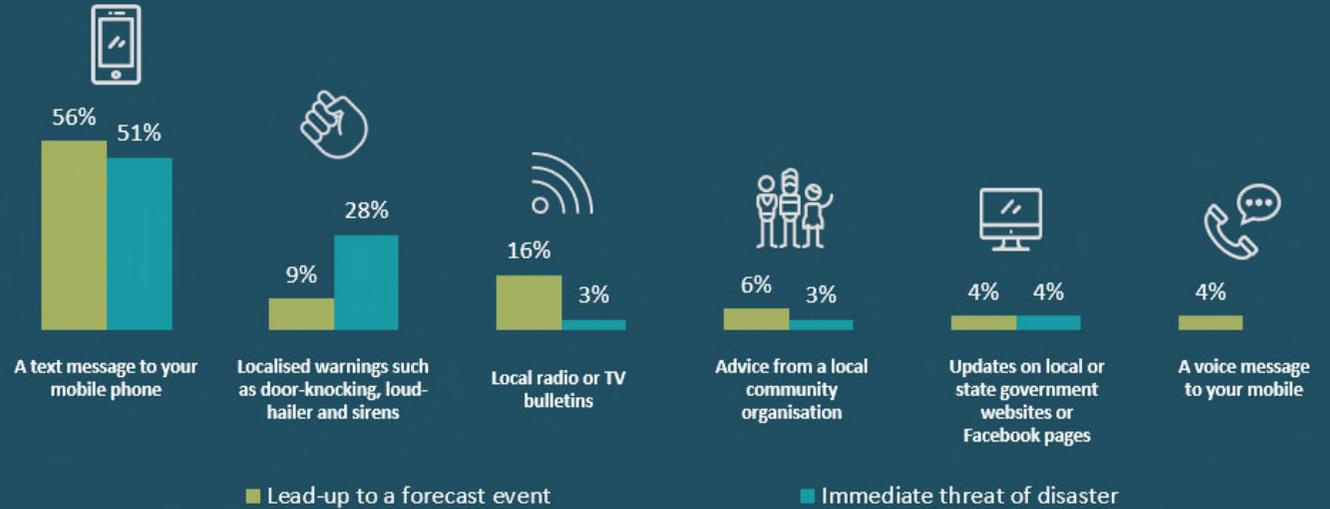
INFORMATION SOURCE WOULD GO TO IN THE EVENT OF A DISASTER

If you heard that a disaster event was about to impact you, which of the following would you be most likely to go to for more information?

Emergency services websites or Facebook pages (e.g. police/fire and rescue)	44%
Local radio	12%
Bureau of Meteorology website	12%
Television	9%
Phone council/SES/Police	8%
Council website	7%
Facebook (local community/friend pages)	2%
Neighbours/Friends/Family	2%
Local council Facebook page	1%
None of the above	1%

MOST EXPECTED WARNING – IN LEAD-UP AND DURING AN IMMEDIATE THREAT OF DISASTER

Which of the following types of warnings would you most expect to receive in the lead-up or during an immediate threat of disaster?



REGISTERED TO RECEIVE WARNINGS/ALERTS

Are you registered to receive disaster information or warnings?



SARABAH

2019 Queensland Bushfires Review

Research with Community Members

Peregrin Infographic

Prepared for: The Office of the Inspector-General Emergency Management
Job #: 191774
Date: 5th December 2019



Queensland Government

RISK AWARENESS AND KNOWLEDGE OF LOCAL ARRANGEMENTS



Average awareness of local disaster management arrangements is **6.53**

PERCEIVED LIKELIHOOD OF DISASTER EVENTS



7.91

Bushfire



5.42

Cyclone



3.24

Flooding due to ocean storm surge or storm tide



3.20

River flood due to heavy rainfall



2.78

Animal or crop disease or hazard



2.60

Chemical hazard



2.23

Earthquake



1.90

Flooding due to a release of water from the dam

More likely

Less likely

(Average on a scale of 1 to 10 where 1 is not at all likely and 10 is extremely likely)

PREVIOUS EXPERIENCE OF A DISASTER EVENT



MOST COMMON DISASTERS EXPERIENCED BY COMMUNITY MEMBERS



89%

Bushfire



9%

River flood due to heavy rainfall



7%

Cyclone



3%

Earthquake



2%

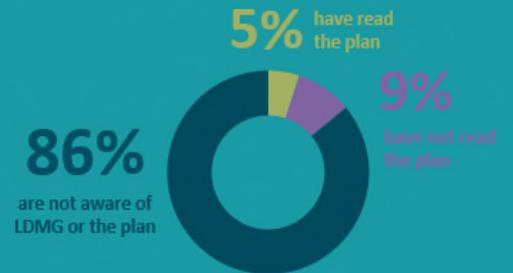
Chemical hazard

10



22% aware of LDMG

HAVE EVER READ THE LDMG PLAN



ORGANISATION THOUGHT TO BE RESPONSIBLE FOR COORDINATING DISASTER RESPONSE

Queensland Fire and Emergency Services	37%
Local council	13%
Local Disaster Management Group	12%
State Emergency Service/SES	12%
Queensland Police Service	11%
Don't know	14%

PEREGIAN

DISASTER PREPARATIONS AND CONFIDENCE

▶ DISASTER PREPARATION BEHAVIOUR

Percentage of community members who have reported preparing the following:

A household Emergency Plan **66%**



An Evacuation Plan **66%**



A plan for what to do with family pets or other animals **63%**



An Evacuation Kit **53%**



An Emergency Kit **40%**



▶ COMMUNITY CONFIDENCE



96% were confident they were prepared for and know how to respond to and recover from a local disaster event



94% were confident in their understanding of the local disaster risk to themselves and their property



94% were confident that the official local response to a disaster event would be effective and coordinated

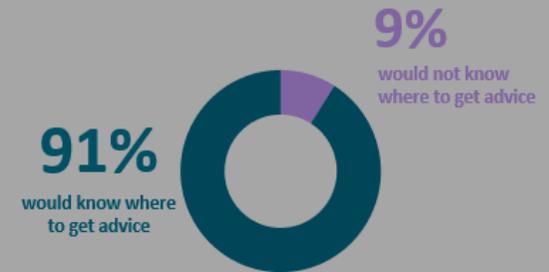


90% were confident they would receive adequate information or warnings about a potential local disaster event

▶ ACCESS TO DISASTER ADVICE

11

During a disaster situation, would you know where to get accurate and reliable information?



▶ DISASTER PREPARATION INFORMATION

Have you sought or received any disaster preparedness information in the last 12 months about getting ready for a local disaster event in your area?



56% have sought or received disaster preparedness information in the last 12 months

▶ EVACUATION ASSISTANCE

Would anyone in your household have a level of mobility that would require assistance from a carer to help evacuate?



8% would require assistance

PEREGIAN

DISASTER EVENT INFORMATION AND WARNINGS

INFORMATION SOURCE WOULD GO TO IN THE EVENT OF A DISASTER

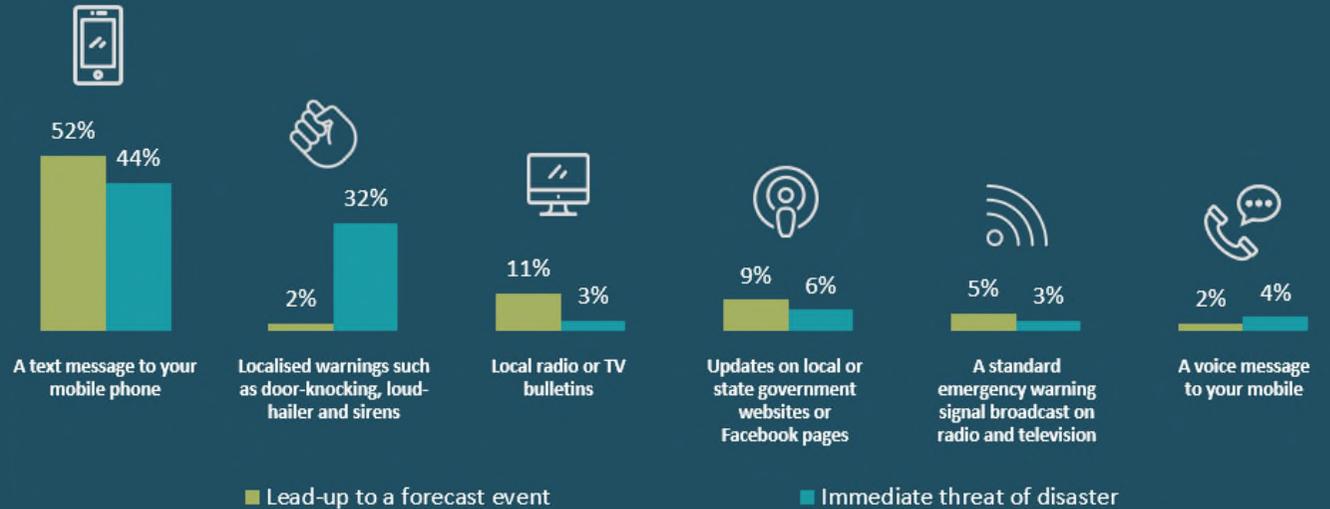
If you heard that a disaster event was about to impact you, which of the following would you be most likely to go to for more information?

Emergency services websites or Facebook pages (e.g. police/fire and rescue)	58%
Local radio	17%
Bureau of Meteorology website	8%
Television	3%
Council website	3%
Phone council/SES/Police	1%
Facebook (local community/friend pages)	1%
Neighbours/Friends/Family	1%
Local council Facebook page	1%

MOST EXPECTED WARNING – IN LEAD-UP AND DURING AN IMMEDIATE THREAT OF DISASTER

12

Which of the following types of warnings would you most expect to receive in the lead-up or during an immediate threat of disaster?



REGISTERED TO RECEIVE WARNINGS/ALERTS

Are you registered to receive disaster information or warnings?



PEREGIAN

SUMMARY - ALL AREAS	STANTHORPE	SARABAH	PEREGIAN																								
Average awareness of local disaster management arrangements (scale of 1-10)	5.50	6.30	6.53																								
Top of mind perceived risks	Stanthorpe Bushfire (81%) Drought (59%) Floods (27%)	Sarabah Bushfire (97%) Floods (39%) Storms (14%)/Landslides (14%)	Peregian Bushfire (85%) Storms (27%) Cyclones (19%)																								
Previous experience of a disaster	99%	97%	90%																								
Aware of the LDMG	39%	45%	22%																								
Have ever read the LDMG plan	4%	5%	5%																								
Top agency responsible for responding to and recovering from a disaster event	Queensland Fire and Emergency Services (28%)	Queensland Fire and Emergency Services (60%)	Queensland Fire and Emergency Services (37%)																								
Disaster preparation behaviours undertaken	<table border="1"> <thead> <tr> <th>Behaviour</th> <th>Stanthorpe</th> <th>Sarabah</th> <th>Peregian</th> </tr> </thead> <tbody> <tr> <td>Emergency Plan</td> <td>66%</td> <td>72%</td> <td>66%</td> </tr> <tr> <td>Emergency Kit</td> <td>55%</td> <td>73%</td> <td>40%</td> </tr> <tr> <td>Evacuation Plan</td> <td>61%</td> <td>74%</td> <td>66%</td> </tr> <tr> <td>A plan for pets</td> <td>59%</td> <td>81%</td> <td>63%</td> </tr> <tr> <td>Evacuation Kit</td> <td>63%</td> <td>57%</td> <td>53%</td> </tr> </tbody> </table>			Behaviour	Stanthorpe	Sarabah	Peregian	Emergency Plan	66%	72%	66%	Emergency Kit	55%	73%	40%	Evacuation Plan	61%	74%	66%	A plan for pets	59%	81%	63%	Evacuation Kit	63%	57%	53%
Behaviour	Stanthorpe	Sarabah	Peregian																								
Emergency Plan	66%	72%	66%																								
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A plan for pets	59%	81%	63%																								
Evacuation Kit	63%	57%	53%																								
Community confidence	94% 91% 96% were confident they are prepared for and know how to respond to and recover from a local disaster event	96% 93% 94% were confident in their understanding of the local disaster risk to themselves and their property	91% 83% 90% were confident they would receive adequate information or warnings about a potential local disaster event	92% 87% 94% were confident that the official local response to a disaster event would be effective and coordinated																							
Know where to access accurate and reliable information during a disaster	83%	88%	91%																								
Sought or received disaster preparedness information in the last 12 months	44%	61%	56%																								
Percentage who would require evacuation assistance	14%	11%	8%																								
Most expected warning in lead-up to a forecast event	Receive a warning via text message (47%)	Receive a warning via text message (56%)	Receive a warning via text message (52%)																								
Most expected warning during an immediate threat of disaster	Localised warnings (40%)	A text message (51%)	A text message (44%)																								

Appendix C: Recommendations from the 2018 Queensland Bushfire Review

As part of this review the Office was tasked with:

providing observations as to the September 2019 bushfire event with a view to using these observations to consolidate the 2018-2019 recommendations to ensure the Queensland Government has the best advice on the capability necessary to effectively prevent and respond to the threat of bushfires in Queensland.

Using the Office's monitoring and evaluation tool and processes, a priority assessment of the 2018 Bushfire Recommendations was undertaken for each of the twenty-three recommendations was undertaken, with each recommendation being assessed as either:

- **Immediate** - recommendations has outcomes that should begin straight away and demonstrate implementation without delay;
- **Timely** - completed at the most appropriate moment - recommendations has outcomes that should begin and demonstrate implementation when it will be of most use or effect; and
- **Routine** - recommendation has outcomes that will be implemented over a specific period of time.

Four recommendations (1, 2, 12 and 22) were assessed as being **Immediate** and the remaining 19 recommendations as being **Timely**.

For this review, the Office used the Terms of Reference and the 2018 Review recommendations to guide the process of evidence and observation collection. In cases where observations can be directly linked to 2018 Bushfire recommendations and planned government actions, an overview of the relevant recommendation/s is included at the start of each section of the report. In some cases, observations have also provided new insights about good practices and opportunities for improvement, and this was noted in the appropriate sections.

Progress on the implementation of the recommendations is evaluated using the Emergency Management Assurance Framework (EMAF) rating scale (below) with response to the recommendation considered:

- Implemented
- Strong
- Well Placed
- Development Area
- Limited
- Not Evidenced.

Recommendation 1	Queensland's plan and arrangements for heatwave should be reviewed to provide for an integrated multi-agency approach to the management. A single agency should lead and oversee this process.
Priority	Immediate
Lead Entity	Queensland Health
Status	The Office considers this recommendation has been implemented.
Comment	The Office has, as part of its evaluation process of the 2018 Bushfire Review recommendations, reviewed and documented the activities undertaken including supporting evidence by the lead entity in response to the Queensland Government activities and considers the response to this recommendation to be strong and the recommendation has been implemented.

Recommendation 2	Wherever possible, the antecedents that will lead to catastrophic fire weather conditions existing for a particular area should be identified and documented within fire management plan relevant to the area.
Priority	Immediate (recommendation has outcomes that should begin straight away and demonstrate implementation without delay)
Lead Entity	Queensland Fire and Emergency Services
Status	The Office considers the response to this recommendation is well placed. (Elements of the implementation of this recommendation relate to Recommendations 5 & 6)
Comment	The Office has, as part of its evaluation process of the 2018 Bushfire Review recommendations, reviewed and documented the activities undertaken including supporting evidence by the lead entity in response to the Queensland Government activities and considers the response to this recommendation. The Office recognises that QFES have noted the need to highlight antecedents of catastrophic conditions and have incorporated some in internal Bushfire Annexes to the State Bushfire Operational Plan 2019-2020. Further evidence is requested of how the Queensland Government activities relating to all stakeholders have been achieved particularly documenting the antecedents of catastrophic fire weather for example: - AFMG plan that demonstrates locally relevant antecedents.

Recommendation 12	The ability to share, analyse, interrogate and display information from disparate entities should be progressed as a matter of some urgency.
Priority	Immediate (recommendation has outcomes that should begin straight away and demonstrate implementation without delay)
Lead Entity	Queensland Fire and Emergency Services
Status	The intent of the recommendation has been met and continues to be met through QFES ongoing activities. The Office considers this recommendation has been implemented.
Comment	The Office has, as part of its evaluation process of the 2018 Bushfire Review recommendations, reviewed and documented the activities undertaken including supporting evidence by the lead entity in response to the Queensland Government activities and considers the intent of the recommendation has been met and continues to be met through QFES ongoing activities.

Recommendation 22	Clear public messaging regarding risks (if any) from the use of suppressants, including to 'organic' producers, should be developed and socialised before the next fire season and be readily available for dissemination when needed.
Priority	Immediate (recommendation has outcomes that should begin straight away and demonstrate implementation without delay)
Lead Entity	Queensland Fire and Emergency Services
Status	The intent of the recommendation has been met and continues to be met through QFES ongoing activities. The Office considers this recommendation has been implemented.
Comment	The Office has, as part of its evaluation process of the 2018 Bushfire Review recommendations, reviewed and documented the activities undertaken including supporting evidence by the lead entity in response to the Queensland Government activities and considers the intent of the recommendation has been met and continues to be met through QFES ongoing activities including the development and publication of factsheet for organic farms in April 2020.

The Office continues to work with lead agencies on the progress and outcomes of implementation of all 23 recommendations of the 2018 Queensland Bushfires Review.

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- ³ Bureau of Meteorology - <http://www.bom.gov.au/climate/>
- ⁴ State Disaster Coordination Centre – Key Messaging R14281222
- ⁵ State Disaster Coordination Centre – Queensland Emergency Management Report as at 1000hrs Thursday, 12 September 2019
- ⁶ State Disaster Coordination Centre – Key Messaging R14215822
- ⁷ https://gallery.mailchimp.com/1e7c1a2970397dbfe1eeaebc0/files/92e74718-8410-4744-a991-fd2d2111de37/SDRC_MEDIA_RELEASE_Temporary_water_restrictions_amnesty_announced_for_the_Stanthorpe_area_12_September_2019.pdf
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- ¹³ Government of Western Australia, Karla Wongi Fire Talk, <https://www.dpaw.wa.gov.au/images/documents/fire/karla-wongi-fire-talk.pdf> accessed on 26 November 2019
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- ¹⁶ Broadwater Hazard Reduction Burn Debrief, 26th September 2019.
- ¹⁷ Australian Institute for Disaster Resilience, 2019; Australian Disaster Resilience Handbook Collection, Lessons Management (2nd edition), East Melbourne, Victoria.
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- ²² QFES, Strategy 2030.
- ²³ IGEM, 2014, *Emergency Management Assurance Framework*.
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- ²⁸ 2009 Victorian Bushfires Royal Commission, Final Report, July 2010.
- ²⁹ Victorian Country Fire Authority, Email, 26th November 2019.
- ³⁰ Nexus, Learning Management System.