

41ST PARLIAMENT



Report 62

STANDING COMMITTEE ON ENVIRONMENT AND PUBLIC AFFAIRS

*Petition No. 029 – Request for an independent review of the
Department of Biodiversity, Conservation and Attractions
prescribed burning practices*

Presented by
Hon Peter Foster MLC (Chair)

June 2023

Standing Committee on Environment and Public Affairs

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EXECUTIVE SUMMARY

- 1 This report arises out of a petition, Petition No. 29 of the 41st Parliament, which called for the Legislative Council to recommend that the State Government of Western Australia commission an independent review of the Department of Biodiversity, Conservation and Attractions' (DBCA's) prescribed burning practices that includes an assessment of:
 - environmental objectives
 - research, monitoring and evaluation of ecological impacts on fauna and flora
 - application of relevant and recent leading external research
 - provision and integrity of Fire Exclusion Reference Areas
 - adaptive management for climate change, disease, drought, and wildfire
 - transparency, accountability, and public/stakeholder consultation.
- 2 The Standing Committee on Environment and Public Affairs considered evidence from the principal petitioner, Donald Clarke, the then Minister for Environment, Hon Amber-Jade Sanderson MLA, DBCA, the Department of Fire and Emergency Services, Fire and Biodiversity WA, The Leeuwin Group and The Bushfire Front.
- 3 DBCA has certain statutory duties under section 33 of the *Conservation and Land Management Act 1984* to manage land for which it is responsible (together with the associated fauna, flora and forest produce) and to take any measures deemed necessary for the purpose of preventing, managing or controlling fire on that land. That role includes bushfire mitigation, prescribed burning and bushfire suppression.
- 4 Prescribed burning as a bushfire mitigation method has received bipartisan political support for many years. Correspondence received by the Committee from Ministers relating to this petition and a previous one illustrate the views of the previous Government and the current one. In 2019, the Government reinforced its support for the program by announcing a \$22 million funding boost to DBCA's prescribed burning program over 4 years, in addition to the already allocated \$11 million for the south-west of the State.
- 5 It was noted by the Committee that all witnesses agreed that prescribed burning had a role to play in the mitigation of the threat of bushfires – it was the methods used by DBCA that were questioned by the petitioners and some witnesses.
- 6 On the basis of the evidence received and the field visits undertaken, the Committee was satisfied that it could rely on the expertise of the DBCA officers responsible for undertaking this task.
- 7 The Committee was of the view that improvements could be made in a number of areas:
 - more could be done in terms of public education, informing and engaging with stakeholders in the State as to why prescribed burning is carried out and the benefits that derive
 - more detailed pre-burn monitoring of fauna and flora, with the addition of more environmental staff if necessary, together with the use of available technology
 - the making available of as much information on the DBCA website as possible, particularly with regard to post-burn monitoring
 - closer and increased dialogue with local interest groups in the region.

- 8 The Committee was satisfied that DBCA is well aware of the need for improvement in these areas, and has an active program in place to achieve those improvements.
- 9 The Committee encourages DBCA in its pursuit of continuous improvement.
- 10 The Committee does not recommend to the Government that it commission an independent review of the DBCA's prescribed burning practices.

Findings

Findings are grouped as they appear in the text at the page number indicated:

FINDING 1

Page 20

The Department of Biodiversity, Conservation and Attractions' order of priorities when undertaking prescribed burns - firefighter safety, lives, assets and then environmental values - is supported.

FINDING 2

Page 20

Staff of the Department of Biodiversity, Conservation and Attractions aim to make best efforts to limit damage done to fauna and flora whilst undertaking prescribed burns.

FINDING 3

Page 20

The Committee does not agree that the prescribed burning program is merely target driven.

FINDING 4

Page 24

The Committee encourages further and closer collaboration between the Department of Biodiversity, Conservation and Attractions and local interest groups in the planning and implementation of prescribed burns.

FINDING 5

Page 26

The Department of Biodiversity, Conservation and Planning is aware of the potential threats posed by climate change, and is already dealing with and planning for those threats.

FINDING 6

Page 29

The Department of Biodiversity, Conservation and Attractions is aware of the desirability of providing more information to the community regarding the implementation of prescribed burns, and the outcomes of them, and is working towards that provision. This is something which the Committee encourages.

FINDING 7

Page 32

Fire can be unpredictable, and losses of fauna and flora will sadly occur. However, this is at a much lesser scale than if the area subject to an uncontrolled bushfire had been previously burnt through mitigation practices.

FINDING 8

Page 32

The Department of Biodiversity, Conservation and Attractions has a publicised commitment to continuous learning and improvement, the pursuit of which is encouraged.

FINDING 9

Page 33

The commissioning of an independent review of the Department of Biodiversity, Conservation and Attractions' prescribed burning practices is not regarded to be necessary.



CHAPTER 1

Introduction

Reference and procedure

- 1.1 On 15 September 2021, Hon Dr Sally Talbot MLC tabled a petition (the petition) in the Legislative Council, on behalf of Donald Clarke, which contained 1,710 signatures (Tabled Paper 608). The petition reads:
- We the undersigned are concerned that the current practice of broad-scale prescribed burning conducted by DBCA is having severe detrimental impacts on ecosystems. An independent review is needed.
- We therefore respectfully request that the Legislative Council recommend that the State Government of Western Australia commission an independent review of DBCA's prescribed burning practices that includes assessment of:
1. environmental objectives,
 2. research, monitoring and evaluation of ecological impacts on fauna and flora,
 3. application of relevant and recent leading external research,
 4. provision and integrity of Fire Exclusion Reference Areas,
 5. adaptive management for climate change, disease, drought, and wildfire
 6. transparency, accountability, and public/stakeholder consultation.
- 1.2 The DBCA referred to in the petition is the Department of Biodiversity, Conservation and Attractions.
- 1.3 The following day, the petition was re-tabled by Hon Jackie Jarvis MLC, again on behalf of Donald Clarke, containing a further 891 signatures (Tabled Paper 677).
- 1.4 The petition was referred to the Standing Committee on Environment and Public Affairs (the Committee) under Standing Order 102(6) of the Standing Orders of the Legislative Council.
- 1.5 As part of its preliminary enquiries, the Committee sought submissions from the principal petitioner and Hon Sally Talbot MLC, the original tabling Member. After receiving these responses, on 28 October 2021, it then wrote to Hon Amber-Jade Sanderson MLA, Minister for Environment, seeking a response to the petition and the submissions. That letter also drew the Minister's attention to a similar petition tabled in the previous Parliament (paragraphs 1.20 to 1.21 below).
- 1.6 The Minister provided a response to the Committee on 18 November 2021 (Hon Amber-Jade Sanderson, letter, 18 November 2021).

Visits

- 1.7 The Minister's response included an invitation to the Committee to undertake a field visit to view proposed and recent prescribed burns undertaken by DBCA to provide some further insight. The Committee resolved to accept that invitation, and field trips were undertaken in the Perth Hills/Mundaring area on 9 February 2022 and to the Margaret River region on 31 May 2022.

- 1.8 On the first visit, Committee Members were accompanied by 6 staff members of DBCA.¹ Following a 1 hour briefing and discussion, Members were given a tour around the Mundaring region, viewing areas that had undergone prescribed burns. They observed the differences between unburnt areas, areas subjected to prescribed burns conducted at various times and areas that have been scorched by uncontrolled bushfire.
- 1.9 It was explained to Members that, when conducting prescribed burns, the amount of heat is monitored to prevent the fire reaching the tree tops and cockatoo nesting burrows. Differences were observed in the scorch height of the trees between these areas. It was also possible to see the difference in ground litter remaining, and the ability for the land to rejuvenate compared to an uncontrolled bushfire.
- 1.10 Members were also able to observe the 3,000 hectare fire scar from the 2018 Mundaring bushfire. DBCA staff advised that this area is unlikely to ever grow back to its previous state.
- 1.11 The second visit, to the Margaret River region, was also hosted by DBCA staff.² A presentation was given, followed by a tour of prescribed burn sites as well as areas impacted by bushfires, including the Caves Road karri forest tourist stop.
- 1.12 Again, DBCA staff explained that prescribed burning involved slow moving fires (approximately 5 km per hour), which allows time for wildlife to disperse. The height of the flames does not reach the tops of the trees, allowing ringtail possums to stay there during the burn without impact (except smoke).
- 1.13 Members witnessed the 18-month regeneration of a prescribed burn area, exhibiting green foliage.
- 1.14 The Committee found the 2 visits of great value, and thanks the departmental staff who arranged and hosted them. Whilst it is acknowledged that what was seen may not be fully representative of all of the regions in the State, it was educational to observe the contrasts between areas that had been the subject of prescribed burns at different times and those that had suffered uncontrolled bushfires.

Hearings and submissions

- 1.15 The Committee resolved on 15 June 2022 to conduct a number of public hearings, and invited DBCA, the Department of Fire and Emergency Services (DFES), Fire and Biodiversity WA (FaBWA) and The Leeuwin Group (TLG). Those public hearings took place on 19 August 2022.
- 1.16 A submission from The Bushfire Front was later received by the Committee, dated 16 November 2022.
- 1.17 A list of submissions received, evidence collected, and public hearings conducted over the course of the Committee's enquiries may be found at Appendix 1. Copies of public submissions, replies and transcripts of evidence are available on the Committee's webpage at [Committee Details \(parliament.wa.gov.au\)](https://www.parliament.wa.gov.au/Committee/Details).
- 1.18 This report is not the outcome of a formal inquiry. In this instance, having considered the evidence provided and the knowledge gained during the field trips, the Committee was satisfied that a full inquiry was not necessary.

¹ Jason Foster, Executive Director, Stefan de Haan, Manager, Fire Management Services, Benson Todd, Regional Manager, Shawn Debono, District Manager, Michael Pasotti, District Fire Coordinator and Sandra Thomas, Senior Policy Officer.

² Jason Foster, Executive Director, Stefan de Haan, Manager Fire Management Services, Aminya Ennis, A/Regional Manager and Ed Hatherley, District Fire Coordinator, Blackwood District. Sandra Thomas, Senior Policy Advisor and Mitchell Goff, Policy Adviser, attended from the office of the Minister for Environment.

- 1.19 The Committee is grateful to those who made submissions and provided responses, and to the witnesses who appeared at the hearings, for their assistance.

Previous petition

- 1.20 A similar petition containing 213 signatures (Petition No. 161 of the 40th Parliament) was tabled in the Legislative Council on 19 August 2020 by Hon Diane Evers MLC (Tabled Paper 4133). Bart Lebbing was the principal petitioner. That petition read:

We the undersigned note that prescribed burning, based on area target instead of strategic assessment, is having detrimental and irreversible effects on threatened species and on the health and resilience of ecosystems. The south-west of Western Australia is of particular concern. It is listed as one of the world's 35 Global Biodiversity Hotspots as it is under severe threat by human activity.

We therefore respectfully request that the Legislative Council recommend that the State Government of Western Australia consider:

- Removing the prescribed burning area target for the Forest Management Plan area of the South West and investigate alternative approaches that cause less detriment to our environment.
- Increasing support for research and monitoring of the ecological impacts and recovery time of prescribed burning and bush fires.
- Encouraging research into cost efficiency and effectiveness of broad-scale prescribed burning, comparing it to selective, risk assessed, strategic mitigation activities close to infrastructure and implement recommendations.
- Supporting research and implementation of fire management technologies, particularly early detection and fast suppression of bush fire ignitions, to mitigate wildfires.
- Ending broad scale prescribed burning in the Conservation Estate, with land management focused on ecological objectives to conserve and protect the unique flora and fauna within these hotspots of biodiversity.
- Protecting long unburnt country and other reference areas in all vegetation types from the impact of fire, to enable the study of fire management, biodiversity, health and long-term viability of flora and fauna.

- 1.21 The Standing Committee on Environment and Public Affairs of the 40th Parliament finalised the petition on 15 October 2020, due to the time constraints of the impending prorogation of the Parliament. In the finalisation letter (Hon Matthew Swinbourn MLC, letter, 15 October 2020), the then Committee wrote:

The Committee recognises that prescribed burning is a complex issue which is the subject of conflicting scientific and political opinion. However, given this late point in the Parliamentary cycle, the Committee is not in a position to undertake a comprehensive inquiry into this matter.

Outline

- 1.22 In addition to requesting an independent review, the petitioners have raised concerns with 6 aspects of the DBCAs activities that they question:
- environmental objectives

- research, monitoring and evaluation of ecological impacts on fauna and flora
- application of relevant and recent leading external research
- provision and integrity of Fire Exclusion Reference Areas
- adaptive management for climate change, disease, drought and wildfire
- transparency, accountability, and public/stakeholder consultation.

1.23 Chapter 2 of this report will provide an outline of the roles of DBCA and DFES in fire activities and the way they carry them out. Chapter 3 will then provide an overview of the differing opinions regarding fire management in the south-west of the State, as set out by the petitioners and the witnesses who appeared before the Committee.

1.24 Chapter 4 will then look in more detail at the 6 particular aspects of DBCAs activities and the performance of its role as raised by the petitioners, and the Committee's comments on those aspects.

1.25 Chapter 5 will set out the Committee's conclusions.

CHAPTER 2

Background

Role and activities of the Department of Biodiversity, Conservation and Attractions

- 2.1 Under section 33 of the *Conservation and Land Management Act 1984*, DBCA has certain functions. Among these, under subsection (1) are:
- (a) to manage —
 - (i) land to which this Act applies; and
 - (ii) subject to the relevant section 8A agreement, section 8A land; and
 - (iii) subject to the relevant order made under section 8C, section 8C land,and the associated fauna, flora and forest produce; and
 - (aa) without limiting paragraph (a), to take any measures that the CEO considers necessary or expedient, including planned burning, on —
 - (i) land to which this Act applies; and
 - (ii) subject to the relevant section 8A agreement, section 8A land; and
 - (iii) subject to the relevant order made under section 8C, section 8C land,for the purpose of preventing, managing or controlling fire on that land.
- 2.2 That role includes bushfire mitigation, prescribed burning and bushfire suppression. For the purposes of clarity, 'section 8A land' is private or other land that DBCA has agreed to manage; 'section 8C land' is land which has been placed under the management of DBCA by the Governor on the recommendation of Ministers.
- 2.3 Jason Foster, Executive Director of the Regional and Fire Management Services Division of DBCA, told the Committee that, across the State, his department is responsible for preventing, managing and controlling fire on around 26.9 million hectares of land. It is also responsible for bushfire mitigation across approximately 91.4 million hectares of unallocated crown land and unmanaged crown reserves outside of the Perth metro and town sites (managed through a long-standing memorandum of understanding with the Department of Planning, Lands and Heritage). This is carried out through approximately 100 dedicated fire management staff and 320 frontline firefighters, typically located in the south west of the State (where the risk is greater), with an ability to call on around 500 additional staff in emergency situations.³
- 2.4 Prescribed burning is described by DBCA on its website as:
- Using planned fire to protect people and communities and as a management tool to maintain and enhance the natural environment.⁴

³ Jason Foster, Executive Director, Regional and Fire Management Services Division, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 11 January 2023, pp 2-3.

⁴ Department of Biodiversity, Conservation and Attractions, Parks and Wildlife Service, *Fire management, Fire management | Department of Biodiversity, Conservation and Attractions (dbca.wa.gov.au)*, 2 March 2022, accessed 11 January 2023.

2.5 As Stefan de Haan, Manager, Fire Management Services, DBCA pointed out, the behaviour of a bushfire depends on 3 factors (the fire behaviour triangle) — fuel, weather and topography. Fuel is the only element that can be controlled.⁵

2.6 On the DBCA website may be found its 'Fire Management Strategy', which 'outlines the key strategic priorities for fire management across the breadth of DBCA's bushfire risk mitigation and suppression responsibilities. The document has been updated to ensure key strategies are current. Input was sought and incorporated into the draft from a range of internal and external stakeholders.'⁶

2.7 Part 1 of that Strategy explains that:

Managing the fuel available to bushfires is critical to reducing bushfire risk. The department's approach to managing risk from bushfire is based on assessing those areas of greatest risk and directing activities and resources to those areas. Fuel management, especially prescribed burning, is the department's primary bushfire risk mitigation tool.

2.8 In her response to the Committee, the Minister stated that:

It is important to undertake prescribed burning across the landscape for the following reasons:

- Large bushfires that develop away from urban or settled areas can spread rapidly towards urban areas, and if they are burning in long unburnt vegetation, they can be difficult or impossible to control.
- Managing fuels in the broader landscape away from private property helps mitigate the impacts of bushfires on infrastructure corridors of economic and public safety significance (powerlines, highways etc.), biodiversity, recreational, water catchment and other values.
- Large intense bushfires can have devastating effects on biodiversity:
 - More than three quarters of quokka subpopulations known to be present within the 2015 O'Sullivan (Northcliffe) bushfire area were lost in this single event. The subpopulations that survived were in locations that burnt under less intense conditions, either mildly at night, as part of a back burn used to stop the fire, or in habitat that for some other reason did not burn as intensely.
 - Banksia tree survival and seed production (a critical food source for endangered Carnaby's black cockatoo) is lower following higher intensity bushfires compared to low intensity prescribed burns.
 - Native forests were significantly damaged as a result of severe fire behaviour associated with long unburnt vegetation in the O'Sullivan, Lower Hotham and Waroona fires. Some areas in the affected forests will take many decades to recover their structure.
- Maintaining low fuel levels in the broader landscape is also important for allowing fire sensitive ecosystems, such as western ground parrot habitat, riparian zones, peat swamps and rock outcrops, to function as refugia. The

⁵ Stefan de Haan, Manager, Fire Management Services, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 11 January 2023, p 11.

⁶ Department of Biodiversity, Conservation and Attractions website, [Fire Management Strategy \(dbca.wa.gov.au\)](https://www.dbca.wa.gov.au), accessed 11 January 2023.

ability to retain these areas as unburned is significantly reduced in the event of intense summer bushfires.

- Fighting bushfires in long unburnt vegetation is dangerous, and often unsuccessful because of the extreme fire behaviour. In populated areas of the State, such as the south-west, the State Government cannot accept a 'let it burn' policy because fires left unchecked can become very large, and burn over long distances and long time spans, eventually impacting communities and other values. It is therefore critical to manage fuel build-up both near private property and in the broader landscape, and incumbent on private property owners to also manage fuel on their land.

2.9 The Minister went on to explain that, in order to restrict the extent of bushfires impacting less than 1% of the landscape each year, the proportion of the landscape that needs to be fuel reduced is 7-9% per year. Therefore, in the south-west of the State, the annual prescribed burning target is approximately 200,000 hectares, which equates to about 8% of the DBCA-managed estate. This is likely to result in an average bushfire extent of less than about 25,000 hectares per year (or about 1%). The Minister cites research in support of these targets and practices. She adds that this research also demonstrates that the beneficial effect of prescribed burning on the incidence and extent of unplanned fires in south-west forests continues for around 6 years.⁷

2.10 The actual location of prescribed burns is determined annually. The planning phase was described to the Committee by Mr de Haan:

The annual burn program, or what we call our annual burn options program, is basically developed from the ground up. Initially, it is at a regional level, with a primary focus on managing bushfire risk across the landscape. During the development phase, there is extensive involvement with a large variety of stakeholders who provide various inputs into that process at both the local, regional and state level. As you can appreciate, there is a significant variety of stakeholders that we work with, so there is a fair number of inputs there.⁸

2.11 Mr de Haan continued:

Once we have the regional program, that is endorsed by our local regional manager. It is then provided up to me, as the manager of the fire management services branch, to endorse. Subsequently, I provide it to Jason, as the executive director, to endorse. Once that endorsement has happened within our division, that annual burn options program is tabled with our corporate executive and endorsed at that level. Following endorsement of the program, it is actually then put up on our public-facing internet page.⁹

2.12 That indicative annual program shows all areas that may have fire applied across the State within the financial year. The program is larger than required so as to provide operational flexibility in the application of it - clearly, weather conditions will play a part in whether a

⁷ Matthias Boer, Rohan Sadler, RS Wittkuhn, L Mccaw, Pauline Grierson, *Long-term impacts of prescribed burning on regional extent and incidence of wildfires – Evidence from 50 years of active fire management in SW Australian forests*, <https://research-repository.uwa.edu.au/en/publications/long-term-impacts-of-prescribed-burning-on-regional-extent-and-in>, 2009, accessed 11 January 2023.

⁸ Stefan de Haan, Manager, Fire Management Services, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, p 3.

⁹ Stefan de Haan, Manager, Fire Management Services, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, p 3.

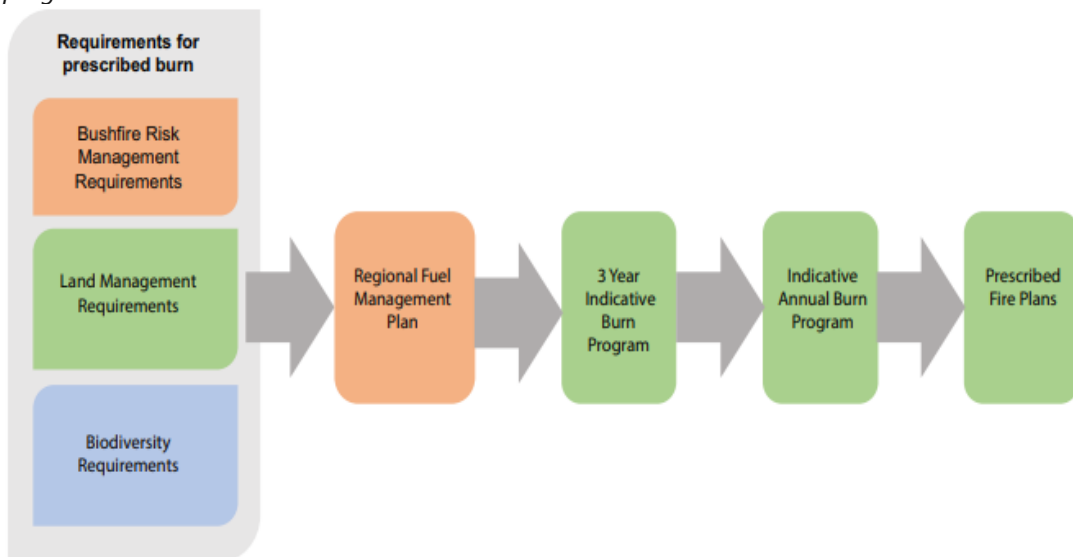
planned burn is ignited. The burns option program for any given year will identify around 400 burns, though only approximately 130 of those are actually implemented.¹⁰

- 2.13 There follows a more detailed element that underpins that annual program, which concerns an individual prescribed fire plan for each of those burns. This again is rolled-out from a local to a State level. Mr de Haan told the Committee:

There is a significant amount of detail that goes into that and quite detailed input from our specialist staff locally and across the department. That is when it starts to pull in more significant input from our stakeholders. Each of those plans has its own endorsement and approval process. Fundamentally, depending on the level of risk that is identified within the burn plan to carry out the burn, who actually provides the approval for the plans is either the district manager, the regional manager or myself for the high-risk burns.¹¹

- 2.14 An illustration of the planning process can be found in the Government’s Draft Forest Management Plan 2024-33:

Figure 1. *Broad outline of the approach to planning of the Department’s prescribed burning program*



[Source: Department of Biodiversity, Conservation and Attractions, Draft Forest Management Plan 2024-33, p 73.]

- 2.15 The Minister’s letter informed the Committee that consultation with external stakeholders is undertaken at a State, regional and district level. Methodologies utilised to conduct stakeholder engagement can include meetings, provision of information and maps, phone calls, emails, advertising, and mail notifications. All immediate neighbours to DBCA-managed lands are notified well in advance of any proposed prescribed burns. Advice is provided to neighbours about the proposed burn including a map identifying the area of proposed ignition. Nearby, but non-neighbouring landholders, can be advised of a proposed burn by other means that reference the department’s website where the burn program is published.
- 2.16 That consultation process involves First Nations representatives. In the south west of the State:

¹⁰ Tabled Paper 1 tabled by Jason Foster, Executive Director, Regional and Fire Management Services Division, Department of Biodiversity, Conservation and Attractions during hearing held 19 August 2022.

¹¹ Stefan de Haan, Manager, Fire Management Services, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 11 January 2023, pp 3-4.

the South West Aboriginal Land and Sea Council is the current peak body with respect to the consultation process, but with the south west native title settlement coming into effect and with the establishment of the regional corporations and the cooperative management committees in the process of being established, they will become a vehicle for us to strengthen our consultation with those local traditional owners under that framework, which is outlined clearly in the settlement. That process is currently in train from the settlement point of view, as I understand it, and we look forward to those committees being established and us entering into those agreements directly with those groups at a localised scale. We believe that is going to bring improvements to our consultation.¹²

2.17 For some industries, such as the honey and wine grape growing industries, there are specific consultation processes in place.

2.18 The Minister explained in her letter that this input and feedback from stakeholders and the broader community is considered to be mutually beneficial as:

- officers may not have certain information about the burn environment
- consultation may identify and fill knowledge gaps and ensure that planning is informed by the best available information
- undertaking prescribed burning requires tacit community consent. The community needs to understand the reasons for, and risk inherent in, undertaking or not undertaking, the burn
- stakeholders may need to change their behaviour to avoid the temporary effects of prescribed burns
- stakeholders may have outcomes they wish to achieve from prescribed burning which may be able to be incorporated to the burn program.

2.19 Having determined where a prescribed burn will take place, the methodology generally used by DBCA is 'mosaic burning.' This might be described as the deliberate creation of a mosaic of areas with differing fire histories, of burnt and unburnt patches of the landscape. Minister Sanderson explained:

The purpose of implementing prescribed burning at this scale is to provide a variety of vegetative stages across the landscape for ecosystem health, including different habitat requirements of species, and to reduce the risk of large-scale bushfires developing. Mosaics can be considered within burns (where patchy occurrence of fire or varying fire severity is considered), or across burns in a landscape (where patches have different times since last fire). DBCA aims to achieve both, through the implementation of individual burn plans, and more broadly through the development and delivery of a regional burn program.

2.20 Other prescribed fire regimes may be employed to meet different environmental and cultural needs. Cultural burning practices focus on cultural values for Indigenous Australians. The differences between cultural and contemporary burning practices are explained in a publication on the DBCA website, which also sets out how the various stakeholders work together. The document explains that:

While contemporary burning practices may differ from cultural burning practices, increasing engagement between traditional owners and other land managers is building an understanding of the differences, and is providing opportunities to

¹² Jason Foster, Executive Director, Regional and Fire Management Services Division, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 11 January 2023, pp 4-5.

improve fire management practices through a partnership approach. Importantly the two approaches are complementary and share the common goal to look after people and country.¹³

2.21 Following an individual prescribed burn, post-burn monitoring is carried-out.

The post-burn monitoring that we do, particularly at a local level for individual burns, is normally associated with going back to look at post-burn monitoring associated with threatened species—flora, fauna and threatened ecological communities. I guess, as I described, within that extensive burn planning process, we identify the values that are within the burn, and often they will be specific biodiversity values. As part of that planning process, we outline what we are going to do when we actually burn it and then what sort of post-burn activities we will undertake. Often, that will be a focus on monitoring to go back to check in terms of what we said we were going to do—have we achieved that, and what, if any, implications there are for those biodiversity values. That is the burn-by-burn monitoring.¹⁴

Role and activities of the Department of Fire and Emergency Services

2.22 Whilst this petition is about the activities and performance of DBCA, the Committee also took the opportunity to hear from DFES, represented by Murray Carter, Executive Director, Rural Fire Division.¹⁵

2.23 DFES is responsible for planned burns on unallocated Crown land and unmanaged reserves in the metropolitan area, and all town sites in Western Australia.

2.24 Other roles of relevance to these enquiries include the operation of the Bushfire Centre of Excellence, which concerns capability and training both in a bushfire response sense and also with regard to prescribed burning. DFES's website describes the Centre as:

an education hub where bushfire management personnel can come together for training and learning. Our dedicated team is also examining bushfire knowledge, research and the traditional fire practices of Aboriginal Australians.¹⁶

¹³ Department of Biodiversity, Conservation and Attractions website, [Cultural and contemporary burning in Western Australia \(dbca.wa.gov.au\)](https://www.dbca.wa.gov.au), accessed 24 January 2023.

¹⁴ Stefan de Haan, Manager, Fire Management Services, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 12 January 2023, p 6.

¹⁵ Murray Carter, Executive Director, Rural Fire Division, Department of Fire and Emergency Services, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 24 January 2023.

¹⁶ Department of Fire and Emergency Services, *Bushfire Centre of Excellence*, [Bushfire Centre of Excellence - Department of Fire and Emergency Services \(dfes.wa.gov.au\)](https://www.dfes.wa.gov.au), accessed 12 January 2023.

CHAPTER 3

Submissions regarding the Department of Biodiversity, Conservation and Attractions' performance

- 3.1 In support of the petition, the tabling Member provided a submission to the Committee (Hon Sally Talbot MLC, letter, 12 October 2021), in which she stated:

It has become increasingly clear to me that there is a wide variety of views in our community about what constitutes best practice in regard to prescribed burning. In particular, the threat to flora and fauna posed by certain types of burns is the subject of considerable and, in my opinion, often justified concern. Even if the need to reduce fuel loads is accepted, the question about the size and frequency of burns gives rise to further controversy ...

- 3.2 As part of its enquiries, the Committee invited 2 interest groups to appear before it in public hearings, Fire and Biodiversity WA and The Leeuwin Group.

Fire and Biodiversity WA

- 3.3 FaBWA appeared before the Committee on 19 April 2022, represented by Bart Lebbing, Convenor, and Dr Joanna Young and Melissa Howe, both members. Mr Lebbing was the principal petitioner of Petition No. 161 of the 40th Parliament (paragraphs 1.20 to 1.21 of this report).

- 3.4 Mr Lebbing described FaBWA as 'a group primarily set up to draw attention to adverse impacts of frequent, large and intense prescribed fire on the state's flora and fauna.' He went on to outline the group's motivation:

Much of what we have witnessed of the current practices of prescribed burning has disturbed us greatly—the scale, the severity and the frequency—which we have felt compelled to share with the community. Since 2019, we have lobbied government to implement an independent review into the practice. It is shocking to walk into a block, even after two or three years since a prescribed burn, and hear no evidence of birdlife or see very little evidence of small marsupials, but to find weed infestations and feral animals such as pigs in abundance.

As we live in one of the 37 biodiversity hotspots on the planet, we have an obligation to ensure the survival and wellbeing of the unique species we are sharing the land with. We think it is extremely important to have an independent assessment of the prescribed burning practice to analyse all aspects of this complex issue to find ways to be more effective in protecting communities from wildfire in a warming climate, as well as nurturing the plants and animals which make up our unique ecosystems in the south west.¹⁷

- 3.5 The Committee was provided (prior to the hearing) with a statement of concerns, dated 19 August 2022.¹⁸ The concerns fell under a number of headings:

1. *The negative impacts of prescribed burning on the biodiversity of the Southwest are not being acknowledged by the DBCA or acted on to inform their environmental management.*

¹⁷ Bart Lebbing, Convenor, Fire and Biodiversity WA, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 12 January 2023, p 2.

¹⁸ Tabled Paper 1 tabled by Bart Lebbing, Fire and Biodiversity WA during hearing held 19 August 2022.

By way of expansion, it was said that many prescribed burns seem to depart significantly from planned objectives and there is evidence of systemic failures in terms of damage to special habitats. There appears to be little appetite for critical on-ground monitoring and evaluation of outcomes to inform review and adaptive management. Furthermore, rapid-fire aerial ignition of large areas (often over 5,000ha), the lack of refuges left unburnt and the destruction of protective habitats will also contribute to decline of animal populations.

2. *The Forest Management Plan area burn target and DBCA Departmental and Management Plan Key Performance Indicators (KPIs) and Efficiency Indicators need review.*

In the view of FaBWA, the annual area target of 200,000 hectares should be abandoned. It is based on research that does not apply to the Forest Management Plan area of the south-west. More widely-based research is required.

3. *Transparency and the need for independent audits of DBCA performance.*

Access to burn plan documents and any assessments of burns should be readily available to the public.

The Leeuwin Group

- 3.6 TLG also appeared before the Committee on 19 August 2022. It was represented by Emeritus Professor John Bailey, TLG's Convenor, along with Emeritus Professor Sidney Bradshaw, Professor Stephen Hopper AC and Professor Kingsley Dixon.

- 3.7 TLG describes itself on its website as 'an independent group of concerned scientists who are committed to the conservation and protection of Western Australia's biodiversity and natural environment.' Its purpose is to 'provide high-level independent scientific commentary and advice on environmental matters to Government, industry, environmental organisations and managers.'¹⁹ Emeritus Professor Bradshaw told the Committee that:

our aim has always been to provide independent, unprejudiced, unbiased advice to government and other managers, based very much on scientific evidence and nothing more.²⁰

- 3.8 Prior to the hearing, TLG also provided the Committee with a document containing supporting exhibits and information, which set out a number of summary statements.²¹ Those summary statements read:

1. *There has been a demonstrable shift in DBCA's prescribed burning regime in forests, woodlands and kwongan heath away from mosaic burning for life and property protection and biodiversity conservation to primarily applying fire to minimize fuel accumulation.*
2. *This shift is driven in part by an annual area target which is best met economically by predominantly burning frequently large areas of conservation estate and the Walpole Wilderness rather than concentrating on protective burns for smaller areas adjacent to important life and property assets (towns, farms, industrial infrastructure and biodiversity-rich insular habitats such as granite outcrops and peat swamps).*

¹⁹ The Leeuwin Group, <https://theleeuwingroup.org.au/aboutUs.php>, 2023, accessed 12 January 2023.

²⁰ Emeritus Professor Bradshaw, The Leeuwin Group, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 12 January 2023, p 2.

²¹ Tabled Paper 1 tabled by Professor Dixon, The Leeuwin Group during hearing held 19 August 2022.

3. *Global warming renders wet insular habitats such as granite outcrops and peat swamps vulnerable to ignition from prescribed burns, a situation that was not as evident two decades ago under more consistent rainfall regimes.*
 4. *Threatened species confined to such habitats are at greater risk of extinction as a consequence. This is especially so for long lived obligate seeding plants such as some threatened Banksias and a range of fauna (reviewed by Bradshaw et al. 2018).*
 5. *The Leeuwin Group has been urging Government and relevant Departments to change current large area aerial ignition prescribed burns in native vegetation for more than a decade by publishing peer-reviewed scientific papers on the topic.*
 6. *To date DBCA has not engaged in a serious publicly open scientific review of this new information and changing climatic circumstances. Peat swamps increasingly are burning, for months, crown ignition continues at scale in national parks, granite rocks are also burning.*
 7. *Recent research with south coast Noongar Elders highlights a range of cultural heritage assets that also need protection from prescribed burning or more sophisticated cool season small scale burning regimes than aerial incendiaries allow e.g. boorna gnamma (water trees), gidge swamps (*Taxandria juniperina* – spear sources), many food sources, possum poles etc.*
 8. *DBCA in the past has managed karri regrowth, pine forests and blue gum forests to protect these assets from burning. It could do the same for special biodiversity assets if it restored its nature conservation staff to previous levels and engaged modern fire mitigation techniques as used in protecting commercial forestry assets.*
 9. *Dropping the annual burning targets is also an essential change in policy already undertaken in other States of Australia so that prescribed burning is concentrated close to assets needing protection (life, property, biodiversity) where the science indicates the best protective results are achieved.*
 10. *It is recommended that an independent judicially led scientific review of prescribed burning in the south-west Western Australia be commissioned, with expertise in ecosystem conservation, fire behaviour, forestry and public health (smoke effects) on the review panel.*
- 3.9 The paper went on to list a number of 'Key Points', supported by photographs, graphs and academic scientific reviews:

1. *Prescribed burning is not based on contemporary science.*

The key research publication used for the DBCA's burning regime (the de Boer study) is outdated and inappropriate for the South-west Bushfire Management Zone (BMZ).

In oral evidence to the Committee, Emeritus Professor Bradshaw expanded on that. He said:

When we published our paper in 2018²², we referred to a long-term study by DBCA, the Matthias Boer paper 2009, which reported a significant negative relationship between prescribed burning and wildfire. At that stage, we had no reason to question that. We accepted it in the paper. Our concern in the paper was as a consequence of that study, which recommended, essentially, burning every six

²² SD Bradshaw, KW Dixon, H Lambers, AT Cross, J Bailey, SD Hopper, *Understanding the long-term impact of prescribed burning in mediterranean-climate biodiversity hotspots, with a focus on south-western Australia*, University of Western Australia, 2018.

years, because after six years, the effect disappeared. We were concerned that the frequency of burning was highly detrimental to much of the wildlife.

...

our subsequent work led us to question the Boer paper. We have identified some potential flaws in the paper, which we have studied in much more detail.²³

2. *Prescribed burning is detrimental to threatened species and ecosystems.*

Of the 160 federally-listed threatened species that occur in the South West BMZ, over half are negatively impacted by High Frequency Fire and Out of Season Fire, as defined by the Threatened Species Scientific Committee. The impact of these altered fire regimes is likely to have a negative impact or is unknown for the majority of the threatened species and therefore the assumption of the prescribed burning regime having no impact is not based on scientific evidence.

3. *Longer time between fires does not always increase fire risk.*

Whereas DBCA's prescribed burning program was based on fuel loads as the primary risk to be managed, the Enhanced Burning Program since 2016 is based solely on time since last burn with no regard to fuel loads.

4. *Burns are not managed to minimise ecological impact.*

Despite DBCA's current research into the significant ecological and fire behaviour benefits of fine-scale mosaics of fire history, prescribed burning is increasingly occurring across larger areas, further from towns and with a significant portion of the 'indicative target' ignited by aerial incendiaries.

5. *Rapid detection and immediate suppression of ignitions.*

The time between ignition of a bushfire and the success probability of the first suppression activity is crucial. For forest fires, aerial suppression is twice as likely to succeed if done within 30 minutes of detection of a fire (particularly in very high and extreme Forest Fire Danger Index days).

3.10 Finally, the paper referred the Committee to a number of publications associated with TLG, together with brief summaries of each of them, and drew the attention of Members to the judgment in the WA Supreme Court case of *Southern Properties (WA) Pty Ltd -v- Executive Director of the Department of Conservation and Land Management* [2012].

3.11 TLG also supplied the Committee with another recently published paper — *Wildfire risk management across diverse bioregions in a changing climate* (Campbell, Bradshaw, Dixon, Zylstra). This became Tabled Paper 2.

²³ Emeritus Professor Bradshaw, The Leeuwin Group, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 12 January 2023, p 4.

CHAPTER 4

Issues raised by the petitioners

Environmental objectives

- 4.1 Mr Foster of DBCA told the Committee that the primary driver for the program is the safety of the staff involved. The main focus after that, based on the risk assessment, is the protection of assets, lives and communities.²⁴ Murray Carter, Executive Director of the Rural Fire Division of the Department of Fire and Emergency Services, told the Committee that:

the key to effective efficient and publicly acceptable prescribed burning programs at scale is the balancing act. That is really what this is all about. I think providing that balance across environmental values, heritage value, assets of value to people—that whole mix, I think, is the great challenge and the most important part of managing prescribed fire.²⁵

- 4.2 DBCA also needs to perform that balancing act, and environmental protection remains a major part of the DBCA's objectives. Part 3 of the DBCA's Fire Management Strategy states:

Maintaining ecosystem health

Many of Western Australia's native ecosystems have evolved with fire. The resilience and function of these ecosystems is often supported by varying the scale, seasonality, frequency and intensity of fire occurrence, within acceptable ranges, to create an appropriate mosaic of vegetation stages, types and structures across the landscape. The implementation of management measures to meet this objective will continue to be supported by science, enabling evidence-based decision making and the implementation of integrated fire management programs.

- 4.3 The main thrust of the petitioners' concerns is that 'the current practice of broad-scale prescribed burning conducted by DBCA is having severe detrimental impacts on ecosystems.' In his submission to the Committee in support of the petition (Donald Clarke, submission, 11 October 2021), the principal petitioner wrote:

As part of DBCA's environmental objectives, it is stated that, from a biodiversity perspective, prescribed burning is undertaken to maintain a range of wildlife habitat types and protect threatened species, while conserving the resilience of ecosystems. However, large areas are ignited frequently, more often resulting in higher severity burns with excessive canopy scorch and tree mortality, in contravention of DBCA's success criteria. Their method of aerial ignition affords few escape routes for fauna.

- 4.4 He added that, as DBCA aims to keep at least 45% of the region with a fuel age of under 6 years, this leaves very few longer unburnt areas required for specific fauna and flora species. Further, many fire-sensitive ecosystems, such as wetlands, peat swamps, granite outcrops and riparian zones in the south-west have been erroneously destroyed in the last decade with the implementation of extensive, severe prescribed burning.

²⁴ Jason Foster, Executive Director, Regional and Fire Management Services Division, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 8.

²⁵ Murray Carter, Executive Director of the Rural Fire Division of the Department of Fire and Emergency Services, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 3.

4.5 DBCA told the Committee that the burns planning process, described in Chapter 2 of this report, typically commences 3 years prior to implementation, to ensure thorough consideration of all necessary environmental, cultural, social and economic values. DBCA has embedded conservation staff who contribute to these planning processes. Conservation values include consideration of vegetation types, presence of a threatened species or threatened ecological community, or fire sensitive species. DBCA's approach, the Committee was told:

involves understanding which species and habitats may be sensitive to fire regime variation and documenting where they occur, and then modifying planning and implementation of prescribed burning when they intersect. Monitoring occurs of relevant threatened species following prescribed burning as a requirement of prescriptions.²⁶

4.6 Mr de Haan told the Committee that, outside of specific burns plans:

when there are threatened species involved, we actually also seek an authorisation under the Biodiversity Conservation Act. As part of that authorisation approach, the district or the region actually describes the potential impacts of the proposed burn on whatever threatened species may be identified during the planning process and then also has to articulate the measures that we take to mitigate those impacts.²⁷

4.7 Mr de Haan went on:

Quite often, there will be measures that we might do—what we call burn exclusion. Within a broader burn area, we will actually exclude fire from a certain portion because we want to exclude fire because of specific conservation values, or we might look at burning that burn at a certain time of year because of specific issues related to that threatened species or community, or the like.²⁸

4.8 Section 40 of the *Biodiversity Conservation Act 2016* allows the relevant Minister to authorise the taking or disturbance of a threatened species. Conditions may be imposed on that authorisation (section 41), including at subsection (3)(e), taking specified measures on land of conservation value (land where there is a population of the relevant species or a relevant habitat) for the purpose of conserving and protecting the relevant species or relevant habitat.

4.9 Mr de Haan continued:

Once that application process runs its course and an authorisation is provided, one of the things that is normally associated with the authorisation is requirements around follow-up post-burn monitoring and follow-up works once the burn is complete.

4.10 A major concern raised by the principal petitioner, supported by FaBWA and TLG, surrounds the DBCA practice of aerial ignition, and its effect on fauna. In the statement of concerns submitted to the Committee by FaBWA, concern about aerial ignition practices was further articulated:

²⁶ Tabled Paper 1 tabled by Jason Foster, Executive Director, Regional and Fire Management Services Division, Department of Biodiversity, Conservation and Attractions during hearing held 19 August 2022.

²⁷ Stefan de Haan, Manager, Fire Management Services, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 11 January 2023, p 4.

²⁸ Stefan de Haan, Manager, Fire Management Services, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 11 January 2023, p 4.

Fauna is threatened by prescribed fires especially when cumulative impacts result in degradation of habitats. Rapid-fire aerial ignition of large areas (often over 5,000 ha), the lack of refuges left unburnt, and the destruction of protective habitats will also contribute to decline of animal populations. We have evidence of maimed, dead, and starving animals because of prescribed burns. Known populations of fauna should be afforded a much greater degree of protection from prescribed fires. Methods of ignition should be reviewed to ensure inhumane outcomes for fauna are not accepted. The impacts on fauna from prescribed burns conducted by intensive aerial ignitions needs independent assessment.²⁹

- 4.11 The issue of rapid ignition of fires over large areas is, claim the witnesses, a result of a target of 200,000 hectares per year being set for the DBCA. Burning larger pieces of land makes meeting that target easier (as well as cheaper). Dr Joanna Young of FaBWA told the Committee:

We have blanket prescriptions. It is saying that we have a target in the forest management plan area to burn this 200 000 hectares a year. There are only two million hectares, I suppose, being managed in this way, so it has become very coarse. The other thing is that the department has not got the resources to map the fire-sensitive communities within that area. I think now there is just this target-driven approach and that is running over the top of everything.³⁰

- 4.12 That view was supported in oral evidence by Emeritus Professor John Bailey of TLG. He was of the view that:

One of the issues, and we assume it is for budgetary reasons, is that DBCA is moving increasingly to aerial ignition, which is much less specific in terms of the areas impacted and much larger in terms of area that is set fire to and, therefore, there is much reduced ability for animals of any size to escape that prescribed burn. I think that is one of the key issues—that DBCA has had to change their approach to fire, as I said, presumably because of budgetary reasons. That is fixable, if they are provided sufficient resources to manage fires on the ground rather than with aerial ignition.³¹

- 4.13 Mr Foster told the Committee that, in respect of the aerial tactics used, it can be a much more precise activity in terms of being able to better control fire activities. Mr de Haan added that using aerial ignition:

allows us the ability to manage planned fire, putting it into the landscape, much more precisely than we can do through ground-based ignitions.³²

- 4.14 In written evidence provided to the Committee, DBCA said:

DBCA uses a combination of aerial ignition and hand ignition to undertake most prescribed burns. Aerial ignition allows DBCA to safely and effectively operate in heavily vegetated areas like the forests of the south-west and to apply fire using defined ignition patterns. These defined ignition patterns are calculated using fire behaviour tables and forecast weather parameters in order to meet the set

²⁹ Tabled Paper 1 tabled by Bart Lebbing, Fire and Biodiversity WA during hearing held 19 August 2022.

³⁰ Dr Joanna Young, member, Fire and Biodiversity WA, transcript of evidence, Legislative Council, 19 August 2022, accessed 12 January 2023, p 5.

³¹ Emeritus Professor John Bailey, Convenor, The Leeuwin Group, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 11.

³² Jason Foster, Executive Director, Regional and Fire Management Services Division, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 9.

objectives of the burn. This approach is underpinned by decades of science and operational evidence and allows mild intensity fire to be applied at set spacings with the individual ignitions burning under mild conditions for a number of hours before joining up or self-extinguishing.³³

4.15 In oral evidence, Mr de Haan explained how aerial ignition of prescribed burns works:

Basically, we use aerial incendiary—little capsules—that we drop down into the forest floor. We work out a spacing and a certain number of hours of burning time. Normally, we do not start the aerial ignition component until late in the day. We drop those little capsules between 100 and 400 metres apart, depending on what the fire behaviour tables tell us. Then, into the evening we let that burn out at a relatively slow pace, and they may or may not meet up, and they may go out. That gives us that sort of mosaic of broken fuels and different fire intensities and the like within a burn area. If you were to undertake a burn like that by hand, fundamentally you would be having to light it all from the edge, and what you would probably get would be significant fire runs through the burn area of a fire front moving through, because you cannot actually space out that ignition component.³⁴

4.16 Mr de Haan added:

We are not out there chasing targets, per se; it is really about how we strategically implement the burns.³⁵

Committee comment

4.17 The list of priorities as described by DFES and DBCA witnesses is supported — that is, firefighter safety, lives and assets and then environmental values.

4.18 Whilst it is obviously the case that a fire causes damage, whether it is uncontrolled or is lit for mitigation purposes, the Committee was left in no doubt that best efforts are made by DBCA to limit that damage, particularly in terms of fauna and flora. During the visit to the Margaret River region, Members were told how the chosen ignition methods provide for slow burning fires (approximately 5 kilometres per hour) allowing time for wildlife to disperse.³⁶ Further, the height of the flames generally does not reach the tops of the trees, allowing ringtail possums to stay there during the burn. Whilst controlled burns may not be without unfortunate consequences on occasion, the Committee took the view, on balance, that such burns were less likely to cause damage to fauna and flora than if the area in question were the subject of an uncontrolled bushfire.

4.19 The Committee heard that DBCA has dedicated conservation staff involved in the prescribed burn planning processes, although Dr Young of FaBWA said that, in her view,

the way the budget seems to be distributed in the department is that the nature conservation branch, where you tend to have the ecologists and the biologists

³³ Tabled Paper 1 tabled by Jason Foster, Executive Director, Regional and Fire Management Services Division, Department of Biodiversity, Conservation and Attractions during hearing held 19 August 2022.

³⁴ Stefan de Haan, Manager, Fire Management Services, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 11 January 2023, p 9.

³⁵ Stefan de Haan, Manager, Fire Management Services, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 9.

³⁶ Emeritus Professor Bailey of TLG pointed out to the Committee that ‘there are lots of creatures that live on the forest floor—invertebrates that are critical for the breakdown of leaf litter and so on—that cannot do that, so the impact on fauna is much greater than the impact on cute and cuddly fauna. There is a lot more fauna than that that is critical to ecosystem function. That is an important point as well.’ Emeritus Professor Bradshaw, member, The Leeuwin Group, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 12 January 2023, p 9

who should be identifying biodiversity assets before the burn and doing the monitoring, their resources have been really retracting. There are less and less people on the ground. ... They have not got the resources to now go out and advise the fire managers what is out in these blocks.³⁷

4.20 By its own admissions, DBCA procedures are not perfect. The need for continuous improvement in this area is recognised. At paragraph 4.2 above, Part 3 of the DBCA's Fire Management Strategy (Maintaining ecosystem health) is set out. Beneath that, it says:

Objective:

Use fire management to maintain and enhance the diversity and resilience of the State's ecosystems.

Actions:

- Support research that assists in the development and implementation of fire management practices that maintain and enhance the diversity and resilience of ecosystems based on appropriate knowledge and technologies.
- Review existing area management plans to ensure that the identified fire management strategies are contemporary.
- Incorporate cultural fire management, where practical, that is informed by traditional knowledge held by Aboriginal people to enhance ecosystem health and function.
- Implement savannah burning in the Kimberley to decrease late dry season bushfires that significantly impact on biodiversity values and cultural heritage sites including rock art and burial sites; enabled through carbon emission abatement projects where possible.
- Develop and implement adaptive fire management programs to protect specific fire-vulnerable species and ecological communities.
- Develop and apply techniques to monitor and report on the effectiveness and efficiency of fire management practices and programs in maintaining ecosystem and environmental values.
- Continue to expand knowledge of ecologically sensitive sites across the State.

4.21 DBCA witnesses made no complaints about staffing levels during the hearings. Members did however gain the impression that Dr Young may have had a valid point. In order to properly carry-out pre-burn monitoring, there may be a need for DBCA to engage more conservation staff, particularly if the forward-looking actions listed above are to be achieved.

4.22 The Committee does not agree that the DBCA prescribed burning program is merely target driven, as maintained by petitioners and witnesses. That target, supported by Governments past and present, may not be achieved due to a large range of factors. The DBCA Annual Report for 2020-21 records that, of the nominal 200,000 hectares of burns planned at the

³⁷ Dr Joanna Young, member, Fire and Biodiversity WA, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 12 January 2023, p 6.

beginning of the year, just 164,445 were achieved.³⁸ The number of hectares subject to prescribed burning is recorded in the 2021-22 Annual Report as 184,495.³⁹

- 4.23 The Committee was not told whether any sanctions attach to this failure to achieve the 200,000 hectare target.

FINDING 1

The Department of Biodiversity, Conservation and Attractions' order of priorities when undertaking prescribed burns - firefighter safety, lives, assets and then environmental values - is supported.

FINDING 2

Staff of the Department of Biodiversity, Conservation and Attractions aim to make best efforts to limit damage done to fauna and flora whilst undertaking prescribed burns.

FINDING 3

The Committee does not agree that the prescribed burning program is merely target driven.

Research, monitoring and evaluation of ecological impacts on fauna and flora

- 4.24 In his submission to the Committee, the principal petitioner complained that the degree of DBCA monitoring of fauna and flora before and after prescribed burning is unknown. Results of such investigations are not readily publicly available. Nor is it known, he says, whether any monitoring programs are undertaken over sufficient periods to determine appropriate recovery time that takes the ecological condition of the species into consideration.

- 4.25 The quality of the post-burn monitoring undertaken was also criticised by witnesses before the Committee. Emeritus Professor Bailey, for example, said:

I think one of the areas where the science that DBCA does is lacking is in terms of pre and post-prescribed burn monitoring of the biodiversity that is in that environment. There is very little knowledge of what was there before and the impact of a prescribed burn.⁴⁰

- 4.26 Mr de Haan described to the Committee (paragraph 2.21 of this report) how post-burn monitoring is carried out, generally associated with threatened species and ecological communities. He also pointed out that such monitoring was usually a condition imposed on an authorisation provided under the *Biodiversity Conservation Act 2016* (paragraphs 4.8 and 4.9 of this report).

- 4.27 The Minister's letter informed the Committee that:

Burn evaluations are completed by the DBCA district following the burn. A post-season review is also completed by the region after each year's burn program. Considerations made during the review process include the:

³⁸ Department of Biodiversity, Conservation and Attractions website, *2020-21 Annual Report*, [Department of Biodiversity, Conservation and Attractions 2020-21 Annual Report](#), accessed 9 February 2023, p 60.

³⁹ Department of Biodiversity, Conservation and Attractions website, *2021-22 Annual Report*, [DBCAs 2021-22 Annual Report | Department of Biodiversity, Conservation and Attractions](#), accessed 9 February 2023, p 46.

⁴⁰ Emeritus Professor John Bailey, Convenor, The Leeuwin Group, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 9.

- extent to which burns met their objectives
- effect that bushfire had on the region's risk profile and land management requirements
- lessons that were learned during the planning and implementation of the burn program.

4.28 As well as the individual post-burn monitoring, the Minister's letter also stated:

DBCA monitors fire and other disturbances through programs such as ForestCheck and the Walpole Fire Mosaic project, as well as developing a ground-truthed process to undertake satellite-based burn severity mapping for prescribed burns.

4.29 ForestCheck is described as a long-term monitoring program rather than a scientific experiment. It is designed to provide information to forest managers about changes and trends in biodiversity associated with forest activities.⁴¹

4.30 Witnesses before the Committee however felt that this resource was of limited value. Emeritus Professor Bailey was of the view:

The system that DBCA has used historically is called FORESTCHECK, which is very limited in its scope. It does look at all taxa in a particular location, but it is so resource intensive that it has only occurred a few times in particular locations. It is certainly the case that we need more investment in understanding the biodiversity in a given location so that the values at risk from prescribed burning and/or wildfire can be well grasped. That can then inform the critical species that are monitored pre and post burn.⁴²

4.31 Professor Hopper added:

FORESTCHECK does not actually consider all the species. The statistical methodology used to identify communities in forests requires the elimination of the rare things and a focus on the common things, yet it is the rare things that we are concerned about.⁴³

4.32 DBCA conceded before the Committee that:

More broadly, across the south west particularly, the department is always looking to improve and enhance our monitoring approach because that is obviously integral to informing what we do, and the reality is potentially changing some of the elements of what we actually undertake.⁴⁴

4.33 As well as shortcomings about the quality of post-burn monitoring carried out, the petitioners complain that the results of that monitoring are not widely available. When asked whether the information gleaned from individual post-burn monitoring is publicly available, Mr de Haan conceded that it is not.⁴⁵

⁴¹ Department of Biodiversity, Conservation and Attractions website, [FORESTCHECK - Parks and Wildlife Service](#), 17 February 2014, accessed 24 January 2023.

⁴² Emeritus Professor John Bailey, Convenor, The Leeuwin Group, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 13.

⁴³ Professor Stephen Hopper, The Leeuwin Group, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 13.

⁴⁴ Stefan de Haan, Manager, Fire Management Services, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 11 January 2023, p 6.

⁴⁵ Stefan de Haan, Manager, Fire Management Services, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 11 January 2023, p 6.

Committee comment

- 4.34 The Committee's view on lack of transparency can be found later in this report at paragraphs 4.72 to 4.76.
- 4.35 There are processes in place for public consultation prior to planned burns, and some pre-burn information is available on the DBCA website. There is some understandable reluctance on the part of DBCA to provide more detail online regarding individual burn plans, as this could alert the public to the location of threatened species of fauna and flora. It could also attract protesters to the site, potentially causing danger to themselves and others.
- 4.36 Post-burn monitoring is carried out, but the Committee was told that DBCA is looking to improve upon the amount of information that will be made publicly available in the future (paragraphs 4.74 and 4.75 below). This is something that the Committee would encourage.

Application of relevant and recent leading external research

- 4.37 In support of the petition, the principal petitioner submitted:

DBCA claims that the PB [prescribed burn] program is supported by peer-reviewed research. However, the scientific evidence in support of the effectiveness of prescribed burns in controlling the extent of bushfires is limited. In contrast, the assertion that broad-scale PB is having detrimental and irreversible impacts on threatened and fire-sensitive species, and on the health and resilience of ecosystems, is solidly supported by recent scientific research.

- 4.38 The assertion that DBCA is failing to apply recent and relevant scientific evidence was supported in the written statement presented to the Committee by FaBWA on 19 August 2022. This said:

We believe that the department is not heeding the warnings of scientists and others in the community and the department is not prepared to embrace ideas or science relating to biodiversity conservation or evaluating the impact or sustainability of long-term prescribed burning regimes ongoing, emanating from both within and outside the department.⁴⁶

- 4.39 The Minister's letter informed the Committee that DBCA is aware of research that states alternate views regarding fire management in south-west forests. After review and consideration, DBCA has determined that key elements of this research do not appropriately consider aspects relevant to south-west forests such as actual fuel accumulation patterns, documented relationships with fire behaviour, currently implemented policy frameworks, actual fire intervals and relevant fire interval thresholds.

- 4.40 DBCA provided the Committee with written responses to some of the issues raised, which can be found in Tabled Paper 1. Regarding DBCA's own research capabilities, it said that:

DBCA is fortunate to be one of the only remaining land management agencies across Australia that has a dedicated in-house science and research capacity. DBCA has a Fire science program with 8 staff 7.3 FTE (5.5 permanent FTE).

- 4.41 The document goes on:

DBCA maintains an active on-ground fire research program with a State-wide focus and collaborates with a range of organisations across Australia and internationally, that have scientific expertise relevant to bushfire science.

⁴⁶ Tabled Paper 1 tabled by Bart Lebbing, Fire and Biodiversity WA during hearing held 19 August 2022.

...

While there is a significant body of peer reviewed research which supports our approach here in WA, DBCA acknowledges that there are a range of different scientific views. However, if you were to ask any experienced bush firefighter whether they would rather tackle a significant bushfire in young fuels or long unburnt fuels they would provide a clear response that they would choose young fuels every time. This is also an important consideration when it comes to protecting our firefighters and volunteer firefighters.

4.42 Elsewhere in Tabled Paper 1, DBCA informed the Committee that:

DBCA delivers science across the organisation (via Biodiversity Conservation Science (BCS)), providing science and biodiversity knowledge to support the functions of the department.

BCS is structured into programs focused on key themes for the delivery of targeted science to support evidence-based decision making and the conservation and land management functions of the department.

Fire Science is one of these programs with current research themes of the program being focused on bushfire risk management analysis, fuel assessment and management, fire behaviour, fire ecology and biodiversity and fire regimes.

There are a number of inputs into this research from across all of the BCS programs and from operational activities with a focus being on the complex processes that contribute to the overall health of Western Australian landscapes and the State's important biodiversity values.

DBCA Fire Science program has a budget of approximately \$956,000 in 2022-2023.

DBCA maintains an active on-ground fire research program with a State-wide focus and collaborates with a range of tertiary institutions and organisations across Australia and internationally, that have scientific expertise relevant to bushfire science.

DBCA's fire science researchers collaborate with other scientists and managers in DBCA and other government departments (e.g., DFES), in CSIRO, the Bureau of Meteorology, the Bushfire and Natural Hazards CRC (now Natural Hazards Research Australia), as well as all West Australian universities (Murdoch, Curtin, ECU, UWA, Notre Dame), and universities around Australia and overseas - e.g., UNSW, AND, University of Wollongong, Charles Darwin University, Max Planck Institute (Germany), University of California - Davis, USDA Forest Service.

Committee comment

4.43 The Committee notes that DBCA has a dedicated and active fire research division which collaborates widely with experts, and a continuing undertaking to take into account relevant research is a part of the action plan going forward (paragraph 4.20 of this report).

4.44 Clearly, the evaluation and use of relevant research continues. The Minister's letter to the Committee lists one area of identified work for the future to be:

Effective utilisation and operational delivery of research from Natural Hazards Research Australia (and from the former Bushfire Natural Hazards Cooperative Research Centre), and other external research providers. DBCA's Fire Science Program plays an important role in evaluating new research and determining how new knowledge and products can be most effectively integrated into DBCA's operational fire program. This is facilitated through DBCA's internal Fire Research

Engagement Group which includes representatives from Fire Management Services Branch, Fire Science Program and operational managers from regions throughout the State. New research products developed by the Bushfire and Natural Hazards Cooperative Research Centre currently under evaluation include the JASMIN soil moisture model, and the Pyrocumulonimbus Firepower Threshold diagnostic.

- 4.45 Emeritus Professor Bailey told the Committee that TLG does provide its advice to DBCA, though he was not sure how successful it was in being heard.⁴⁷
- 4.46 Whether DBCA researchers and scientists agree with the advice given by expert groups such as TLG, and indeed other interest groups such as FaBWA, the Committee sees merit in further and closer consultation and collaboration between DBCA and those groups.

FINDING 4

The Committee encourages further and closer collaboration between the Department of Biodiversity, Conservation and Attractions and local interest groups in the planning and implementation of prescribed burns.

Provision and integrity of Fire Exclusion Reference Areas

- 4.47 Minister Sanderson, in her letter to the Committee, explained that:

DBCA maintains a network of Fire Exclusion Reference Areas (FERA) which assists with long-term monitoring and research, by providing representative long-unburned landscapes within the areas in which they are located. FERA are generally areas that are greater than 10 to 20 years since last fire. These fixed locations are available for research activities, as points of reference for studies of fire-driven ecosystem change, and for education and training. The network is not designed as a conservation measure, but rather an opportunity to allow research.

- 4.48 In Tabled Paper 1, DBCA added that:

The network is currently designed to represent all landscape conservation units with consideration of forest ecosystem types.

FERA size is constrained within a specified range. If they are too large, they become a hazard to themselves as the likelihood of ignition occurring or fire encroaching upon them increases, and they are then likely to be completely burnt.

- 4.49 To be effective, according to the submission of the principal petitioner, there should be many areas of different fire ages and sufficient size, representing a diversity of ecological niches and vegetation associations across the landscape. He went on:

It seems likely that the number and size of current FERAs may be insufficient to be effective; In May 2020, there were 62 FERA's in all of WA, of which 10 have been partially or completely burnt by wildfire since being established. And two FERA's have been subject to PB since being established.

- 4.50 In an answer to a question on notice given on 16 June 2020, Hon Stephen Dawson MLC told the Legislative Council that there were 60 FERAs at that time. Ten of those had been partially or completely burnt by bushfires resulting from lightning, arson or accidental ignition since

⁴⁷ Emeritus Professor John Bailey, Convenor, The Leeuwin Group, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 3.

being established. Minister Dawson confirmed that 2 FERAs had been partially burnt as a result of prescribed fires since being established.⁴⁸

4.51 The principal petitioner added that, currently, FERAs can be withdrawn or re-designated without Ministerial approval or stakeholder/community consultation. This is correct. In another answer to the Legislative Council on 31 March 2020, Minister Dawson confirmed that external consultation on FERAs is not required.⁴⁹

4.52 During the hearing with DFES, the Committee asked for comments on the petitioners' issues regarding FERAs. Mr Carter said:

Excluding fire from a particular area is not a bad thing. In terms of reference, I am okay with that. The practicality of doing that is a different thing. If you want to exclude fire from a patch, if you like, depending on the scale of it in Western Australia—coming back to my earlier remarks—inevitably they will burn. You would need to cross your fingers and hope that lightning does not strike inside your exclusion area. And probably, again, that is outside of any human control for that, so you are on a whim and a prayer for that.⁵⁰

4.53 Mr Carter continued:

But, most importantly, if you are going to proceed with one, it would need to be of manageable scale. You would need to then, I think, intensify your bushfire risk management around it so that you do not get traversing fire entering into it. If you want an exclusion area, it needs to be for a considerable length of time to make it worthwhile, so your challenges in protecting that from fire are considerable, if that answers your question. I have no issue with them. I just think that the ability to manage them—it is okay to put them on a planning or zoning map, but it is far more than that.⁵¹

Committee comment

4.54 On the basis of the evidence above, the Committee has no concerns with the current system of establishing and maintaining FERAs.

Adaptive management for climate change, disease, drought and wildfire

4.55 The principal petitioner believes that it is questionable whether there is the capacity for adaptive management in the face of a number of what he describes as 'stressors'. These he lists as climate change (including heat waves), decreasing rainfall and episodic drought, disease and the associated increasing risk of frequent and/or severe fires.

4.56 In Tabled Paper 1, DBCA responded:

Adaptive management, or 'learning by doing' remains a key management approach. This includes learning to continually improve planning, implementation, evaluation and adjustment processes.

4.57 It points out that:

⁴⁸ Legislative Council, *Debates*, 2020, pp 3627-3628.

⁴⁹ Legislative Council, *Debates*, 2020, p 1811.

⁵⁰ Murray Carter, Executive Director of the Rural Fire Division of the Department of Fire and Emergency Services, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 11

⁵¹ Murray Carter, Executive Director of the Rural Fire Division of the Department of Fire and Emergency Services, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 11.

DBCA adjusts its prescribed burning program with the seasons. So, if we're seeing a drier spring then we may burn earlier and then as the forest dries, we slow down or stop the program. This is monitored daily as the program is implemented.

- 4.58 On the matter of climate change, this is an issue that is in full contemplation. Minister Sanderson's letter listed a number of areas of identified work of importance to prescribed burning under the heading 'Looking to the future'. That list included:

Investigating interactions between fire management and climate change, and management actions that can be taken to adapt to changing conditions in the natural environment. Focal areas for research include managing fire in groundwater-dependent ecosystems with peat and organic soils in the drying environment of south-west Western Australia, and investigating how changes in seasonality may affect opportunities for regeneration and re-establishment of native plant species and communities.

- 4.59 Also on that list:

Continuing to better document and understand the implications of changing fire regimes, and varying management approaches for fire risk and environmental conservation.

Committee comment

- 4.60 The Committee has commented on the assertion that the driver of prescribed burning in the southwest forest management area is the annual target to burn on average 200,000 hectares per year (paragraph 4.22).
- 4.61 On the issue of adaptation for possible future stressors caused by climate change, the Committee is content that DBCA is already dealing with and preparing for such threats. It strives to continue to monitor developments, and if necessary find alternative methods of dealing with them.

FINDING 5

The Department of Biodiversity, Conservation and Planning is aware of the potential threats posed by climate change, and is already dealing with and planning for those threats.

Transparency, accountability and public/stakeholder consultation

- 4.62 In his submission in support of the petition, the principal petitioner wrote:

There is a perceived lack of transparency, accountability, and consultation at many levels of ecological management, monitoring and outcomes surrounding PB conducted by DBCA.

Poor transparency is highlighted by the absence of a formal process for both public involvement and research collaboration, no platform for open-source data on the conservation estate, and fire plans being only available for viewing during office hours at DBCA offices. And accountability is in question; there is no independent auditing of PB; with only a single agency being responsible for planning, implementing, and evaluating PB 'success'. There is an obvious dearth of oversight.

And there are no formal consultation processes with stakeholders, for example in the design of the 3-year burn program, the annual indicative burn program, or the intent and planning of individual PB.

4.63 In a response to questions on notice, supplied by FaBWA, these concerns were supported. It was said that there is a lack of information publicly available, particularly prescribed fire plans and post-burn assessments. Many in the community feel there are no productive avenues to provide input.

4.64 FaBWA added that, in its members view:

- prescribed Fire Plans and post-burn assessments should be made public, noting that names of individuals, etc., can be redacted.
- the Prescribed Fire Plans themselves are inadequate to enable a proper assessment of biodiversity protection outcomes.
- all reports and detailed maps should be made available on the DBCA website, rather than having to access various websites such as Data WA or go through an FOI process.

4.65 On the matter of consultation regarding the preparation of the annual burns program, this has already been discussed (paragraphs 2.10 to 2.18). The Committee was told by DBCA of the consultation that occurs throughout the planning process. Further, Mr Carter of DFES told the Committee:

Where there are known local interest groups, and I will use an example. Margaret River is a good example. The use of fire in Margaret River is always contentious. The local environment groups in Margaret River, through the local government, DBCA and our own, are consulted about the burns that are coming up. They are provided input into what are the concerns of concern for them.⁵²

4.66 Mr Carter continued:

Again, we hope to not have that debate again about whether “yes, you should” or “no, you shouldn’t”, but in terms of how you do it—how it is applied, on what scale and when. In a regional sense, where there are local interest groups, be they conservation groups or others, they are consulted. Equally, it is probably worth making the point that whilst you might have conservation groups at one extreme of a public policy and implementation debate, you also have groups at the other end of that who are heavily pro-planned burning, and they are consulted as required as well.⁵³

4.67 The annual burns options program is accessible on the following webpage:

<https://www.dpaw.wa.gov.au/management/fire/prescribed-burning/burns/burn-options-program>

The planned daily program of burns is then available on this webpage:

<https://www.dpaw.wa.gov.au/management/fire/prescribed-burning/burns>

4.68 The Committee asked DBCA whether the individualised local burns plans were available on the DBCA website. Mr de Haan replied:

Not the actual plans themselves. You get, basically, a polygon on the website that an individual can click on. They can see the area of the burn and where that sits geographically and a few key elements of the burn. In relation to specific burn plans, particularly some of the more complex ones that we have, they can be well

⁵² Murray Carter, Executive Director of the Rural Fire Division of the Department of Fire and Emergency Services, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 5.

⁵³ Murray Carter, Executive Director of the Rural Fire Division of the Department of Fire and Emergency Services, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 5.

over 100 pages of documentation of a variety of information, and also a lot of information that has individual landholders' contact details, names, locations of threatened species et cetera that would not be appropriate to put on the public website.⁵⁴

4.69 However, Mr de Haan went on:

we are certainly looking at how we can improve that public information interface. One of the things that we are currently in the process and getting closer to development of is a new electronic system to underpin our prescribed burn planning and implementation processes. We do currently have an electronic system, but that is now a bit over 10 years old. Like everything in that space, there is certainly a lot more that can be done to assist us in what we do in that planning and implementation phase, but I think also, importantly, in providing a much better public interface.

4.70 He continued:

Certainly, one of the things that we are trying to incorporate in that new development is more information about the individual burn, in terms of the objectives and the success criteria of the burn, and make that more publicly accessible, but, more importantly, a more near real-time element to the burn reporting, probably using a remote-sensing burn severity-type output, which will enable individuals to look at the burn within, hopefully, a relatively short time frame of us having done it, where we will indicate how we have gone against meeting the objectives and meeting the success criteria. They will be able to see a visual demonstration of that.

4.71 On the issue of accountability, Dr Young of FaBWA told the Committee:

the people conducting the burns or responsible for the burn are writing the success criteria. Those same people are then assessing the success of the burn. They have a conflict of interest, so this lack of audit and accountability, I think, is not doing the department any good because when there are major departures from planned outcomes, there is no accountability. No-one is saying, "Don't let this happen again." In terms of the peat systems and wetlands, it has been going on every year. We would lose another system. There is something in your environmental management if you do not have the feedback to say that this is an unacceptable outcome of this practice.⁵⁵

Committee comment

4.72 Processes for public consultation prior to planned burns have been described and are in place.

4.73 As to accessibility of information, the petitioners and witnesses have complained about the difficulty in obtaining pre and post-burn reports. Some pre-burn information is on the website, but not the individualised local plans. Whilst FaBWA may be correct in asserting that redacted versions could be posted there, the Committee understands a reluctance to do so based on the fact that the precise location of planned burns could:

- attract protestors to the site, causing danger to themselves and others

⁵⁴ Stefan de Haan, Manager, Fire Management Services, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 11 January 2023, p 5.

⁵⁵ Dr Joanna Young, member, Fire and Biodiversity WA, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 25 January 2023, p 7.

- alert the public to the location of threatened species of fauna and flora.

4.74 DBCA is, as the Committee heard from Mr de Haan, looking to improve upon the amount of information that will be made publicly available in the future. In written evidence, DBCA told the Committee:

DBCA is progressing a systematic approach to monitoring and reporting the outcomes (of) prescribed burns and bushfires.

The project is working on developing a repeatable and hopefully automated burn severity assessment process and spatial data capture tool that can be operationality implemented by fire management practitioners across the state. The project development includes detailed ground truthing and remote sensing.

When complete, the fire severity assessment tool will:

- quantify the severity outcomes and actual burn boundaries of prescribed burns and bushfires
- Assess success relative to conservation values and fuel reduction
- Support accurate reporting and accountability
- Support management decisions in fire and conservation
- Identify hazards
- Provide context for other fire research.⁵⁶

4.75 Again with reference to the Minister's letter, under the heading 'Looking to the future – identified work of importance to prescribed burning', the list includes:

Ensuring the future platform for DBCA s prescribed burn planning and implementation systems is spatially enabled and supported by accurate datasets to assist in better end-to-end processes for identification, management and monitoring of biodiversity assets, better inform measurement and reporting on achievement of burn objectives and success criteria and to provide more timely and meaningful communication products for key stakeholder groups.

4.76 On the matter of accountability, the staff responsible for planning and undertaking prescribed burns report through more senior departmental staff through to Ministers and the Parliament (through its tabled Annual Reports). The Committee refutes the assertion that those staff are unaccountable and sees no merit in establishing some sort of 'judging panel'.

FINDING 6

The Department of Biodiversity, Conservation and Attractions is aware of the desirability of providing more information to the community regarding the implementation of prescribed burns, and the outcomes of them, and is working towards that provision. This is something which the Committee encourages.

⁵⁶ Tabled Paper 1 tabled by Jason Foster, Executive Director, Regional and Fire Management Services Division, Department of Biodiversity, Conservation and Attractions during hearing held 19 August 2022.

CHAPTER 5

Conclusion

5.1 Mr Carter of DFES told the Committee:

When I talk about managing risks through risk mitigation, and today we are obviously focusing on prescribed burning, it is clear to see that prescribed burning is not the only strategy—and I have mentioned a few others—in terms of how you manage bushfire risk. But, it is clearly the most important for us. I have no doubt about that in terms of Western Australia. The broadscale use of prescribed burning is absolutely essential to us. I would characterise that by not a debate about whether we do or do not use planned burning, but I think the healthy debate is how it is used by all the agencies that do use it in terms of in a spatial sense and a timely sense. It is a really important debate to have and something that improves continually.⁵⁷

5.2 Prescribed burning has received bipartisan political support for many years. The letters received by the Committee from Ministers illustrate the views of the previous Government and the current one. In response to the 2020 petition, the then Minister for Environment confirmed that the then Government ‘strongly supports prescribed burning as the primary means of reducing the risk of bushfire’ and that it ‘has no plans to undertake a review of prescribed burning’ (Hon Stephen Dawson MLC, letter, 8 October 2020).

5.3 On 17 April 2019, the Government reinforced its support for the program by announcing a \$22 million funding boost to DBCA’s prescribed burning program over 4 years, in addition to the already allocated \$11 million for the south-west of the State.⁵⁸

5.4 In response to the petition which is the subject of this report, Minister Sanderson wrote:

I would like to reiterate that the McGowan Government remains committed to the use of prescribed burning as the primary means of reducing combustible fuel, and therefore the risk of bushfire to our community and the environment. The Government has the responsibility of balancing the impacts of prescribed burning on biodiversity against the need to protect our communities from the damaging impacts of bushfires.

5.5 The Committee agrees. Whilst the impact upon fauna and flora of planned burning must be recognised and minimised to the best possible extent, it remains the most effective way of protecting the community from the effect of unplanned bushfires. The question is not whether prescribed burning should be carried out, but how it is carried out.

5.6 The various parties who provided evidence to the Committee evidently agree. For example, the principal petitioner write in his submission:

It is acknowledged that there is a role for the use of fire in mitigating wildfire threat, but any such PB practice needs to demonstrate both mitigation effectiveness, and a high priority for biodiversity and conservation outcomes.

5.7 Professor Hopper of TLG said during the hearing on 19 August 2022:

⁵⁷ Murray Carter, Executive Director of the Rural Fire Division of the Department of Fire and Emergency Services, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 3.

⁵⁸ Hon Stephen Dawson MLA, Minister for Environment, [\\$22 million funding boost for prescribed burning - Parks and Wildlife Service \(dpaw.wa.gov.au\)](https://www.dpaw.wa.gov.au), 17 April 2019.

In terms of the actual application of fire, we fundamentally believe that we are not against prescribed burning; we need to make that crystal clear. We believe there is a role and a place for prescribed burning.⁵⁹

5.8 On the question of how the prescribed burns are carried out, the Committee is content to rely on the expertise of the officers responsible for this dangerous task. As the Minister said:

DBCA's prescribed burning program is built upon a foundation of sound evidence, and over 60 years of operational experience. DBCA recognises the importance of continuing to improve knowledge, and understanding of fire in a land management context. It is for this reason that DBCA maintains an active fire research program with a statewide focus building on knowledge gained over more than 60 years through long-term studies and monitoring.

5.9 DBCA recognises that it is not perfect. As illustrated throughout this report, it continues to learn and improve. In addition to the list of priority actions set out in the Minister's letter, the Fire Management Strategy lists the following overall action points:

Actions:

- Implement a bushfire risk management framework where bushfire risk is assessed and managed across the State.
- Consider socioeconomic, cultural and environmental factors to appropriately manage the planning and implementation of fuel management programs, to ensure maximum effectiveness and efficiency.
- Support research to determine appropriate fuel management objectives for key fuel types outside of the south-west forests.
- Develop and implement regional fuel management plans for the department's nine regions.
- Maintain a prescribed burn planning system that facilitates analysis, prioritisation and scheduling of the prescribed burn program.
- Engage with and inform stakeholders, visitors and the broader community about the benefits of fuel management, particularly prescribed burning.
- Plan and implement fuel management programs on land for which the department has legislative management responsibility, in accordance with the outcomes identified by the bushfire risk management framework.
- In cooperation with key stakeholders, plan and implement fuel management programs on unallocated Crown land and unmanaged reserves outside the metropolitan area, regional centres and townsites in accordance with the outcomes identified by the bushfire risk management framework.⁶⁰

5.10 In the Committee's view, based on the evidence received during the course of its enquires, improvements could be made in the following areas:

- More could be done in terms of public education, informing everyone in the State as to why prescribed burning is carried out and the benefits that derive. That would

⁵⁹ Professor Stephen Hopper, The Leeuwin Group, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 19 January 2023, p 7.

⁶⁰ Department of Biodiversity, Conservation and Attractions website, [Fire Management Strategy \(dbca.wa.gov.au\)](https://www.dbca.wa.gov.au), accessed 11 January 2023.

include, but not be limited to, exercises such as the one described in the Margaret River region (paragraph 4.65 of this report)

- More dialogue with recognised experts and interest groups in the region. Mr Foster told the Committee:

We are always open to inviting people in to discuss and consult, but we can certainly always do better in that space. I think that it would be fair to say that we are on a continual learning curve in that space. I think we could better utilise our consultation tools to improve in that space.⁶¹

- More detailed pre-burn monitoring of fauna and flora, with the addition of more environmental staff if necessary, together with the use of available technology (drones, for example)
- The making available of as much information on the DBCA website as can be safely be achieved, particularly with regard to post-burn monitoring.

5.11 DBCA told the Committee in written evidence that:

Aims are not met every time, and some impacts can occur, however these impacts are fewer and less severe than would occur if the regime was all bushfire.⁶²

5.12 That is the overall conclusion of the Committee.

FINDING 7

Fire can be unpredictable, and losses of fauna and flora will sadly occur. However, this is at a much lesser scale than if the area subject to an uncontrolled bushfire had been previously burnt through mitigation practices.

5.13 Having considered all of the evidence received, and the knowledge gained from the site visits, and taking into account DBCA's commitment to continuous learning and improvement, the Committee resolved not to recommend to the Government that it commission an independent review of DBCA's prescribed burning practices.

5.14 The Committee encourages DBCA in its pursuit of continuous improvement.

FINDING 8

The Department of Biodiversity, Conservation and Attractions has a publicised commitment to continuous learning and improvement, the pursuit of which is encouraged.

⁶¹ Jason Foster, Executive Director, Regional and Fire Management Services Division, Department of Biodiversity, Conservation and Attractions, *transcript of evidence, Legislative Council*, 19 August 2022, accessed 2 February 2023, p 5.

⁶² Tabled Paper 1 tabled by Jason Foster, Executive Director, Regional and Fire Management Services Division, Department of Biodiversity, Conservation and Attractions during hearing held 19 August 2022.

FINDING 9

The commissioning of an independent review of the Department of Biodiversity, Conservation and Attractions' prescribed burning practices is not regarded to be necessary.

A handwritten signature in blue ink, appearing to read 'Peter Foster', with a stylized flourish extending to the right.

Hon Peter Foster MLC
Chair

APPENDIX 1

SUBMISSIONS AND RESPONSES RECEIVED, PUBLIC HEARINGS AND PAPERS TABLED

Submissions and responses received

Number	From
1	Submission from Donald Clarke, principal petitioner
2	Submission from Hon Sally Talbot MLC, original tabling Member
3	Response from Hon Amber-Jade Sanderson MLA, Minister for Environment
4	Submission from The Bushfire Front

Public hearings conducted

Date	Participants
19 August 2022	Fire and Biodiversity WA <ul style="list-style-type: none">• Bart Lebbing, Convenor• Dr Joanna Young, Member• Melissa Howe, Member
19 August 2022	The Leeuwin Group <ul style="list-style-type: none">• Emeritus Professor John Bailey, Convenor• Emeritus Professor Sidney Bradshaw, Member• Professor Stephen Hopper AC, Member• Professor Kingsley Dixon, Member
19 August 2022	Department of Fire and Emergency Services <ul style="list-style-type: none">• Murray Carter, Executive Director
19 August 2022	Department of Biodiversity, Conservation and Attractions <ul style="list-style-type: none">• Jason Foster, Executive Director, Regional and Fire Management Services Division• Stefan de Haan, Manager, Fire Management Services

Tabled papers

Date	Participants
19 August 2022	Fire and Biodiversity WA <ul style="list-style-type: none"> • Tabled Paper 1 - Opening statement and Statement of concerns • Tabled Paper 2 - Maps and images
19 August 2022	The Leeuwin Group <ul style="list-style-type: none"> • Tabled Paper 1 - Supporting exhibits and information • Tabled Paper 2 - <i>Wildfire risk management across diverse bioregions in a changing Climate</i> (Tristan Campbell, S. Don Bradshaw, Kingsley W. Dixon and Philip Zylstra)
19 August 2022	Department of Biodiversity, Conservation and Attractions <ul style="list-style-type: none"> • Tabled Paper 1: <ul style="list-style-type: none"> ○ Summary responses to questions sent prior to hearing ○ Supplementary information ○ Fire Management Strategy ○ Cultural and contemporary burning in Western Australia ○ Minister's letter, 18 November 2021

GLOSSARY

Term	Definition
Aerial ignition	The ignition of fires by dropping incendiary devices from aircraft
The Committee	The Standing Committee on Environment and Public Affairs
DBCA	The Department of Biodiversity, Conservation and Attractions
DFES	The Department of Fire and Emergency Services
FaBWA	Fire and Biodiversity WA
FERA	Fire Exclusion Reference Area — representative long-unburned landscapes in fixed locations which are available for research activities
Mosaic burning	The deliberate creation of patches of land representing different fire histories
PB	Prescribed burns
TLG	The Leeuwin Group





Standing Committee on Environment and Public Affairs

Date first appointed:

23 May 2017

Terms of Reference:

The following is an extract from Schedule 1 of the Legislative Council Standing Orders:

'2. Environment and Public Affairs Committee

- 2.1 *An Environment and Public Affairs Committee is established.*
- 2.2 The Committee consists of 5 Members.
- 2.3 The functions of the Committee are to inquire into and report on –
 - (a) any public or private policy, practice, scheme, arrangement, or project whose implementation, or intended implementation, within the limits of the State is affecting, or may affect, the environment;
 - (b) any Bill referred by the Council; and
 - (c) petitions.
- 2.4 The Committee, where relevant and appropriate, is to assess the merit of matters or issues arising from an inquiry in accordance with the principles of ecologically sustainable development and the minimisation of harm to the environment.
- 2.5 The Committee may refer a petition to another Committee where the subject matter of the petition is within the competence of that Committee.
- 2.6 In this order "environment" has the meaning assigned to it under section 3 (1) and (2) of the *Environmental Protection Act 1986*.'



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