

Recommendations from the  
**South Australian wildlife  
and habitat bushfire  
recovery taskforce**



## First Nations Acknowledgment

The Wildlife and Habitat Bushfire Recovery Taskforce acknowledges Aboriginal peoples as the state's first peoples and nations, and that Aboriginal peoples' deep knowledge and relationship with Country continues to be critical in sustainably caring for our lands and waters.

### Acknowledgements

*We would like to acknowledge the DEW staff who supported and provided constructive feedback into the work of the Taskforce:*

*Lisien Loan, Jason Higham, Jody Gates, Wendy Georganas, Dr Jennie Fluin, Dr Dan Rogers, and Melissa Martin.*



# Foreword



As Chairperson of the Wildlife and Habitat Bushfire Recovery Taskforce, I am pleased to present these detailed recommendations to inform planning for the recovery of wildlife, habitats and ecosystems after bushfires.

The Taskforce released the *South Australian Wildlife and Habitat Bushfire Recovery Framework* in December 2020, which set a blueprint for South Australia for environmental recovery after future bushfires. The Framework was based on a phased approach to ensure that planning considers recovery needs from immediate response all the way through to managing for long-term resilience and the impacts of climate change. The Taskforce recommendations incorporate actions that enable targeted preparation and support for implementing the Framework and responding effectively to fires in the future.

The Recommendations were developed with extensive and highly valuable input from many South Australian experts. This allowed the Taskforce to develop a systematic and comprehensive set of recommendations across a broad range of issues relating to bushfires and wildlife recovery. They should be read as support material to the Framework.

I trust that these detailed recommendations will be considered favourably by government, landscape boards, environmental non-government organisations and the wider community, to inform future responses and result in improved outcomes for our wildlife and ecosystems, regional communities, wildlife carer community, and economy.

I would like to sincerely thank my fellow Taskforce members and their Working Group members for the constructive and collaborative process that we have engaged in together. It has been a pleasure to work with you on this important task.

**Dr Felicity-ann Lewis**  
Chairperson

# Contents

|  |           |   |           |
|--|-----------|---|-----------|
| <b>Foreword</b> .....                                  | <b>3</b>  | <b>Appendix 1: Recommendations of the wildlife welfare response Working Group</b> ..... | <b>30</b> |
| <b>Executive summary</b> .....                         | <b>5</b>  | <b>Appendix 2: Presentations and expert input to the taskforce</b> .....                | <b>34</b> |
| Taskforce Approach.....                                | 5         | <b>Appendix 3: Principles of communication</b> .....                                    | <b>44</b> |
| Key Recommendations.....                               | 6         | <b>Appendix 4: Principles of community engagement</b> .....                             | <b>45</b> |
| <b>Background</b> .....                                | <b>7</b>  | <b>Appendix 5: Taskforce Working Groups</b> .....                                       | <b>46</b> |
| Taskforce Role .....                                   | 7         |   |           |
| Taskforce Deliverables .....                           | 7         |   |           |
| Taskforce Approach.....                                | 7         |   |           |
| Taskforce Membership .....                             | 8         |   |           |
| <b>Key recommendations</b> .....                       | <b>12</b> |   |           |
| <b>Working Group reports and recommendations</b> ..... | <b>16</b> |   |           |
| Working Group 1:.....                                  |           |   |           |
| Wildlife Welfare Response.....                         | 16        |   |           |
| Working Group 2:.....                                  |           |   |           |
| Communication.....                                     | 16        |   |           |
| Working Group 3:.....                                  |           |   |           |
| Resource Coordination.....                             | 19        |   |           |
| Working Group 4:.....                                  |           |   |           |
| Economic Recovery .....                                | 20        |   |           |
| Working Group 5:.....                                  |           |   |           |
| Community Engagement.....                              | 23        |   |           |
| Working Group 6:.....                                  |           |   |           |
| Research and Science .....                             | 24        |   |           |
| Working Group 7:.....                                  |           |   |           |
| Long-Term Resilience .....                             | 26        |   |           |

# Executive summary

The South Australian Wildlife and Habitat Bushfire Recovery Taskforce (the Taskforce) was formed in March 2020 by the Minister for Environment and Water, to provide advice and insights to support the recovery planning and actions for environmental assets, including habitats, ecosystems and wildlife, after major bushfires.

When establishing the Taskforce, the Minister determined areas of focus for its work. The role was to provide input and advice at a strategic level to support and augment planning and recovery. The role did not include the detailed implementation of the operational recovery planning and programs that occur at a regional and local level.

This document is the Taskforce's final major deliverable: a detailed set of recommendations that address the areas of focus and other matters raised by the Minister when establishing the Taskforce.

## Taskforce Approach

The Taskforce met regularly over the course of 2020 to consider its advice to the Minister. In developing its recommendations, the Taskforce considered information from a range of sources. In particular, between April and November 2020, the Taskforce received at least 19 presentations and updates on various matters of relevance to its considerations.

To inform its deliberations, the Taskforce formed seven Working Groups around identified key themes:

- Working Group 1: Wildlife welfare response
- Working Group 2: Communication
- Working Group 3: Resource coordination
- Working Group 4: Economic recovery
- Working Group 5: Community engagement
- Working Group 6: Research and science
- Working Group 7: Long-term resilience

These Working Groups were convened by Taskforce members and had membership from outside the Taskforce, allowing engagement of a wider group of experts and stakeholders.

Each Working Group developed detailed recommendations for its theme, following the phased approach in the Taskforce's *South Australian Wildlife and Habitat Bushfire Recovery Framework*. All of these recommendations are provided in this document. The Taskforce endorses all Working Group recommendations and encourages government agencies (and other relevant groups) to consider these in their future bushfire preparation.

The Taskforce considered all the recommendations of the Working Groups and other evidence gathered during its considerations. It agreed on eight key recommendations. These include some high-level recommendations that cover several subject areas and other specific Working Group recommendations that are considered of particularly high priority.

These key recommendations are listed below.

## Key Recommendations

1. Seek the inclusion of environmental assets into Category C funding under the existing Commonwealth–state recovery funding agreements (elevate from Category D) and in Local Government Disaster Recovery Guidelines, to provide increased opportunities to access funding through standard response arrangements rather than relying on exceptional circumstances funding opportunities. This should be pursued by the state government. Wildlife and habitat form a crucial part of the state's (natural) infrastructure and as such should be prioritised alongside built infrastructure for recovery funding.
2. Create (where required), maintain and coordinate environmental datasets (including datasets held by other organisations) in a way that ensures information is available and accessible to enable rapid risk and impact assessments, thereby improving the case for access to funding to drive wildlife and habitat recovery following disasters.
3. Secure additional resources and develop partnerships to boost investment in research and science to improve the understanding of climate change effects on natural environments and their resilience in the longer term.
4. The Taskforce strongly supports the 18 recommendations of the Wildlife Welfare Response Working Group in the following key areas:
  - A. Designate the Department for Environment and Water with clear leadership responsibility and authority in managing the wildlife welfare response in emergency situations.
  - B. Introduce a framework to support greater coordination of government, non-government organisation and individual resources involved in providing the wildlife welfare response in emergency situations.
  - C. Develop an enhanced wildlife veterinary capacity in South Australia for deployment to fire-affected areas.
5. Develop a 'ready to recover' model of preparedness at state and regional scales so that recovery is underway within days following an emergency. This includes ready-to-recover prepared groups (made up of environmental non-government organisations, landscape boards, DEW, local government, relevant industry associations and community groups) with governance and agreed approaches, including guidelines and coordination of resources, to apply the Habitat and Wildlife Bushfire Recovery Framework.
6. Create a role for an authentic and authoritative communicator on wildlife and habitat to respond and provide clear information and guidance, at all times, but in particular providing focused communications following disasters, in a similar manner to the authoritative communication aspect of the Chief Public Health Officer's role during public health crises.
7. Reduce the tension that arises between life, property and environment through influencing the Planning and Design Code to ensure hazards are considered appropriately in planning decisions and that local communities are engaged in understanding the risks associated with the environments in which they live, through the implementation of a program such as the NSW Hot Spots program.
8. Ensure clear and appropriate guidelines, training and support regarding management of native vegetation (in particular partially burnt mature trees) are provided and available to early responders (CFS, local councils, private contractors etc.) to minimise damage during the immediate aftermath of a fire event and assist in long-term habitat recovery. Components of these should be delivered before fire seasons to maximise preparedness and positive outcomes.

# Background

The South Australian Wildlife and Habitat Bushfire Recovery Taskforce (the Taskforce) was formed in March 2020, after two stakeholder meetings were held to scope the challenges being faced in areas affected by the 2019–20 bushfires. The Minister for Environment and Water established the Taskforce to provide advice and insights to support the recovery planning and actions for environmental assets, including habitats, ecosystems and wildlife, being implemented by the Department for Environment and Water (DEW).

The Taskforce considered a range of time frames in its work: short, medium and long. Where possible the Taskforce linked with and built on other national recovery efforts.

It is hoped that the Taskforce's findings have created a framework and legacy for the future.

## Taskforce Role

When establishing the Taskforce, the Minister determined areas of focus for its work, which included:

- informing the strategic challenges and opportunities relating to the long-term resilience of wildlife and habitat recovery (e.g. volunteer support, economic recovery, seed banks, fire ecology, disease transmission and contamination)
- providing advice on how to strategically approach conservation and wildlife recovery efforts given changing climate and fire regimes
- providing strategic advice on partnerships and funding opportunities and strategies to support recovery
- identifying and advising on South Australian priorities for recovery including the development of the South Australian Wildlife Recovery Plan
- advising on priorities for the Wildlife Recovery Fund
- advising on coordination of effort and how best to work collaboratively with the non-government organisation (NGO) and research sectors to ensure recovery efforts are coordinated, consistent and complementary
- advising on managing consistent communications across the government, NGO, science and research, and community sectors
- advising on future preparedness and building on previous reviews.

The role of the Taskforce did not include the detailed implementation of the operational recovery planning and programs that occurred at a regional and local level (e.g. the work of threatened species recovery teams). The Taskforce provided insights on aspects of those programs, while providing additional overarching input to support and augment work at a strategic level.

## Taskforce Deliverables

In May 2020, the Taskforce provided the Minister with preliminary advice, a work plan and an update on its progress.

Subsequently, the Taskforce developed the *South Australian Wildlife and Habitat Bushfire Recovery Framework*<sup>1</sup> (the Recovery Framework), which was released in December 2020. The Recovery Framework provides a blueprint for future bushfire recovery responses, based on four phases: immediate, short, medium and long term. After a major fire incident, response and recovery actions should be developed and framed in the context of these phases, to ensure that bushfire planning considers requirements from immediate responses through to managing for long-term resilience.

During 2020, the Minister communicated with the Taskforce and made further requests for advice. The Minister specifically requested advice on the need for an animal hospital to assist with wildlife care and indicated that he would welcome detailed recommendations addressing key themes that would lead to opportunities for action to improve future responses to bushfire.

This document is the Taskforce's final major deliverable: a detailed set of recommendations that address the areas of focus and other matters raised by the Minister when establishing the Taskforce and during 2020.

## Taskforce Approach

The Taskforce met regularly over the course of 2020 to consider its advice to the Minister. In developing its recommendations, the Taskforce considered information from a range of sources. The Chair of the Taskforce undertook several trips to fire-affected areas, in particular Kangaroo Island, to hear from the community directly, and had many face-to-face and telephone meetings with wildlife carers to better understand their challenges in rescuing and caring for wildlife during and after fires.

## Advice from experts

In addition to the extensive expertise of the Taskforce members, the Taskforce drew on the experience and knowledge of many other individuals and groups in its considerations. Between April and November 2020, the Taskforce received at least 19 presentations and updates on various matters of relevance to its considerations. A list of these experts, with a summary of their presentations, is provided in Appendix 2.

<sup>1</sup> <https://www.environment.sa.gov.au/topics/plants-and-animals/taskforce>

## Working Groups

At the initial Taskforce meetings, a number of key themes were identified for the Taskforce to address. These themes became the focus of Working Groups, allowing engagement of a wider group of experts and stakeholders.

Seven Working Groups were established:

- Working Group 1: Wildlife welfare response
- Working Group 2: Communication
- Working Group 3: Resource coordination
- Working Group 4: Economic recovery
- Working Group 5: Community engagement
- Working Group 6: Research and science
- Working Group 7: Long-term resilience

These Working Groups were convened by Taskforce members drawing upon their networks and expertise. Further information on the Working Groups and their membership can be found in Appendix 5.

## Recommendations

The Working Groups used the phased approach established in the Recovery Framework and developed detailed recommendations for the seven subject areas according to short-, medium- and long-term considerations.

The Taskforce considered all the recommendations of the Working Groups and the other evidence gathered during its considerations and agreed on eight key recommendations. These include some high-level recommendations that cover several subject areas and some specific Working Group recommendations that are considered of particularly high priority.

In this document, the eight key recommendations are provided, followed by the findings and specific recommendations of the Working Groups.

The Taskforce endorses all Working Group recommendations and encourages government agencies (and other relevant groups) to consider these in their work into the future.

## Taskforce Membership

The Taskforce members are:

- Dr Felicity-ann Lewis (Chairperson), former Mayor of the City of Marion and SA's 2014 Australian of the Year
- Professor Bob Hill, University of Adelaide
- Joanne Davidson, SA Tourism Commission
- Parry Agius, Linking Futures
- Wendy Campana, Former Kangaroo Island Commissioner
- Dr Susannah Elliott, Science Media Centre
- Craig Wilkins, Conservation Council of SA
- Joe Keynes, President of Livestock SA
- Paul Stevenson, RSPCA (SA)

The Taskforce was supported by Lisien Loan, Jason Higham, and Wendy Georganas as the Executive Officer.

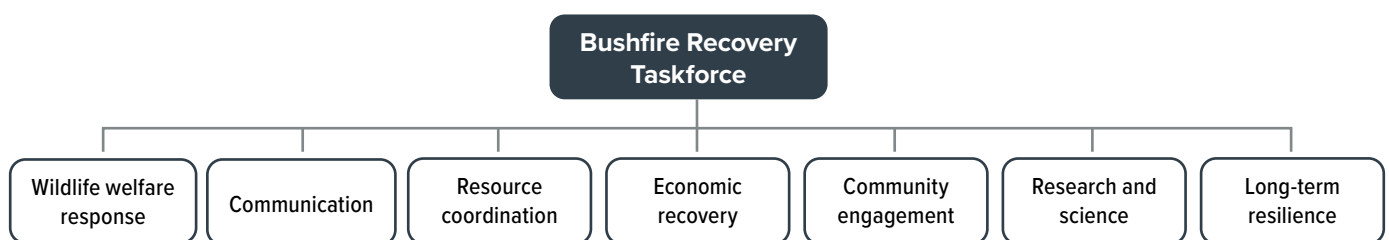
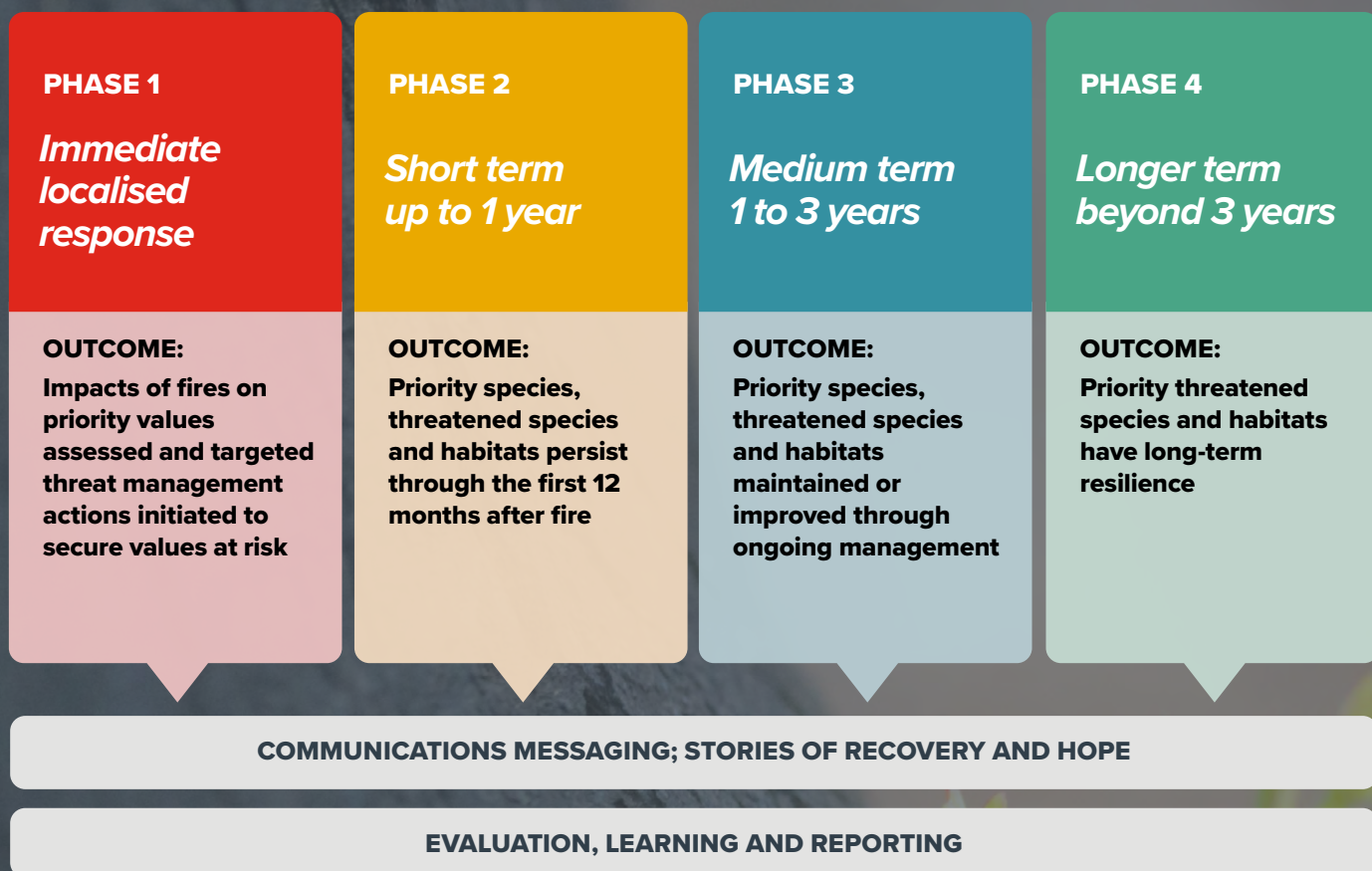


Figure 1: Taskforce structure including the seven Working Groups



## Recovery phases for responding to bushfires



## 2019–20 bushfires

The summer of 2019–20 saw 48 bushfires in South Australia, six of which were of particular concern (Figure 1). The fires were complex, unpredictable and difficult to fight, due to challenging weather conditions and terrain, and resulted in the tragic loss of three lives. Many houses and outbuildings were destroyed and almost 285,000 ha of land was burned, of which over 90,000 ha was national parks and reserves. Following the fires, the South Australian government commissioned an independent review to examine the circumstances surrounding the unprecedented fires. The review was broad and focused on ‘twelve factors across Prevention, Preparedness, Response and Recovery (PPRR) that all impact positively on reducing the impact of bushfire and keeping communities safer’<sup>1</sup>. The review provides a thorough synopsis of the events and impacts and seeks to guide policymakers in managing future fires. This will obviously have important implications for the recovery and future conservation of wildlife and habitat.

These fires affected very large areas of agricultural land and had direct impacts on primary production, destroying crops, forestry plantations, livestock and many other related enterprises such as beekeeping. The fires also prevented visitors from entering many of these areas during peak tourism season, compounding the economic impacts for many of the people in these regions. Fire burned through 17 parks and reserves, including Flinders Chase National Park and Ravine des Casoars Wilderness Protection Area on western Kangaroo Island (KI), and Charleston and Porter’s Scrub Conservation Parks in the Mount Lofty Ranges. Fires also had impacts on other high-value native vegetation and many significant private conservation areas, including Secret Rocks on Eyre Peninsula (Figure 1) and over 100 Heritage Agreements on Kangaroo Island.

Forty state and nationally threatened species (27 plant and 13 animal) had more than half of their known habitat destroyed on Kangaroo Island, and dozens of other listed species were affected by the fires at Cudlee Creek, Secret Rocks, Bunbury and Keilira.

The threatened animal species affected on Kangaroo Island were from a range of groups, including mammals (KI Dunnart, southern brown bandicoot), birds (KI glossy black cockatoo, Western Bassian Thrush, KI western whipbird, KI southern

emu-wren) and invertebrates (such as the metallic green carpenter bee and the Kangaroo Island assassin spider). A large number of other important birds and mammals were affected by the summer bushfires in the Mount Lofty Ranges, including the southern brown bandicoot and Mount Lofty Ranges chestnut-rumped heathwren. The malleefowl and sandhill dunnart are other threatened species that were affected by at least one of the 2019–20 fires.

Important habitats for fauna species were also negatively affected by the bushfires, such as the endemic Kangaroo Island mallee ash woodland of western Kangaroo Island, which provides vital habitat for the KI dunnart, many endemic subspecies of bush birds and the southern brown bandicoot; and significant areas of drooping sheoak woodland and sugar gum woodland, which provide feeding and nesting habitat respectively for the glossy black cockatoo.

Of great concern is that 90% of the known locations of threatened plant species on Kangaroo Island occur within the recently burnt area. In the Cudlee Creek fire, over 15 species of threatened plants (including orchids) were affected by the fires, as were areas of peppermint box grassy woodland and manna gum woodland, which are likely to suffer significant tree death. Finally, there have been negative impacts on nationally threatened plants in the Secret Rocks, Bunbury and Keilira fires.

Some of the more widespread, abundant and mobile native species, such as koalas, kangaroos and wallabies, suffered significant levels of mortality, but their populations are expected to recover as habitat recovers.

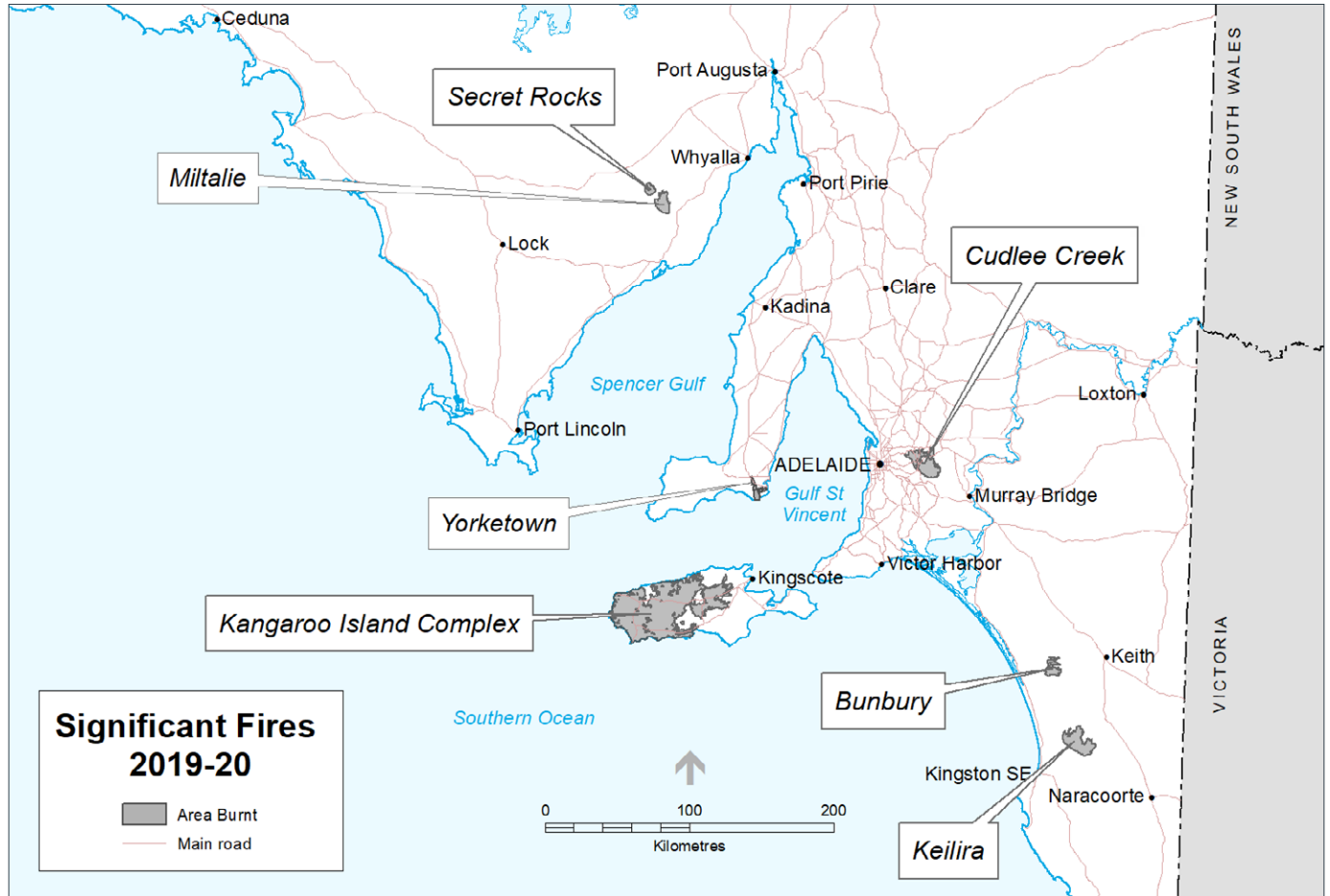
Some platypus are known to have survived the fires in Flinders Chase National Park (where it is an introduced species), despite 100% of the habitat being burned.

The koala population on Kangaroo Island (where it is an introduced species) is estimated to have been reduced from 50,000 to between 5000 and 10,000. Many koalas also died in the Cudlee Creek fire. Despite these mortality levels, the Koala populations in the Mount Lofty Ranges and Kangaroo Island remain secure. An insurance population of Kangaroo Island koalas has been established at Cleland Wildlife Park (see Case Study 4: Koalas).

<sup>1</sup> Keelty *et al.* (2020) Independent Review into South Australia’s 2019-20 Bushfire Season. Government of South Australia [www.safecom.sa.gov.au/site/independent\\_review\\_sa\\_201920\\_bushfires.jsp](http://www.safecom.sa.gov.au/site/independent_review_sa_201920_bushfires.jsp).



Figure 1: Locations of 2019–20 bushfires



Priority species impacted by the bushfires on Kangaroo Island that require ongoing bushfire recovery efforts include (clockwise from top left) Kangaroo Island dunnart; Koala; Kangaroo Island echidna).



# Key recommendations

**1. Seek the inclusion of environmental assets into Category C funding under the existing Commonwealth–state recovery funding agreements (elevate from Category D) and in Local Government Disaster Recovery Guidelines, to provide increased opportunities to access funding through standard response arrangements rather than relying on exceptional circumstances funding opportunities. This should be pursued by the state government. Wildlife and habitat form a crucial part of the state’s (natural) infrastructure and as such should be prioritised alongside built infrastructure for recovery funding.**

Resourcing the recovery of the natural environment after a bushfire is a critical issue and is vital to assisting communities to heal after a natural disaster. The presence of unrestored environment and wildlife populations provide a continual reminder of the past, whereas the recovery and restoration of habitat can act as a beacon of hope for the affected community, provide an opportunity for collaboration and healing, and contribute to the recovery of primary production and local economies.

Unfortunately, in terms of funding mechanisms, the environment is a second-order priority relative to reconstructing essential public assets and supporting communities to recover and rebuild. After the 2019–20 bushfires, beyond the rapidly deployed short-term funding provided to recover wildlife, funding arrangements to support the longer-term recovery of the natural environment have proven more complex and more difficult to navigate. For example, the Adelaide Hills Council did not receive Commonwealth funding, despite losing at least 120 km<sup>2</sup> of native vegetation during the Cudlee Creek bushfire; they received limited external funds, meaning that most recovery funds had to be found from their tight budget.

Provisions for disaster assistance, including Australian Government contributions, are made under the joint Australian Government-State Disaster Recovery Funding Arrangements 2018 (DRFA). There are four categories of assistance measures under the DRFA: A, B, C and D. Under Category C, assistance is provided for severely affected communities, regions or sectors and includes clean-up and recovery grants for small businesses and primary producers and/or the establishment of a Community Recovery Fund. Environmental funding is not included in Category C and is only available through Category D, which is for ‘exceptional circumstances’ funding beyond Categories A, B and C. Accordingly, Commonwealth funding to support the recovery of the environment is only provided in ‘exceptional circumstances’. Given the increased likelihood of natural disasters resulting from climate change and the

importance in assisting the community and businesses to recover, the Taskforce considers that this should be reviewed as a matter of urgency.

The Taskforce recommends that the South Australian government explore with the Australian Government the need for improved funding arrangements to support restoration of the natural environment after a natural disaster, ideally with environmental restoration being included under Category C funding.

**2. Create (where required), maintain and coordinate environmental datasets (including datasets held by other organisations) in a way that ensures information is available and accessible to enable rapid risk and impact assessments, thereby improving the case for access to funding to drive wildlife and habitat recovery following disasters.**

Environmental data are central to many decision-making and resource allocation processes after major bushfires. Importantly, the process to determine which species should be national priorities for urgent management intervention after the 2019–20 bushfires, including funding allocations, relied on ‘desktop’ assessments using existing environmental datasets. In addition, fire management planning and operational decision-making during fire events rely heavily on environmental datasets.

The Taskforce heard that there are significant gaps in data accessibility for South Australian biodiversity. For a variety of reasons, DEW systems do not always contain all available datasets. Also, access to datasets from other institutions is often hindered and delayed by a range of issues. Finally, there are additional data access opportunities, such as the use of social media records that cannot currently be used because of resource demands.

These gaps in data accessibility have a number of consequences, especially the risk of inaccurate risk assessment and impact assessment, missed funding opportunities, and compromised planning and operational decision-making.

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### **3. Secure additional resources and develop partnerships to boost investment in research and science to improve the understanding of climate change effects on natural environments and their resilience.**

The Independent Review into South Australia's 2019–20 Bushfire Season (the Keelty review<sup>2</sup>) and the Royal Commission into National Natural Disaster Arrangements<sup>3</sup> both highlighted the elevated hazards posed by bushfires to life and property with the fire danger season becoming longer and more extreme as a result of climate change. Similarly, the Taskforce heard that the hazards posed by bushfires to South Australian wildlife and habitat are increasing with climate change.

While many excellent environmental research projects arose from these fires, most had the ambition of returning to the status quo. There are research gaps in the causes and extent of the fires and in long-term ecological resilience after the fires, areas of knowledge that could help government to develop strategies for minimising the risk of future fires and best responding to fires when they occur. This is particularly relevant in the context of changing climate, changing fire conditions and changing fire behaviours.

There is now an opportunity to establish a well-organised, long-term monitoring and planning program to manage the ecological impacts of future bushfires. The lack of long-term coordinated studies on past fire behaviour has cost valuable insights into how wildlife and environments recover and how ecological resilience should be measured and managed in a changing climate.

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### **4. The Taskforce strongly supports the 18 recommendations of the Wildlife Welfare Response Working Group in the following key areas:**

- A. Designate the Department for Environment and Water with clear leadership responsibility and authority in managing the wildlife welfare response in emergency situations.**
- B. Introduce a framework to support greater coordination of government, NGO and individual resources involved in providing the wildlife welfare response in emergency situations.**
- C. Develop an enhanced wildlife veterinary capacity in South Australia for deployment to fire-affected areas.**

The Keelty review highlighted that the 2019–20 bushfires had

significant impacts on people, homes, businesses and livestock and also on local native wildlife and its associated habitat. The Keelty review emphasised the need for leadership from DEW in managing injured wildlife recovery after incidents. Current arrangements for wildlife in emergencies sit with the Department of Primary Industries and Regions SA (PIRSA), with DEW generally responsible for wildlife management and conservation under the *National Parks and Wildlife Act 1972*.

The 2020 New South Wales Bushfire Inquiry<sup>4</sup>, convened after the catastrophic 2019–20 bushfire season in NSW, made similar recommendations. In particular, Recommendation 53 of that inquiry recommended that 'Government develop and implement a policy on injured wildlife response, rescue and rehabilitation'.

The Taskforce's Wildlife Welfare Response Working Group undertook a detailed survey of wildlife carers and stakeholders to inform their considerations. The Working Group developed 18 specific recommendations and the Taskforce supports these recommendations.

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### **5. Develop a 'ready to recover' model of preparedness at state and regional scales so that recovery is underway within days following an emergency. This includes ready-to-recover prepared groups (made up of environmental NGOs, landscape boards, DEW, local government, relevant industry associations and community groups) with governance and agreed approaches, including guidelines and coordination of resources, to apply the *Habitat and Wildlife Bushfire Recovery Framework*.**

Recovery is best achieved through partnership – a partnership between government agencies, NGOs, the public, landowners, business and volunteers.

Local communities have generations of experience, skills and practice at the frontline of emergency and bushfire response and they learn and improve their approach with each disaster. It is important that planning to respond to and recover from fires and assist wildlife and habitats to recover is undertaken in collaboration with local businesses, industry groups and the local community. This should include forming groups to collaborate and oversee response and recovery in accordance with the *Habitat and Wildlife Bushfire Recovery Framework*.

It is far easier and more time-efficient to undertake such planning and set up such groups in advance, ready to be actioned as soon as possible after a fire event. This includes agreeing on matters such as membership, terms of reference

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2 [https://www.safecom.sa.gov.au/site/independent\\_review\\_sa\\_201920\\_bushfires.jsp](https://www.safecom.sa.gov.au/site/independent_review_sa_201920_bushfires.jsp)

3 <https://naturaldisaster.royalcommission.gov.au/>

4 <https://www.dpc.nsw.gov.au/assets/dpc-nsw-gov-au/publications/NSW-Bushfire-Inquiry-1630/Final-Report-of-the-NSW-Bushfire-Inquiry.pdf>



and resourcing. Doing this preparation as part of an ongoing conversation with key players would complement and make best use of community resources. Developing and maintaining a current register of organisations and contractors needed to undertake recovery activities should be undertaken in each region of South Australia.

In addition to assisting with local ownership and inclusion of local knowledge, this approach would also permit the agreed processes and groups to be adjusted when recovery programs are required after a fire, to meet the specific recovery needs of both the natural environment and affected businesses in a win-win-win approach.

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**6. Create a role for an authentic and authoritative communicator on wildlife and habitat to respond and provide clear information and guidance, at all times, but in particular providing focused communications following disasters, in a similar manner to the authoritative communication aspect of the Chief Public Health Officer's role during public health crises.**

During and after the 2019–20 bushfires, communication with the public on the issues of wildlife and recovery were at times lacking. The Keelty review highlighted the broad need for public broadcasters to inform the public about the fires and what was happening. Regarding wildlife specifically, it was apparent that there was a high demand from the media and public for information on the impacts and implications for wildlife and habitat.

The Taskforce considers that a role should be created for an authentic and authoritative communicator on wildlife and habitat, to respond to these demands and provide clear information and guidance.

During the COVID-19 pandemic, the availability of credible, evidence-based information was seen to be central in decision-making and in communicating with the public about the pandemic and measures being taken. The communication aspect of the role of the Chief Public Health (i.e. Chief Public Health Officer) Officer in South Australia was critical in both advising the government and being a trusted source of information for the public. As with COVID-19, the issue of wildlife and habitat recovery after bushfires is underpinned by science and an authoritative expert who is able to advise governments and be a central voice for the community would be a powerful asset.

The authoritative communicator for wildlife and habitat should be someone with a deep understanding of South Australia's unique wildlife and habitats, who is an effective and inspiring communicator, and who can be a uniting and coordinating force to help bring together the multitude of different voices on the issue.

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**7. Reduce the tension that arises between life, property and environment through influencing the Planning and Design Code to ensure hazards are considered appropriately in planning decisions and that local communities are engaged in understanding the risks associated with the environments in which they live, through the implementation of a program such as the NSW Hot Spots program.**

The Keelty review highlighted the rising demands and complexity of fire management in peri-urban localities and on the edges of larger regional townships as people seek a change of lifestyle. These areas are often inherently challenging from a planning and fire management perspective, with areas of native vegetation intersecting with increasing numbers of residents and buildings. Suburbs and developments are often poorly planned from a fire management perspective (e.g. buildings in dangerous localities, and poor access for emergency services and poor egress for residents during emergencies). In addition, new residents may be unaware of the fire-related risks associated with living in such areas and may be poorly prepared.

This is relevant to habitat and wildlife bushfire recovery because actions taken during and after a fire to protect life and property can increase impacts and inhibit recovery outcomes for habitat and wildlife.

Historically, development planning has permitted this poorly planned development to occur. There is now opportunity in the new planning reforms to address this and ensure that hazards are appropriately considered with new developments and rebuilding of destroyed properties. This would also involve assisting local councils and developers to utilise planning tools to reduce risk and engage with the Country Fire Service (CFS) to make improvements in fire-prone areas.

The Taskforce also recommends that a program be implemented to assist communities to understand and manage the risks associated with living in fire-prone areas, such as the NSW Hot Spots<sup>5</sup> program.

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**8. Ensure clear and appropriate guidelines, training and support regarding management of native vegetation (in particular partially burnt mature trees) are provided and available to early responders (CFS, local councils, private contractors etc.) to minimise damage during the immediate aftermath of a fire event and assist in long-term habitat recovery. Components of these should be delivered before fire seasons to maximise preparedness and positive outcomes.**

Disturbance and clearance of native vegetation often occurs during and immediately following a bushfire. It is important that groups and individuals involved in this are provided with training and support in applying appropriate vegetation management practices.

Clearance of vegetation in South Australia is regulated by the *Native Vegetation Act 1991*, and specific provisions relating to vegetation clearance for bushfire management activities apply under the Native Vegetation Regulations 2017. Training and support should be provided to first responder agencies to ensure compliance with legislation and to develop skills and understanding of when and where particular vegetation management practices should be used. Elevated understanding of these matters among groups and in the community will assist with achieving better vegetation management and fire management outcomes and with reducing conflict in the community over measures taken during bushfires.

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<sup>5</sup> <http://hotspotsfireproject.org.au/>

# Working Group reports and recommendations

The following pages present the detailed findings and recommendations of the seven Taskforce Working Groups. For each Working Group, some general observations are provided, followed by a series of recommendations each with a rationale.

The Taskforce endorses all of the Working Group recommendations.

Information on the membership of the Working Groups can be found in Appendix 5.

## Working Group 1: Wildlife Welfare Response

### Introduction and general observations

The Wildlife Welfare Response Working Group was convened to provide advice into the welfare response for wildlife as part of the broader wildlife and habitat bushfire response that was implemented by the South Australian government during and after the 2019–20 bushfires.

General observations of the Working Group include:

- There is no doubt that there are high levels of public interest in caring for animals impacted by bushfires, and the very significant professional and volunteer resource that responded to the 2019–20 bushfires achieved admirable outcomes for animals.
- Nonetheless, on review it is clear that there are a range of opportunities available to improve our preparedness for and execution of a wildlife welfare response in future bushfires.
- Providing veterinary care and other assistance to native animals impacted by bushfires comprises a significant component of the first phase ‘Immediate and Localised Response’ of the Recovery Framework. However, unlike the later phases, the focus is not so much populations and species, but the welfare of individual injured and impacted animals. The objective of the state’s wildlife welfare response is therefore: *‘To provide wildlife impacted by fires with the best possible care as quickly as possible in a safe and resource-efficient manner’.*
- It was evident during the 2019–20 bushfires that wildlife welfare response elicits considerable energy and emotion among those who wish to assist animals in need.
- However, because of an absence of clear leadership, authority and protocols, there were some highly

uncoordinated activities by many entities, which in turn led to inefficient use of capacity and resources, dangerous practices on active fire grounds, and suboptimal care being provided to some impacted wildlife.

- While good intentions are to be applauded, they cannot replace well-planned and well-managed capacity, capability and governance.

### Recommendations

The Working Group prepared 18 recommendations that seek to harness the considerable volunteer resources available for a wildlife welfare response and to ensure that these resources are deployed in a safe and efficient structure and provide appropriate assistance to native animals during their time of need. Due to the importance placed on this issue and the relative complexity of the matters involved, the recommendations have been provided as an attachment to this report (Appendix 1).

## Working Group 2: Communication

### Introduction and general observations

The Communication Working Group was convened to assess communication about wildlife and habitat during, directly after, and in the months following the bushfires and make recommendations for the future.

The aftermath of a major natural disaster such as the 2019–20 bushfires is an exceedingly challenging time for those directly affected and for decision-makers and the community at large. Good communication is vital for providing critical information that informs responses and helps the community make sense of what has happened. The catastrophic 2019–20 bushfires had a dramatic impact on wildlife and habitat in the areas affected and raised numerous issues and questions for the public.

General observations of the Working Group include:

- The population within South Australia and beyond was very engaged with the issue of wildlife and habitat destruction from the fires of 2019–20.
- Many people were not satisfied with being passive receivers of bad news about wildlife destruction and wanted to be involved, either directly (through activities



such as fauna rescue) or indirectly (through activities such as donating to rescue and rehabilitation efforts).

- Armed with good information (authoritative, evidence-based and clear), the South Australian community can be a great asset to wildlife and habitat recovery rather than being passive bystanders. This information must be central to communication efforts, and channels are needed that enable two-way communication and much greater community engagement.
- Communication about wildlife and habitat during and after the 2019–20 fires was hampered by the lack of a clear voice and poor coordination of information between government and non-government organisations.
- Multiple voices from a wide range of organisations and individuals (some from outside South Australia and even outside the country) resulted in conflicting messages, some of which were misinformed and misleading, and most of which were received through news outlets and/or social media platforms (including crowdfunding campaigns).
- The Working Group sees a need for a more coordinated approach to communications to ensure that the public gets access to clear, evidence-based information in a timely manner.
- The Working Group would also like to see a more concerted effort to communicate about wildlife and habitat beyond bushfires. There is a need to elevate the importance of our unique species, habitats and landscapes to the culture and wellbeing of the South Australian community and to help develop a sense of shared responsibility to build the resilience of our wildlife and ensure their survival into the future.

The Communication Working Group also developed some principles of communication, which are presented in Appendix 3.

## Recommendations

### 2.1 Develop a communication campaign to address issues surrounding wildlife and habitat protection leading up to each bushfire season

**Rationale:** While much of the Working Group's focus was on the need to put structures in place that will aid effective communication in the future, we are aware that communication needs to happen during the lead-in to each bushfire season. We recommend that the Taskforce works with DEW staff to develop a set of key messages that can be communicated through mainstream and social media channels.

### 2.2 Develop a role for an authentic and authoritative communicator for wildlife and habitat

**Rationale:** One thing that we have learned from the COVID-19 pandemic is how important credible evidence-based information can be in decision-making and in communicating

with the public about something like a new virus. The role of the Chief Public Health (i.e. Chief Public Health Officer) Officer in South Australia was critical in both providing advice to government and serving as a trusted source of information for the public. As with COVID-19, the issue of wildlife and habitat recovery after bushfires is underpinned by science and an authoritative expert who can advise governments and be a central voice for the community could be a powerful asset.

The authoritative communicator for wildlife and habitat should be someone who has a deep understanding of South Australia's unique wildlife and habitats, is an effective and inspiring communicator, and can be a uniting and coordinating force to help bring together the multitude of different voices on the issue. Such a role can advise and work alongside government agencies, such as DEW and the Department of Premier and Cabinet (DPC), to effect positive change and elevate South Australian wildlife and habitat in the public mind after fires and other disasters and also more generally.

We see this role as fundamental to good communication during and after fires, with the individual working alongside others within the response team (such as DPC, CFS and police) to provide regular updates to the community. The individual would be informed by those working on the ground, such as the group South Australian Veterinary Emergency Management (SAVEM), park rangers, DEW staff, the RSPCA, and scientists conducting research. The role of the communicator would also be to provide clear messages to the public about how we can all share responsibility for taking care of our precious wildlife and habitat during fires while also staying safe and avoiding further damage.

The communicator needs to be a champion for wildlife and habitat beyond the fires and would need to be supported by a small team of communication and administrative staff.

### 2.3 Support the development of a central repository of information on wildlife and habitat (potentially a website with connected social media platforms) that acts as a direct channel to the public

**Rationale:** The Working Group sees a need for a central repository of information about wildlife recovery after fires – a one-stop shop that collates information from multiple sources. Such a repository could include:

- Central information about the emergency wildlife response, with key information for the public such as a single phone number when injured wildlife are found (see recommendation W.7 from the Wildlife Welfare Working Group) and the location of the nearest wildlife hospital/triage unit (see recommendation W.17 from the Wildlife Welfare Working Group).
- An up-to-date stream of information about the impact of fires on wildlife and habitat and how the community can get involved, with links to contacts such as centralised

crowdfunding campaigns (as per the recommendation for a central crowdfunding hub by the Resource Coordination Working Group), citizen science projects and volunteer programs.

- Regular communications from DEW and the Minister for Environment and Water, including positive stories of wildlife recovery and relevant policy announcements.
- Regular (at least weekly) Facebook Live events that provide wildlife recovery updates from a variety of people with expertise and lived experiences; the featured people could be drawn from the ambassadors network (recommendation 2.4). This could also be a forum to discuss sensitive issues such as the stress that animals endure when handled by well-meaning but inexperienced people, the importance of euthanasia when animals cannot be saved, the reasons why leaving out food for wildlife can be damaging, and the need for feral animal control after fires.
- A forum for community engagement and Q&As.
- Practical information that helps people learn about actions they can take to attract and sustain wildlife on their own properties throughout the year (e.g. information on which plant species to grow, the provision of water sources, and how to use nesting boxes). This could be titled 'How can I as a community member make a difference?'. This can include information on how to reduce fire risk in gardens such as at this link: [https://www.burnside.sa.gov.au/files/e5c17552-50a1-48c9-94b0-a34901142eeb/reducing\\_fire\\_risk\\_in\\_gardens\[1\].pdf](https://www.burnside.sa.gov.au/files/e5c17552-50a1-48c9-94b0-a34901142eeb/reducing_fire_risk_in_gardens[1].pdf).

A news hub on the repository could help funnel the best or most important information to local and national media. We recommend that live events such as expert briefings be facilitated by a journalist or science communicator. Connected social media platforms such as Facebook and Twitter could be used to share information from the repository, trigger dialogue and counter misinformation.

## 2.4 Coordinate communication through a network of wildlife ambassadors

**Rationale:** There are many people in South Australia who have knowledge and expertise in wildlife impacts from bushfires and associated wildlife rescue and recovery. These people are from diverse fields and include academics/researchers, community representatives, park rangers, animal welfare officers, members of conservation groups, ecotourism operators and fauna rescue volunteers. They are also frequently on the frontline of communications, conveying the situation on the ground to the community at large. While such a diverse group of people cannot be expected to hold a single view on wildlife recovery, conflicting messages can confuse the public and lead to misunderstandings and counterproductive responses.

The Working Group would like to see a network of expertise formed that enables sharing of information and results in clearer and more consistent public messages during and after fires. The communicator for wildlife and habitat (see recommendation 2.1) could provide updated information to the

network when bushfires start and could act as a coordinating force to ensure that the key people have access to the best information and have an avenue to share their own information and experiences with each other.

## 2.5 Communicate wildlife recovery through tourism operators and tourism media

**Rationale:** Intrastate tourism has long been a significant contributor to the South Australian visitor economy. The COVID-19 pandemic has triggered a surge in people holidaying within South Australia and exploring regional areas that they had not previously visited. This provides a unique opportunity to communicate about South Australian wildlife and its recovery after bushfires.

This could be done through:

- Working closely with the South Australian Tourism Commission (SATC) to ensure appropriate leveraging of communications strategies.
- Collaborating with TV and radio programs such as *South Aussie with Cosi* on Nine Network, *Adelaide with Haley Lewis* on Network 10, and *Off Track* with Dr Ann Jones on ABC Radio National.
- Working with tourism operators on related opportunities, such as SeaLink offering tourists the opportunity to see wildlife and habitat recovery firsthand on Kangaroo Island, and providing them with information and, where appropriate and possible, wildlife and habitat recovery experts.
- Involving ecotourism operators in the wildlife ambassadors network.

## 2.6 Proactively communicate wildlife recovery through the media and other existing channels

**Rationale:** There are multiple existing channels that could be better utilised to promote engagement with the community about wildlife recovery. DEW staff have been effective at providing stories and updates to the media and through social media, but more could be done. One option is to consider wildlife and habitat campaigns similar to the *Love the Murray* campaign run through the Adelaide Advertiser. While the COVID-19 pandemic has dominated public discourse, there is a growing sense of fatigue and the need to look to the future. This represents an opportunity to reinvigorate dialogue about wildlife recovery, especially in the context of future bushfire seasons and the need to be prepared.

Information and stories of wildlife recovery and bushfire preparation can be channelled through outlets such as:

- Local and national media outlets (e.g. *Adelaide Advertiser*, ABC, Ten, Nine, Seven, InDaily).
- The Science Media Exchange (Scimex.org), a portal for breaking science news for Australian and international

journalists that is run by the Australian Science Media Centre; South Australian government agencies have free access to Scimex to upload science stories.

- Festivals such as the Nature Festival, the Fringe Festival and the Adelaide Festival.

## 2.7 Survey the community's knowledge of South Australia's wildlife and create a baseline for evaluation

**Rationale:** In order to target communication about wildlife and habitat recovery in the longer term, it is important to gain a greater understanding of the South Australian community's level of eco-literacy and information sources. The Working Group recommends a survey be undertaken to assess the level of understanding and awareness of wildlife and habitat within the South Australian community. The results would form a baseline against which future communication campaigns could be measured and would enable a more targeted approach to wildlife communication for different segments of the community. One or more follow-up surveys could subsequently be conducted at 12- to 24-month intervals. We recommend that the survey be conducted by an independent polling company or research institute and that it collects information such as demographics, location, and level of access to and interest in wildlife information.

While a survey will provide useful information in the longer term, the Working Group does not believe that other forms of communication should be held back while a survey is completed.

## Working Group 3: Resource Coordination

### Introduction and general observations

The Resource Coordination Working Group was tasked with providing advice on ways to better coordinate resources and funding following the 2019–20 bushfires and in future fire events. The Working Group focused on known activity and opportunities within state and federal government, landscape boards and environmental NGOs.

General observations of the Working Group include:

- Even without the overwhelming need to respond to catastrophic bushfires, striving for better coordination of resources between the three levels of government, landscape boards, environmental NGOs and the community is sensible and a 'no regrets' approach.
- It is much more easy, timely and effective to set up systems for coordination and communication before catastrophic events, rather than during the immediate aftermath. There was a feeling of missed opportunity in capturing the full potential of the devastation of the bushfires to generate long-term funding for wildlife and habitat recovery, as there was a delay in creating appropriate mechanisms to

coordinate resources to support environmental recovery.

- There was a critical window when there was high public attention and willingness to give, but there was no clear direction available on the most appropriate recipient. As a result, a significant amount of funding was directed at small-scale, locally driven crowdfunding rather than to purposes that may have been more effective or strategic. This has now been partially addressed through the establishment of a fund that can be promoted in the future when needed.
- Equally, South Australia was slow to capitalise on the significant overseas interest to assist with funding of environmental recovery, particularly on Kangaroo Island.
- Maintaining communication and coordination between stakeholders involved in funding and resourcing is time-consuming and resource intensive but is fundamental so requires investment to be done well.
- Broad input from the community, environmental NGOs, landscape boards and state government greatly strengthens the ability to capture and best utilise all funding (federal and state government and public donations) to restore the environment, communities and local economies.

## Recommendations

### 3.1 Ensure that a core group of people, across environmental NGOs, landscape boards, DEW and other relevant stakeholders, is primed and ready to connect and coordinate resources, grants and activity as soon as possible after a significant fire

**Rationale:** It is much easier and more time-efficient to establish such a group ahead of time, ready to be actioned as soon as possible after a fire event. This includes agreeing on matters such as membership, governance, terms of reference and mandate. As the aftermath of a catastrophic event is such a dynamic and evolving space, the Working Group believes an ongoing conversation with key players is preferable to the use of a static compilation of grants, needs and other opportunities.

### 3.2 Create and maintain a register of key community groups and NGOs interested in being involved in immediate response recovery work

**Rationale:** As with recommendation 3.1, preparing beforehand saves time after fire events and minimises the risk of landscape boards and other agencies being overwhelmed with groups wanting support during the high pressure that follows a fire event.

### 3.3 Create a mechanism for monitoring, checking-in and reviewing to ensure that measures stay on track and that coordination remains strong over the long recovery journey, possibly as an add-on to existing forums

**Rationale:** The recovery journey is multi-year and requires strong communication and solid monitoring for greatest success. Although a standalone forum is challenging to resource, piggy-backing onto an ongoing activity, such as Landscape SA Presiding Member Forums, might be one mechanism.

### 3.4 Ensure that a ready-to-go, pre-established bushfire recovery fund is available for immediate activation and promotion in the early aftermath of a significant fire event

**Rationale:** Not having such a fund ready to go public in the first days of the 2019–20 fire event was an enormous missed opportunity. The public's appetite for donations is highest at the acute stage of a catastrophic event. We must be able to harness that moment. All arrangements such as marketing, graphics, tax deductibility treatment and governance must be ready ahead of time for inclusion with broader government, CFS and media messaging. Such a fund should remain in place on an ongoing basis, or be held in readiness for immediate activation and promotion when needed on government websites and other crowdfunding websites.

### 3.5 Ensure that extra resources are made available in the lead-up to each fire season to allow prevention works for refuge areas and threatened species

**Rationale:** Providing additional resources for preparatory work such as slashing and weed control ahead of a fire season increases the likelihood of better outcomes for threatened species during a fire event. This should include habitat management activities aimed at prevention of fire in critical habitat as well as activities aimed at restoring the populations.

## Working Group 4: Economic Recovery

### Introduction and general observations

The Economic Recovery Working Group was tasked with providing advice on how to better achieve economic recovery and with identifying opportunities resulting from the bushfires, particularly where environmental recovery can also create economic opportunities.

General observations of the Working Group include:

- Recovery responses need to demonstrate that consideration has been given to balancing social, environmental and economic issues.
- Businesses and industry groups need to be engaged in consultation and design of recovery programs to meet specific needs; this includes avoiding perverse environmental outcomes through continuing resource use when environments need to be restored or permitted to recover.
- Governments must recognise that many of the businesses they are working with in the regions will be sole traders, microbusinesses and other small businesses and will require new and innovative responses. For example, many grant programs and initiatives seek contributions that are not sensitive to the size of the business. The owners and managers of these businesses are also inherently time-poor and, during a crisis, often focused on their role as community members.
- Some businesses may not bounce back from fire events and a key issue for them will be succession or exit planning with appropriate social support.
- Climate change implications have not been clearly identified and need to be a strong focus going forward.
- There is potential to link industries and industry groups and to determine common goals. This would mitigate the risk of competing for grant funding rather than collaborating for better mutual outcomes. This needs to be recognised in the design of government programs.
- Government programs and support often come in 'silos' rather than being connected, which makes them challenging for people to navigate. This is particularly challenging because individuals and businesses in recovery may have experienced a range of impacts, such as property and stock loss and social issues. For these reasons, government programs should be better integrated and promoted.
- There is a long history of good land management practices in many farming communities on Kangaroo Island and the Adelaide Hills. This expertise can be recognised and used.
- Volunteer groups and individuals can be extremely beneficial but can also present challenges to dealing with bushfire recovery. Stronger leadership is required in key industry sectors that have been strongly impacted, such as tourism and agriculture.
- Workforce challenges exist, especially in tourism and agriculture, largely of a seasonal nature. Innovative solutions need to be identified and supported, including increasing affordable housing and rental options (especially on Kangaroo Island).
- Programs for the management of feral animals, such as pigs and cats on Kangaroo Island, can have significant economic benefits, especially to primary production, and must continue and be supported sufficiently, while ensuring best practice humane euthanasia techniques are used.

- Extensive work is required in the agriculture sector focusing on fencing, shelter belts and vegetation management on public and private land, including roads, so as to support the rebuilding of the agriculture sector and to prevent further degradation, support quicker recovery and improve preparedness for future bushfires.
- Consideration should be given to the impact on Kangaroo Island and the Adelaide Hills of smoke taint and reduced crop values affecting the agriculture and viticulture industry. This economic impact is compounded by reduced visitation during, and immediately following, times of crisis. The risk of longer-term visitation impacts needs to be offset by a focus on recovery messaging after the fires.
- Multiple agencies must be involved to capture the broad scope of economic recovery, and this may appear inefficient or confusing; therefore, assurances need to be given to industry and the community that cross-agency collaboration and engagement is occurring.

## Recommendations

### 4.6 Consult and engage with industry associations in the early stages of the development of government grant programs and in their evaluation, to ensure key outcomes are realised

Outcomes sought through consultation and engagement are:

- the scale of programs realistically recognises the ability to co-contribute
- the application requirements and reporting recognise the resource constraints of those receiving grants
- connectivity is established between grants, because the recovery process is both long term and short term and each grant program will not be appropriate in all circumstances
- the benefit of cross-industry collaboration in providing grants is encouraged (i.e. remove competition)
- connectivity exists between programs supporting economic, social and environmental aspects for an individual and/or business
- the grants are quickly available and quickly accessed, and support for their implementation is readily available.

**Rationale:** This is an issue for all three levels of government. Programs need to recognise that most businesses and organisations receiving grants are small, and the commitments required by them need to be commensurate with their resources. Industry associations and groups have the best access to knowledge about needs and the way to respond, yet they are generally not effectively engaged by governments in developing and evaluating programs. These groups are often an under-utilised source of input and can have members who are individually impacted.

Better early engagement means that design and delivery of government grant programs should occur much more quickly than has previously occurred. Because these grant programs cross a range of industry sectors that have been impacted both directly and indirectly by the fires, encouraging industry collaboration can be beneficial and can reduce or remove unnecessary competition.

### 4.7 Establish a single whole-of-government response to recovery and ensure that all support programs are connected and interconnected to social, environmental, experiential and economic opportunities in recovery

**Rationale:** Those affected by bushfires suffer on many levels from a personal, family, community and business perspective. This often makes it difficult for a person or business seeking grants and other support to navigate the resources available that will benefit them holistically in their own recovery and in their contribution to the region or state. We need to recognise and acknowledge that recovery is a long-term process with impacts on many levels.

Unfortunately, it is often not clear whether there has been consultation and engagement across levels of government and between government agencies about the impact their individual and collective recovery programs will have on the social, environmental, experiential and economic aspects of recovery. A single whole-of-government response would assist in addressing this.

### 4.8 Provide land management support to landholders, including financial and technical support and the establishment of an appropriately trained and resourced volunteer labour force to undertake the required rebuild after fire events

**Rationale:** Fires bring new challenges (e.g. the introduction of weeds in donated hay) but also opportunities (e.g. the 2019–20 fires provided a real opportunity to potentially eradicate feral pigs from Kangaroo Island). Landholders are time-poor and under financial pressure and require ongoing recovery support in the medium to long term. Many farmers have an excellent track record when it comes to land management. Thousands of kilometres of fencing have been erected to protect the native vegetation along creek lines and in shelter belts. If those areas are not fenced the regenerating native plants will be grazed by stock and lost forever. Land management support would include activities such as weed and feral animal control, fencing of remnant vegetation, and replanting of shelter belts.

#### **4.9 Identify volunteer ‘champions’ that can demonstrate and promote the contribution of volunteers and volunteer groups in specific targeted recovery activities, including the contribution to the local economy through their engagement**

**Rationale:** There are many examples after fire events of well-intentioned volunteers responding in ways that are outside what is really required. There are also significant economic opportunities through the engagement of the volunteer workforce, given the contribution they make to the local economy, which generally occurs over a longer period than a visitor/tourist. The use of ‘champions’ is a good approach for attracting and promoting the most appropriate responses by volunteers and volunteer groups, including through packaged tourist/bushfire support opportunities. These champions should be local people who ideally are already recognisable in the community or who could become well known with some promotion. They do not need to have been directly affected by a recent fire—such people are unlikely to have the capacity—but they must be able to promote volunteerism in the general community.

#### **4.10 Continue to promote tourism opportunities resulting from the bushfires, including storytelling and volunteerism opportunities**

**Rationale:** There is an increasing desire among tourists to feel they have contributed positively to their tourism destination. Leveraging this desire through the use of education and the provision of ‘volunteer tourism’ opportunities can not only assist in the bushfire recovery effort, it can also enhance the visitor experience and encourage return visitation.

#### **4.11 Offset negative messaging around the destructiveness of bushfires with positive recovery messages that reassure potential visitors of the experience they can expect**

**Rationale:** News and media around the world highlighted the widespread devastation of the Australian bushfires over the 2019–20 summer. These messages led to a lack of confidence in what visitors could expect to experience, especially in locations where wildlife and nature are core offerings for the destination. To rebuild consumer confidence, and therefore visitation, these messages must be offset by promotion of the remaining benefits and beauty of the region. This, combined with unique recovery experiences, can assist with the economic recovery of a region after a fire.

#### **4.12 Ensure collaboration between industry and government to identify and respond to the workforce needs of industries that have lost their seasonal workforces as workers have left seeking other work**

**Rationale:** Many tourism and agriculture businesses identified the lack of seasonal workers as a negative economic factor after the 2019–20 bushfires, and this was not confined to bushfire-affected areas. There needs to be industry–government collaboration on addressing these needs.

#### **4.13 Consider opportunities for increasing short- to medium-term accommodation and housing in fire-affected communities**

**Rationale:** Additional challenges after the 2019–20 fires, especially on Kangaroo Island, are the availability of affordable housing and/or rental properties for the workers that will be involved in rebuild programs and the ongoing provision of housing for new and returned workers. This issue has been acknowledged for some time, and was raised in the then Commissioner for Kangaroo Island’s Housing Management Plan (2016), developed under the *Commissioner for Kangaroo Island Act 2014*.

Some companies have needed to use tourism accommodation for their workers, thus impacting on the availability of accommodation for tourists and having a flow-on effect to regional economic recovery.

Housing was a key focus for the broader bushfire recovery response on Kangaroo Island, with housing regulations relaxed to permit the building of interim housing for a period of two years. Some of this temporary housing may be used for tourism accommodation when tenants move into the newly built homes, but it should also be considered for temporary worker housing.

Local builders on Kangaroo Island are developing more affordable products, but given the island’s circumstances there is a cost increase of up to 30 to 40 per cent with an ‘Island build’.

## Working Group 5: Community Engagement

### Introduction and general observations

The Community Engagement Working Group was convened to provide advice and input on engagement of the community and to seek their views and feedback on issues and partnerships to improve future preparedness.

General observations of the Working Group include:

- For decades, communities across the state have been urged by authorities to have bushfire action plans for their homes and communities. Local communities have decades of experience, skills and practice at the frontline of emergency and bushfire response and they learn from and improve their ethos and approach with each disaster. They work behind first responders, coping with the immediate aftermath of fires. Despite this, local communities are often not consulted or involved in decision-making and can be left feeling disenfranchised in the wake of catastrophic fires.
- The use of a community newsletter and social media strategies was discussed by this Working Group, and these were also heavily canvassed and recommended by the Communications Working Group.
- In addition, there is a need to address the relationships within communities and the external relationships required across multiple agencies. Support is needed for connecting the local community with the rescue community and the rescue processes. More effort is needed to explain why and how the community should be involved. This preparation is required before fire seasons to enable the use of local capacity where possible.
- The membership of local recovery teams or committees is key to their engagement and involvement in decision-making and to effectively using local knowledge after a fire.
- This was evident during the 2019–20 fires in the Adelaide Hills and Kangaroo Island, when non-locals came into the community to help. This enormous passion had an impact on local coordination, processes, protocols and strategies, and caused challenges for local people who must manage demands, requests, behaviours and logistical impacts.
- Local communities must learn how to effectively use the very high levels of online support from people who wish to help during fire events.

Additional observations from this Working Group are provided in Appendix 4, providing specific findings and recommended principles for community engagement.

## Recommendations

### 5.14 Establish local, community-controlled wildlife and habitat representative bodies that are recognised as the ‘go-to’ people on the ground for community support.

**Rationale:** There are many communities across South Australia that may be impacted by bushfires. Although they may be prepared with a bushfire action plan, they are unlikely to have planned how they will respond as a community to the impacts of fire on the surrounding wildlife and habitat. This was evident during the 2019–20 fires, with people encountering impacted wildlife but having no clear understanding of protocols or process to follow. This issue needs an educative approach that should be focused in the period between fire seasons. Understandably, the primary focus is currently on protecting people and property; however, the 2019–20 bushfire season saw huge reactions from the public to the plight of our wildlife. This level of concern cannot be overlooked and demands a greater level of attention in policy and practice.

The Working Group heard of concerns that some wildlife and rescue groups were trained by organisations approved by the state government but that they were then not utilised during the bushfires and were overlooked in favour of people from other regions who had arrived to help. This was very damaging to some relationships.

Each of the proposed local community-controlled wildlife and habitat representative bodies could:

- develop local wildlife and habitat recovery plans that take advantage of local knowledge and enable local community innovation, with a state wildlife and habitat plan setting the wider agenda
- coordinate local decisions and community engagement during emergencies
- contribute to wildlife recovery after emergencies
- connect with, manage and coordinate on-ground support from communities, families, friends and people external to their local area
- develop effective relationships with emergency services authorities.

A local representative body could manage the people from outside their local area to be an effective resource, creating points for local connection, collection and distribution, empowering local people, and harnessing the contributions of non-locals to the community.

Through this approach, the local community would complement the work of the first responders and emergency services while providing space for the priority actions. The approach would also mean that local communities would become expert in managing locals and non-locals who wish to assist with managing wildlife and habitat, in cooperation with DEW and local landholders.

To ensure the local community-controlled wildlife and habitat representative bodies were effective, it is important that terms of reference are developed that empower the body to:

- have a clearly mandated purpose
- establish a local wildlife and habitat plan, using community input, expert advice, Aboriginal traditional ecological knowledge and cultural knowledge
- establish online support mechanisms for non-locals and people across Australia to help
- hold, use and administer funds
- establish local fundraising initiatives (such as online crowdfunding) in accordance with their local wildlife and habitat plan, to fund year-round activities including administration
- develop action plans to manage physical contributions and the distribution of effort
- build working relationships with DEW wildlife and habitat experts to guide the strategy and actions of the body
- work with DEW and other critical wildlife and habitat service providers to acquire the appropriate authority around native animal rescue and care.

### 5.15 Improve the involvement and engagement of Traditional Owners in bushfire recovery and fire management

**Rationale:** The importance of Kangaroo Island in Aboriginal culture is not widely understood. Some people living on Kangaroo Island who are from Aboriginal families choose not to publicly identify their Aboriginal heritage. The involvement of Aboriginal peoples in fire management as it relates to the environment enables input from First Nations people with cultural history and an understanding of lore and country, including cultural knowledge about fire.

Additionally, using an Aboriginal workforce in recovery work, land regeneration and vegetation propagation and management, in collaboration with the wider community and environmental NGOs, is an opportunity for increasing participation and developing relationships within the community. This can then permit the sharing of cultural stories of local animals and context, and consideration of the alignment with stories related to location and geography. Recognition of cultural thinking and knowledge, and bringing these into decision-making considerations, can be given effect through landscape boards, which have a role in contributing and connecting with Traditional Owners.

### 5.16 Learn from the lived experience of those who were in the fire zone, their personal stories and what they learned

**Rationale:** Capture what people have experienced and learned and use this to drive informed debate, foster empathy, and deliver better practice and support. This could be realised through the documenting of oral histories to capture what was observed across south-eastern Australia during and after the 2019–20 fires about the activities undertaken, and to capture stories of hope to inspire and motivate. This should include individuals and the community organisations that interact with the community. This will assist with both the environmental recovery and the need for communities to be consulted about their experiences.

These oral histories could further explore:

- a set of local principles or ways of working in line with community expectations
- ways of working that the community can expect from external organisations
- ways of sharing information, particularly with NGOs and other organisations seeking to enter and assist impacted communities.

## Working Group 6: Research and Science

### Introduction and general observations

The Research and Science Working Group was convened to determine the research priorities that would best allow for more informed management of the environment to reduce the risk to ecosystems and individual species from future fires. This includes both the most appropriate response when a fire does occur to ensure the best recovery possible, and also the optimal approach to ensuring that future fires have the smallest possible impact, without threatening the integrity of the species composition of individual ecosystems.

The bushfires that impacted South Australia so heavily during the 2019–20 summer provided an ominous warning of what the future may hold for our state as the climate continues to change and hot and dry weather events become even more extreme and common. The capacity to learn from these fires is high, but this is a time-consuming process and it faces strong competition for the limited available resources. It is also apparent that many people have an opinion about the best way to ‘fireproof’ the environment for the future, but this is a complex space, where the obvious solutions (e.g. reduce potential fuel with prescribed burning) do not necessarily provide the optimal outcome for the long-term resilience of the environment. This background quickly became apparent to the Working Group and it focused and strongly influenced their work.



General observations of the Working Group include:

- There was early enthusiasm for significant research projects to stem from the 2019–20 fires and funds were made available for this.
- The funding and grant schemes were heavily oversubscribed, suggesting a lot of research interest, but there was little genuine coordination. South Australian researchers put in a lot of effort on funding bids for little return.
- Some of the funds advertised as being for research were used for restoration projects, which is reasonable, but was somewhat misleading.
- The focus on flagship animal species was predictable but clearly did not always lead to optimal outcomes.
- There is a sense of some opportunity missed in learning deep lessons from these fires.

## Recommendations

### 6.17 Prioritise research into the post-fire recovery of native ecosystems in order to achieve the best overall long-term outcome

**Rationale:** The research priorities focused heavily on recovery of endangered species. This seems to be largely focused on prominent animal species – the species that attract the attention of the public. This approach is easy to justify and is popular from a tourism and economic recovery perspective; however, from a wildlife research perspective it essentially represents an approach that is aimed at minimising the degree to which we step backwards with prominent species.

### 6.18 Collect quantitative data regarding the uniqueness of endangered species on Kangaroo Island

**Rationale:** Research should be carried out to quantify how different some of the species' populations on Kangaroo Island are from populations on the mainland. This is relatively inexpensive research to carry out and appears to be a high priority. For example, how would our response change if the Kangaroo Island dunnart was a subspecies and not a distinct species? It is also possible that there are unknown cryptic species on Kangaroo Island that deserve more attention.

### 6.19 Investigate as a high priority the impact and practicability of virtual fencing

**Rationale:** Re-fencing remains a major challenge and a major research opportunity after the 2019–20 fires and the opportunity exists to trial virtual fencing on a large scale. This may be especially important where farmers wish to protect remnant areas of high-quality native vegetation from their own stock. Developing such fencing so that it is well placed to survive major fires with no negative impacts on animal welfare should be a priority.

### 6.20 Place the impact of climate change at the forefront of any decision-making about future approaches to fire prevention and recovery

**Rationale:** Has climate changed to the point where it is significantly impacting on the scale and intensity of bushfires? This is critical everywhere in the state, but may be particularly critical on Kangaroo Island if, during extremely hot and dry periods, the climate is effectively now switching from maritime to continental. Alternatively, are fires getting bigger and more intense because of previous fire suppression policies?

### 6.21 Determine the relative importance of agricultural land and native vegetation, including roadside vegetation, in the intensity and rate of spread of bushfire

**Rationale:** There is a great deal of conjecture about the role of agricultural land during major fires. Does this land act as a barrier or does it assist in the spread of the fires? How should this be managed? The same is true for native vegetation and it seems many assumptions are being made without adequate data.

### 6.22 Investigate the impacts of prescribed burning

**Rationale:** This is a complex problem that requires a far more significant factual basis for decision-making than we currently have. What has been the impact of previous fire control regimes, including prescribed burning, on the overall vegetation make-up on a broad scale in places like Kangaroo Island? Has fire suppression led to a uniform 'over-mature' vegetation type that leads to loss of species diversity?

### 6.23 Adopt a coordinated, long-term approach to fire recovery of natural ecosystems

**Rationale:** A well-funded program to monitor fire recovery in the long term is a high priority. The lack of long-term coordinated studies like this in the past has cost us valuable insights into how these communities recover and what the contentious issues may be.

### 6.24 Give a higher priority to innovation in forecasting, firefighting and recovery

**Rationale:** Much of what is occurring at present involves providing extra funding for existing approaches. This research has focused heavily on recovery, which is appropriate. However, there is room for more innovation, so that we are not simply taking everything back to where it was and waiting for the next fire.

## Working Group 7: Long-Term Resilience

### Introduction and general observations

The Long-Term Resilience Working Group was convened to provide advice on the strategic challenges and opportunities relating to the long-term resilience of wildlife and habitat recovery (e.g. volunteer support, economic recovery, seed banks, fire ecology, disease transmission and contamination). Critically, the group sought to provide advice on how to strategically approach conservation and wildlife recovery efforts given changing climate and fire regimes and to examine future preparedness and build on previous reviews.

A secondary area involved working with the Research and Science Working Group and the resource coordination sector on coordination of effort and how to best work collaboratively with the non-government and research sectors to ensure recovery efforts are coordinated, consistent and complementary.

General observations of the Working Group include:

- The South Australian community and its flora and fauna have a long history of living with fire in the landscape. Fire occurs naturally and supports the rejuvenation of many habitats. Many native plants have adapted to smoke and heat events to reproduce and survive.
  - People enjoy living in nature, with many actively choosing to live in natural settings, surrounded by native habitat to experience the natural environment and wildlife.
  - Historically, development planning has permitted many buildings to be constructed in fire-prone areas and managing community expectations that their lives and property will be protected by a volunteer fire service is a potentially impossible task.
  - With the increased intensity of fires linked to climate change, the ability to meet community expectations with the current resources is not realistic. This risk could be addressed with the implementation of new planning reforms and consideration of hazards in the assessment of new buildings or rebuilding of destroyed properties and in the planning of new developments.
  - However, the issue of living in fire-prone areas remains. This is relevant to habitat and wildlife bushfire recovery because actions taken during and after a fire to protect life and property can increase impacts and inhibit recovery outcomes for habitat and wildlife.
  - While protecting life and property are the highest priority during fire events, it was evident during the 2019–20 fires that protection of wildlife and habitat was also a high priority for many citizens, both in Australia and overseas.
- The long-term and cumulative impacts of habitat and species loss are well known. Experience shows that some species and ecological communities are unlikely to recover without some intervention to support and assist their recovery. Managing the information about those species that need support and tempering community enthusiasm to ‘help’ was a significant issue in all fire-affected communities.
  - The Taskforce heard that, during the 2019–20 fire events, there were conflicting views on some aspects of native vegetation removal on Kangaroo Island and that this caused distress to many in the community. Furthermore, after the fire, some trees that were healthy and/or that were important for future habitat were removed, and the necessity for removing these was questioned by some people, also leading to conflict in the community.
  - Advice from the community highlighted that there is a tension between land uses such as forestry, native vegetation and farming; how these impact on the landscape during fires has led to many mental health issues. Dealing with anger, blame and frustration, levelled primarily at government in the belief that nothing will be done or can be done to stop these events in the future, has led to significant challenges for those who live and work in the area.
  - Learning how to use fire in the landscape to provide some protection from bushfire is a continuous process; however, prescribed burning should not be seen as the major solution.
  - The Working Group faced many challenges in trying to recommend ways of addressing these and many more issues that we will face during fire seasons into the future.

### Recommendations

#### 7.25 Improve the resilience of the natural environment to maximise the protection of native species and hence minimise the risk of species extinction due to wildfire

**Rationale:** Since European settlement a large number of species have become at greater risk of extinction (i.e. threatened) because they are located in restricted areas or specialist habitat, have small populations with few breeding adults, or are genetic subsets of broader populations and are unique due to their separation by physical barriers (e.g. Investigator Strait in the case of Kangaroo Island). Consequently, these species are at greater risk of extinction from a bushfire directly destroying them or exacerbating existing threats such as competition and predation by invasive species.

To prevent the extinction of these species (as far as possible), implementation of the following strategies and actions should be investigated:

- The merit and feasibility of moving or reintroducing threatened species at risk of bushfire to other ‘safe’ areas, thereby establishing ‘satellite’ populations to spread the risk and protect them from the possible threat of a single event in their current location, while also taking account of the impacts of climate change on suitable habitat in the future.
- Where possible, roadside vegetation should be protected and restored if impacted by fire or fire suppression strategies, to prevent weeds such as *Phalaris* and other introduced annual grassy species acting as a future fuel source for fires. Also, roadside native vegetation is significant for the conservation of many threatened species across the agricultural regions of South Australia.
- Ecological resilience after fire relates to ecosystem health before fire. Significant and ongoing landscape investment that addresses key threats and sources of degradation will aid landscapes to ‘bounce back’ after natural disasters such as bushfires. This should ensure that sufficient resources are available for effective weed and pest management control (including native herbivores) after a bushfire to manage impacts on local ecology as it regenerates.
- Remnant vegetation should be protected quickly after a fire; consideration should be given to establishing a stockpile of fencing materials that can be deployed to a region once a fire is out and access is available. Alternatively, consideration should be given to using incentives for landowners in the future to adopt non-flammable fencing in key locations to quickly provide ongoing post-fire protection to remnant vegetation. Virtual fencing is another possible strategy (see recommendation 6.3).

## 7.26 Make better use of fire to manage fuel loads and achieve conservation benefits

**Rationale:** Following a bushfire, there is a natural tendency for people to react and reduce the perceived and real risk posed by native vegetation through management practices such as prescribed burning. Managing fuel loads in native vegetation using fire requires a balance between managing bushfire risk, maintaining ecological health and protecting ecological assets. However, while fire can be used to reduce fuel loads, if it is not undertaken appropriately—for example, if it is conducted at the incorrect time or with excessive fire intensity or frequency—then it can result in the direct mortality of native plants and an increase in weeds that may pose a greater future bushfire risk. If it is undertaken correctly, many native species that have evolved with fire can thrive while the desired risk reduction is also achieved. It is important to plan at landscape scales to ensure that at any point in time there is adequate habitat for native species of concern, such as priority threatened species. Increased resourcing of weed and animal pest management

following prescribed burns, including on private land, is also an important element of this, to avoid reducing the condition and resilience of habitat over the longer term.

## 7.27 Improve the information on biodiversity in planning overlays with a focus on bushfire-prone areas

**Rationale:** Threatened plants and animals and their habitats are often poorly described, with limited current information available to ensure they are protected during fire events. DEW is including this information in ‘natural values’ spatial layers that are used to inform and assist decision-makers to prioritise conservation asset protection (e.g. Kangaroo Island glossy black cockatoo feeding habitat), assist with the location and nature of fire suppression activities during fire events, and help to prioritise post-fire assessments and management interventions.

Providing information about threatened species and their habitats in map overlays, along with information about native vegetation, means that developers and home owners will be better informed about whether proposed developments may require the removal of vegetation or could affect threatened species (either positively or negatively). This can assist with the appropriate siting of building developments and fire-related infrastructure, which not only reduces the risks to life and property but also retains the environmental character of the area, often a key element of why people are seeking to live in that location.

Finally, this information can also assist local councils and developers to utilise planning tools to reduce risk and engage with the CFS to make improvements in fire-prone areas, including the application of hazard overlays to consider the increasing risks from climate change.

## 7.28 Incorporate learning from post-fire monitoring into future fire suppression activities

**Rationale:** The rapidly changing world means we face social and environmental conditions that have no precedent. In this context, history is now less able to guide the future, but important lessons can still be learned from assessing what worked and what did not work following each fire, for both bushfire suppression activities and recovery efforts. This can occur as part of routine post-incident debriefs and reviews.

It is also important that post-fire monitoring is undertaken to inform the recovery of habitat and vegetation in areas treated in different ways during a fire (e.g. comparing areas that were rolled, bulldozed, back-burned or sprayed with retardant), to determine those methods that are most effective and to assess their relative long-term impacts on habitat and vegetation recovery while still achieving short-term aims.

These learnings can be explicitly integrated into the



operational plans and activities of the CFS and DEW into the future, in line with the primary objective of South Australia's State Bushfire Management Plan<sup>6</sup>: *To identify major bushfire risks in the state and recommend appropriate action that will provide protection of life, property and environment from the effects of bushfire.*

### **7.29 Ensure South Australia's threatened species listings are current, linked to national listings and utilise all available local information**

**Rationale:** The 2019–20 bushfires in south-eastern Australia resulted in severe impacts on many species, some of which were already threatened before the fires and are, therefore, likely to now have a higher risk of extinction. Other species considered secure before the fires have now lost much of their habitat and may be imperilled. To support protection and recovery of these species, the assessment of their risk of extinction should be reviewed and considered nationally, particularly for species whose range is wholly or substantially restricted to South Australia. By ensuring that the risk of extinction for South Australian species is described, access to funding for recovery is enhanced through existing state–Commonwealth mechanisms.

An accurate and current list of threatened species is also a critical input to determining the highest priorities for urgent management intervention for future fires. Combining this information with species distributions, overlap of fire area and a range of traits regarding their susceptibility to fire allows experts to prioritise recovery activities to species in the greatest need.

Importantly, post-fire intervention assessments are usually 'desktop' examinations of information to identify the most seriously impacted species. Initially, the national assessments undertaken by the Australian Government's Wildlife and Threatened Species Bushfire Recovery Expert Panel following the 2019–20 bushfires failed to identify most of the species that local experts assessed as likely to be highly impacted in South Australia. Exploration of the national analyses and underlying information demonstrated that this was because very few data points were available for the local species in nationally accessible databases. A review of why this occurred found that state systems do not always contain all available datasets, with variable access to datasets from other institutions due to licensing, standards or technology issues. There are opportunities for improved integration that could lead to better utilisation of biodiversity knowledge and data being made more accessible.

To address this, DEW should as a priority create (where required), maintain and coordinate environmental datasets (including datasets held by other organisations) in a way that ensures information is available and accessible to enable rapid risk and impact assessments, and to improve access to funding

<sup>6</sup> <https://www.cfs.sa.gov.au/prepare-for-a-fire/bushfire-management-planning/>

to drive environmental recovery following disasters. In parallel, this information should be used to update and improve the current threatened species listings under the *National Parks and Wildlife Act 1972 (SA)* and the *Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)*.

### **7.30 Implement strategic land acquisition for the conservation of significant species and habitats**

**Rationale:** There is the opportunity to acquire land that could improve the conservation of significant species and habitats in South Australia. A review is due of South Australia's reserve strategy *Conserving Nature: A strategy for establishing a system of protected areas in South Australia*. The goal of the strategy is to 'establish a comprehensive, adequate, representative and resilient protected area system on public, private and Aboriginal land that secures long-term conservation for the full range of South Australia's ecosystems and protects places and sites of special value to people'. This review should consider the risks posed by climate change and increasing fire severity in our landscapes, to strategically identify target areas that could improve the resilience of identified species or communities (e.g. by enhancing protection of disjunct populations of species and spreading the risk of critical habitat or an entire population being destroyed by a single bushfire event).

A land acquisition program could be implemented over an extended period, acquiring land from willing sellers or possibly 'trading' public land for private land to achieve a desired outcome. Alternatively, landowners could establish a conservation agreement or sell their land to NGOs who could access funding to ensure the land was appropriately managed for conservation, including minimising the risk of bushfires causing extinctions.

### **7.31 Provide support services that address the links between the impacts of bushfire events on the environment, the community, and individuals' mental and physical health**

**Rationale:** There is growing understanding of the links between environmental impacts and community wellbeing and social impacts after catastrophic fires. Since the 2009 Black Saturday fires in Victoria, participation in community groups has been identified as a key element of community recovery to prevent long-term increases in morbidity and mortality following the bushfires<sup>7</sup>. To this end, connecting the community to existing community-based organisations, or establishing such organisations where they do not yet exist, following a fire can provide a significant benefit to a community's recovery. This, in turn, improves the capacity of communities to support wildlife and habitat recovery.

### **7.32 Increase community engagement, discussion, involvement and collaboration in fire management**

**Rationale:** Improved understanding of the likely impacts of climate change on the nature of fire, and of their combined impact on our landscapes and the communities they sustain, can lead to better future planning, community choices, collaboration and resilience.

Involving communities in fire-prone landscapes in bushfire planning and management seeks to ensure that they are well informed and knowledgeable about responding to fires, while also improving their capacity to manage their local habitats for biodiversity and with an understanding of fire ecology.

This could be applied through an expansion of scope for current South Australian approaches such as the *Community Fire Safe* initiative undertaken by the CFS. The Hot Spots<sup>8</sup> project model is used successfully in New South Wales to strengthen community-based collaborative decision-making in highly fire-prone communities and to develop community ownership and support of strategies. This could also help to identify how communities wish to participate in recovery programs and activities driven locally, an aspect that the Community Engagement Working Group identified as critical for success.

7 <https://www.abc.net.au/news/2016-11-29/black-saturday-bushfire-study-finds-mental-health-issues/8073514>

8 <http://hotspotsfireproject.org.au/>

# Appendix 1: Recommendations of the Wildlife Welfare Response Working Group

The Wildlife Welfare Response Working Group provides the following recommendations regarding the welfare response for wildlife as part of the broader wildlife and habitat bushfire response implemented by the South Australian government and DEW.

The recommendations are presented under three key groupings (A, B and C).

**Group A: The Department for Environment and Water is designated with leadership responsibility and authority in managing the wildlife welfare response in emergency situations.**

That leadership role includes the following recommendations:

## **W.1 Fire ground management retained by PIRSA**

The control and coordination of persons entering fire grounds is a paramount safety consideration, and should involve minimal parties and layers to minimise communication issues. Therefore, it is proposed that PIRSA should retain its responsibility for fire ground management and logistics, despite DEW assuming responsibility for wildlife response management.

## **W.2 Capacity management**

DEW should undertake, as a key preparation prior to each bushfire season, an annual review and identification of available wildlife care capacity in order to determine resources available to be activated in an emergency and to identify any emerging gaps in capacity.

## **W.3 Governance and documentation**

DEW is responsible for coordinating the development, authorisation and communication of policies, procedures and protocols for use by entities involved in a wildlife welfare response. As a priority, this should include the preparation of a document based closely on the *Victorian Response Plan for Wildlife Impacted by Fire* before the 2020–21 bushfire season.

## **W.4 Resource allocation**

During an emergency, DEW has responsibility for the assignment of rescue resources, veterinary care and displaced or injured animal accommodation, based on a daily assessment of availability and demand.

There should be a primary information source for wildlife response matters. The survey responses indicated a disparate range of information sources for those involved in the 2019–20 wildlife response. This raises obvious concerns in terms of the accuracy, appropriateness and timeliness of information being provided. Therefore, an important safety and efficiency improvement is the establishment of DEW as a single source for wildlife response information for the public and for those involved in the response.

## **W.5 Enforcement**

Multiple individuals and NGOs will again be involved in future bushfire responses. They should be required to operate within prescribed structures and protocols and DEW must have clear responsibility for enforcement of those requirements.

**Group B: A framework is introduced for the coordination, regulation and support of government, NGO and individual resources involved in providing the wildlife welfare response in emergency situations.**

## **W.6 Accreditation of wildlife carers**

DEW should implement a system of accreditation for wildlife rescue organisations and individuals involved in wildlife response. This should include training, compliance and reporting requirements and also set minimum governance standards for wildlife care organisations to improve the quality and consistency of the wildlife response.

## **W.7 Coordinated response to reports of injured wildlife**

With over 30 organisations currently involved in native animal rescue, each with their own species focus and contact arrangements, it can be very confusing for a member of the public who has found an injured animal to know which is the best organisation to contact. Combined with the fact that these organisations have loosely defined areas of operations and inconsistent response resourcing, the overall performance in responding to public requests for assistance is erratic at best. The reality is that no single organisation has the resources to adequately cover the state in terms of responding to reports of injured native animals. However, if the groups worked in combination then a very efficient and timely service could be provided.

DEW should implement a system incorporating a single phone number and website for the public to contact when reporting injured native animals. Assignment of the rescue request should then be made to accredited organisations based on whether they have the appropriate skills and knowledge and on their proximity to the report. The simple objective is to provide the injured animal with correct care as quickly as possible.

## **W.8 Quality management**

DEW does not currently require the reporting of real-time information on the number and species of injured native animals, or the veterinary and other care being given. Therefore, a system is needed to improve traceability of wildlife being rescued and rehabilitated, particularly during emergencies, to provide the information required to properly manage wildlife welfare in South Australia

## **W.9 Wildlife response training support**

To support the implementation of an accreditation system for wildlife carers, suitable training providers will be identified to deliver training that is consistent with DEW policies, procedures and protocols. Training topics may include:

- a. animal handling and medication delivery
- b. animal physiology and behaviour
- c. animal care, rehabilitation and release
- d. relevant legislation
- e. emergency response arrangements
- f. fire ground entry requirements.

## **W.10 Feed support**

One particular challenge for wildlife carers that was identified in the survey was the availability of sufficient feed, especially for koalas. Therefore, a key support initiative for koala carers is the establishment of large dedicated browse plantations on government land that is available to accredited organisations. It is recommended that at least two such plantations be established to protect the feed source in case of disease or virus spread.

## **W.11 Alignment of non-emergency wildlife management**

While the focus of these recommendations is preparedness for future bushfire emergencies, it is also recommended that these measures apply at all times to support ongoing wildlife welfare responses in non-emergency periods.

## **W.12 Alignment with national frameworks**

Similar issues with the wildlife welfare response to the 2019–20 bushfires have been identified in a number of states and work is underway (coordinated by Wildlife Health Australia) to propose a national response framework for the future. The Working Group believes that, where appropriate, any South Australian framework should be consistent with a national approach.

## **Group C: An enhanced wildlife veterinary capacity is developed in South Australia.**

## **W.13 Clarified veterinary authority**

During emergency situations there is a need for in the field triaging and treatment of injured animals. This may occur in multiple locations and involve veterinarians from many organisations; for example, on Kangaroo Island during the 2019–20 fires, veterinarians from the local practice, SAVEM, Cleland Wildlife Park, Zoos SA, RSPCA and the Australian Army were all involved. DEW should develop protocols and review supporting agency arrangements in partnership with PIRSA to ensure consistency of veterinary care across all emergency situations.

## **W.14 Development of standard treatment and care protocols**

With a multitude of veterinarians involved in the 2019–20 wildlife welfare response, there was considerable disparity in treatment and care protocols, especially amongst vets with little wildlife experience. Therefore, an important recommendation is the development of a set of standards and protocols for the treatment of injured wildlife. Ideally, this should be aligned with national standards (which are proposed in a recent Wildlife Health Australia forum and report) and included in a South Australian Response Plan for Wildlife Impacted by Fires (proposed).



The protocols would include:

- a triage process, including assessment criteria, processes and decision-making tools
- euthanasia indications / criteria and techniques
- treatment of burns and burnt animals, including:
  - recommendations for minimising the potential development of antimicrobial resistance associated with the off-label and routine use of antibiotics as occurred during the recent fires
  - clarification and recommendations regarding the use, management, storage and prescribing of category S4 and S8 (restricted substances and drugs of addiction respectively) by non-veterinarians (another gap area identified during the recent fires)
- supplementary feeding, including provisioning and withdrawal.

#### **W.15 Requirement for veterinary checks**

It is a concern to the Working Group that well over half the respondents to the survey indicated that care assessments of injured animals were performed by non-veterinarians. While the Working Group is cognisant of the extensive experience of some carers, it is a reasonable and legal requirement that qualified veterinarians make determinations on animal care. Therefore, the Working Group recommends that all animals held for rehabilitation and release are required to be checked by a veterinarian within 24 hours. However, this requirement will obviously require resourcing in terms of the availability of sufficient wildlife-qualified veterinarians during emergency and normal periods and assisting rescue organisations by providing more free access to qualified veterinarians.

#### **W.16 Increased access to wildlife training and experience for qualified veterinarians**

Given the limited opportunities for exposure to native animal care in private practices, a program to provide opportunities for veterinarians to gain expertise in wildlife treatment would enhance our capacity in emergency situations. This experience could be provided to veterinary students and practising veterinarians with expanded intern programs at specialist wildlife facilities such as the Adelaide Zoo and Cleland. Fire-ground training should be incorporated for any veterinarians making themselves available for emergency responses.



## W.17 Establishment of a wildlife hospital

This issue gained considerable exposure during the bushfires with numerous calls and proposals from wildlife care groups for such a facility. Surprisingly, it did not generate much response in the survey results. This issue has two facets to be addressed:

1. Mobile field-based triage and treatment facilities. As was observed during the summer of 2019–20, bushfires can occur anywhere in our state and an effective wildlife welfare response must have the capability of operating wherever it is needed. In 2019–20, the SAVEM tent triage centre proved to be very functional, with no particular concerns expressed by veterinarians operating in it. The problem was having only one unit available when it was required at two bushfire locations. Therefore, a recommendation of the Working Group is to investigate funding of a second compatible veterinary triage facility – this could be a second similar unit or other mobile triage and support facilities, such as modified containers.
2. Longer-term care and treatment facilities. One of the issues that did arise in the 2019–20 fires was the non-use of existing permanent animal care facilities while new temporary ones were created. Clearly a priority must be to ensure that the wildlife welfare response ensures optimum utilisation of capacity in future fire events. That should be facilitated by recommendation W.2 and others.

Most survey respondents also reported that they had sufficient or spare enclosures for native animals, so it is questionable whether there is a need for a major wildlife care facility to cater for the ongoing care and rehabilitation of injured native animals in emergency situations.

However, what is needed is fundamental wildlife-experienced veterinary treatment capacity. This may be even more of an issue on an ongoing basis rather than in emergency situations when volunteer veterinarians are plentiful. South Australia is one of the few Australian states without a significant dedicated wildlife treatment facility that is fully available to wildlife rescue groups 24/7. This is a gap in our wildlife welfare response capability that should be addressed, as rescue groups have difficulties consistently accessing experienced veterinary assistance for native animals. When they do access such assistance, it is usually on a pro bono basis, meaning private practices are bearing the bulk of the burden of injured wildlife treatment in South Australia.

Ongoing funding of such a wildlife treatment facility is a challenge. Ideally, it should:

- be conveniently accessible to the Adelaide Hills and Fleurieu Peninsula, where most rescue groups operate
- be in a safe location away from bushfire-prone areas

- be expandable to cope with increased demand in emergency situations
- provide free veterinary assistance to all accredited wildlife rescue organisations
- provide training for veterinarians wishing to build wildlife expertise, given that training has the highest value when it is directly linked to, and has access to, wildlife veterinary expertise (veterinarians and keepers) and animals.

Nonetheless, a permanent dedicated wildlife veterinary facility would facilitate recommendations W.15 and W.16 by providing more resources for mandated veterinary checks and training opportunities in a teaching facility. Therefore, the recommendation of the Working Group is that the development of a permanent wildlife hospital be investigated.

## W.18 Public education

The overall wildlife welfare response can be improved if there is less pressure from an ill-informed public about wildlife welfare matters. A structured programme of public education should be implemented, first identifying the key information that needs to be communicated, such as:

- a. One of the pressure points during the 2019–20 bushfires was the overwhelming expectation of the public that the native animals injured in the fires could be saved. There is no doubt that this led to decisions to not euthanise that were not in the best welfare interests of the animals. It is an unfortunate reality that wild animals, even if they survive their fire-related injuries, often succumb to stress-related conditions arising from their captivity. This reality is usually not understood by an emotion-charged public and this can only be addressed by ongoing education. Therefore, the Working Group recommends that wildlife care public information and education programmes be developed as part of the state's preparedness for future bushfires.
- b. Correct and appropriate supplementary feeding. It is an understandable response to want to help native animals in environments decimated by fires; however, it is important that the public knows when it is appropriate to provide feed and what type of feed is best – both for the animals and the environment.

# Appendix 2: Presentations and expert input to the taskforce

| Who   | When                 | Subject   |
|---|----------------------|---|
| Dr Jennie Fluin - Principal Advisor Research Partnerships, DEW                  | Friday 17 April 2020 | <p>The Taskforce received an update on priority research areas and gaps identified through a workshop held on Kangaroo Island with local and national experts to support post-fire recovery of at-risk wildlife and habitat.</p> <p>The Taskforce discussed the challenges of securing funding and the implications of Kangaroo Island species not being recognised as nationally threatened via the EPBC Act 1999.</p>   |
| Damian Miley - General Manager, Kangaroo Island NRM/Landscape Board             | Friday 8 May 2020    | <p>The Taskforce received an update on the action to control feral pigs and cats on Kangaroo Island and a proposal to expand these activities.</p> <p>Updates were given on the activities being undertaken on Kangaroo Island related to feral cat and pig control and the need for this work post-fire. A further funding proposal being led via PIRSA was discussed.</p> <p>The Taskforce explored the likelihood that eradication will take 5–10 years and the importance of public investment and the local community being central to success.</p> <p>The Taskforce supported the need for action on feral species using best practice approaches outlined.</p>   |
| Kim Krebs - A/Regional NRM Manager, Hills and Fleurieu NRM/Landscape Board, DEW | Friday 29 May 2020   | <p>The Taskforce received an update on Cudlee Creek Recovery - NRM/Landscape Board Recovery Activities in the Adelaide Hills region and impacts. Discussed impacts of fires on properties, lifestyle properties, stock, regional viticulture and orchard farming, and the estimated \$100m impact on the economy.</p> <p>These activities built on experience from the Pinery and Sampson Flat fires. Support to affected landowners occurred within days, as opposed to weeks and months for earlier fires, because of this experience.</p> <p>Internet was used for immediate contact with community, then stretched out to outreach programs to address jointly identified issues affecting recovery (e.g. erosion control, water quality testing, stock containment areas). COVID-19 required a pivot to more online engagement through webinars, videos, etc. Updated on Landscape Recovery Grants: 17,000 seedlings distributed, threatened species recovery, access and pest control and grazing pressure actions; also discussed the \$1.2m Woodland Bird project.</p> <p>The Taskforce discussed these insights and that the impact is long lasting on the communities and emotional hurt is enormous.</p> |

| Who   | When                   | Subject  |
|---|------------------------|--|
| Richard De Groot - NPWS<br>Manager, Fire AMLR Region,<br>DEW                        | Friday 29 May<br>2020  | <p>The Taskforce received an update on Cudlee Creek Recovery – National Parks and Wildlife (NPWS) recovery activities in the Adelaide Hills region, outlining an expectation that sites will recover over time but that there is a major loss of large trees that will impact on habitat for birds and mammals in the future. Additionally, the impacts of grazing by native and introduced herbivores on vulnerable plants and habitat is a major threat to that recovery. Restoration works underway include: 12,000 plants to be planted at Charleston Conservation Park, and the ‘Bring back the Banksias’ project.</p> <p>Approximately 20 semitrailer loads of roadside timber is being removed for safety reasons and will mainly be used for compost and to support recovery.</p> <p>NPWS is partnering with Hills and Fleurieu Landscape Board and the SA Seed Centre to propagate the most endangered orchids and other flora species to translocate them back into parks. Future priorities for recovery include:</p> <ul style="list-style-type: none"> <li>• restoration of Bassian thrush</li> <li>• assessment</li> <li>• responsive management of weeds and overgrazing by kangaroos</li> <li>• working on translocation of threatened flora</li> <li>• expanding woodland rescue project.</li> </ul> <p>The Taskforce discussed that during and just after an active emergency it is not always possible to have access to fire grounds for safety reasons, and discussed the need for limitations to access the fire ground with NPWS representatives.</p> |
| Matt Miles - Principal Adviser<br>Environmental Information,<br>Science Branch, DEW | Friday 12 June<br>2020 | <p>The Taskforce received a summary on the innovative data and science information products that have been developed to help manage the recovery and inform the public. This included a presentation on a bushfire season ‘dashboard’ (available internally to government) to understand impacts and share current, authoritative information with everyone while enabling a single point of current statistics and factual information.</p> <p>The Taskforce was advised of the information available on the public website about the fires.</p> <p>The Taskforce discussed how the website can be an effective tool to improve understanding of the community through products such as the Story Map to inform the community. The Story Map concept permits continuing updates as recovery occurs and reflects some of the work and outcomes of the Taskforce. An outline was also provided of the online volunteers being used to assess images of wildlife taken by remote cameras on Kangaroo Island.</p>   |
| Janice Goodwins - Director,<br>Science and Corporate<br>Services, DEW               |                        |  |

| Who  | When                | Subject  |
|--|---------------------|--|
| Alex Zimmerman - Local Recovery Coordinator, Cudlee Creek Bushfire | Friday 26 June 2020 | <p>The Taskforce received an update about the devastation, hearing that there was significant media coverage on the damage to the flora and fauna.</p> <p>The Taskforce was briefed on matters relating to Cudlee Creek, hearing that mainly the flora and habitat was destroyed as a consequence of the fire. It is unknown how many native animals were lost during the fire. Endangered plants were a focus of recovery actions, including orchids, clover and wattle; these are expected to respond well but there will be an issue with managing grazing pressure. The issue of fencing and culling of kangaroos was raised, encouraging more public engagement on the need for kangaroo management to increase the public's understanding of the issues and management options. The Taskforce discussed the NPWS/Landscapes Regional Grazing Pressure Management Project to manage goats and kangaroos in the area.</p> <p>The Taskforce discussed that, compared to Kangaroo Island, Cudlee Creek is far less complex, but it has its own complexity and there is good progress in re-establishing habitat and caring for the species.</p>  |
| Rob Manton - Local Recovery Coordinator, Kangaroo Island Bushfire  | Friday 26 June 2020 | <p>The Taskforce received an update on Kangaroo Island recovery, outlining the five Working Groups formed as part of the recovery process, with one group focused on the environment. It was highlighted that fencing and protecting native vegetation and waterways, and tackling feral pigs and cats, are major issues affecting recovery that are in need of immediate resourcing. One concern is that feral animals are now following food trails.</p> <p>Surveys for glossy black cockatoos are underway and a recovery committee has been established. Initial assessment confirmed 50 per cent of known glossy remnant feeding habitat was destroyed by fire and could take more than 10 years to be replaced as a food source. 35 per cent of nests were destroyed. Kangaroo Island dunnarts surveys were occurring across 45 sites with dunnarts detected in 13 separate sites.</p> <p>The Taskforce discussed the NPWS plan to develop a fire management plan for the eastern end of the island in the spring, being consulted with the community. Most of the fires on Kangaroo Island are started by lightning strikes. The Taskforce spoke about prescribed burning and the complex issues involved – this issue needs to be taken on with great caution.</p> <p>Finally, the significant issue of plantation forestry was discussed, including that a lot of the burnt trees are still standing, creating a significant environmental issue.</p> |

| Who   | When                | Subject   |
|---|---------------------|---|
| Shauna Black - Executive Director, Kangaroo Island Plantation Timbers | Friday 24 July 2020 | <p>The Taskforce received an update on the issues facing Kangaroo Island Plantation Timbers (KIPT), based on their latest Annual General Meeting in June.</p> <p>KIPT plantations include almost a third of the entire landholding is undisturbed native remnant vegetation – 7000 hectares. This large area of remnant vegetation was considered a valuable asset by local and environmental managers.</p> <p>KIPT were part of the previous Feral Pig Taskforce established by the Kangaroo Island Commissioner, which facilitated hunting of feral pigs to assist farming neighbours.</p> <p>KIPT are involved in a range of environmental initiatives, including with Birdlife Australia to survey bird life in plantations and native vegetation before and after the bushfire.</p> <p>KIPT is also working with KI Land for Wildlife to survey for Kangaroo Island dunnarts and are members of KI Conservation Landholders Association (KICLA).</p> <p>KIPT provided \$100k corporate support to the glossy black cockatoo project.</p> <p>Standing stock is 4m tonnes of timber as at 30 December. KIPT had received \$49.6m from the insurer with \$17.5m still outstanding. Hardwood timber remains the highest and best economic use of most Kangaroo Island land with rainfall over 500 mm. KIPT is still awaiting details from federal government funding application.</p> <p>The Taskforce heard that the 3 January fire event was extreme; everything burned and nothing that was going to stop it. Advised that Kangaroo Island is suitable for forestry, and there are ways to mitigate fire risks as there are for every other land use on the island; the Taskforce heard that there needs to be more work on fire risk management.</p> <p>The Keelty review recognised that forestry needs to work more closely with the CFS through the Forestry Industry Brigades. KIPT is working on 2020–21 fire planning. We need to learn lessons for the future as per Keelty review, which found that forestry knowledge needs to be embedded within the incident management team and with the on-ground teams.</p> <p>The Taskforce was advised that there are established protocols for harvesting plantations in relation to feeding koalas, which are well established in the south-east of SA and south-west Victoria. The challenge now is working out how protocols apply on Kangaroo Island and how to best adapt them using local understanding of koala management.</p> <p>The Taskforce discussed alternative ways for timber to leave the island, including what other options are available if the Smith Bay proposal is not approved. The Taskforce discussed the proposal to barge timber off the island, proposed via a third party exploring the high cost of such an operation.</p> <p>The Taskforce also asked if work with community groups is at risk, given the financial position of KIPT. KIPT advised that there are many projects that are now receiving support elsewhere and that KIPT are supportive of many community activities, e.g. arts and education.</p> |

| Who   | When                  | Subject  |
|---|-----------------------|--|
| Dr Dan Rogers - Principal Ecologist, Science and Corporate Services, DEW  | Friday 7 August 2020  | <p>The Taskforce received an update on feral cat management on Kangaroo Island, including their status, impacts and current management. Two related feral cat management programs are occurring on Kangaroo Island:</p> <ol style="list-style-type: none"> <li>1. Minimising the risk of cat predation on threatened Kangaroo Island vertebrates as a result of the fires (short to medium term).</li> <li>2. Kangaroo Island feral cat eradication program, currently eradicating cats from the Dudley Peninsula (medium to long term).</li> </ol> <p>The Taskforce heard about running these two programs at the same time, the overall capability and capacity to manage cats; the human resources, technical skills and equipment needed to manage cats on the island have been expanded and improved. Dr Rogers expressed how critical ongoing human resources are to maintain their operation.</p> <p>The purpose of the western Kangaroo Island cat management work is to protect native animals that are in the refuges (semi-burnt and unburnt areas) until the vegetation recovers to where there is more cover for them to hide.</p> <p>The presentation outlined the investments that have been made in feral cat management on Kangaroo Island and advised that the success of these programs requires sustainable resourcing, to ensure that the early success of the programs is not lost. Dr Rogers outlined that the western fire recovery cat management program may be required over the next 5–10 years, depending on the rate at which habitat recovers.</p> <p>The Taskforce discussed the process of eradication, recognising it as ambitious but necessary to reduce the risk to populations of native species following the fires. The Taskforce discussed concerns regarding the time, resources and effort spent on managing feral cats and the limitations of current tools in achieving the outcome. The Taskforce discussed the use of technology that recognises the feral species and questioned whether funding would be better applied to research and development of a tool that would work more efficiently.</p> <p>The Taskforce discussed a multi-jurisdictional Working Group looking to explore new approaches and support research into gene drive technology and the use of feral predators; the Taskforce provided support to these priorities.</p> |
| Emily Jenke - Chair, Native Vegetation Council<br><br>Sarah Reachill - A/Manager, Native Vegetation Branch, DEW | Friday 21 August 2020 | <p>The Taskforce received an outline of the Native Vegetation Council (NVC), an independent body established by the <i>Native Vegetation Act 1991</i>, and its role and membership. Ms Jenke went on to outline Heritage Agreements (areas of native vegetation under protection on private land) and the provision of funding to assist landowners managed by the Nature Foundation.</p> <p>Ms Jenke outlined the NVC's submission to the Keelty review, which addressed misinformation about the role of native vegetation and its impact on bushfires, particularly the issues of prescribed burning and the role of the NVC in management of native vegetation.</p>  |

| Who  | When                  | Subject  |
|--|-----------------------|--|
| Mike Williams - Director, National Parks and Wildlife, DEW | Friday 2 October 2020 | <p>The Taskforce received an overview of the work of the NPWS, advising of the agency's services, its roles and principal legislation. NPWS has responsibility for management of 360 National Parks, Conservations Parks and other reserves across the state, under the <i>National Parks and Wildlife Act 1972</i> and the <i>Wilderness Protection Act 1992</i>. NPWS is also responsible for Crown lands and various wildlife management matters, including licensing and regulation.</p> <p>Mr Williams described the organisational structure, including the divisions in head office and in the regions. The Taskforce were advised that, in the last 12 months, NPWS has been revitalised, having employed 40 new rangers across the state, reinstated the Parks and Wilderness Council (chaired by Raymond Spencer), and is delivering a range of new initiatives (especially in the Flinders Ranges and Kangaroo Island). On Kangaroo Island, NPWSA is undertaking a 'reimagining process' with the community in reinstating assets, while also supporting wildlife programs associated with bushfire recovery. This is combined with the new initiatives in the eastern end of Kangaroo Island around visitor facilities.</p>  |
| Fiona Gill - Director, Fire and Flood Management, DEW      | Friday 2 October 2020 | <p>The Taskforce received a presentation on the DEW Fire Management Program, which provided further insight on the following key points:</p> <ul style="list-style-type: none"> <li>• legal responsibilities for landholders</li> <li>• 25 per cent of the state falls under the remit of the DEW Fire Management Program</li> <li>• reducing bushfire risk to community through hazard reduction, while seeking to manage fire to maintain and enhance biodiversity</li> <li>• \$14m budget allocation, with 145 specialist staff</li> <li>• DEW is the largest CFS brigade, with 370 firefighters and 125 vehicles</li> <li>• the program has specialist areas in bushfire response and hazard reduction</li> <li>• engagement is an important priority</li> <li>• meeting regulatory requirements</li> <li>• deliver response through Incident Control.</li> </ul> <p>The fire and flood management branch is delivering on the South Australian Government's response to the Keelty review.</p> <p>The Taskforce discussed the Royal Commission and cultural burning. The Taskforce discussed increasing the involvement of Aboriginal people and groups in fire management in South Australia, and the impacts of climate change and changes to prescribed burning and to 'windows' in spring and autumn.</p> |

| Who  | When                     | Subject  |
|--|--------------------------|--|
| Jason Irving - Manager,<br>National Parks and Protected<br>Area Project, DEW | Friday 2<br>October 2020 | <p>The Taskforce received a presentation on park management planning, which provided further insight on the following key points:</p> <ul style="list-style-type: none"> <li>• every park is required to have a management plan that sets out the Minister’s objectives in managing a park or group of parks</li> <li>• management plans are not time-bound documents</li> <li>• preparing a plan has a three-month period of public consultation and once adopted by the Minister the parks must be managed consistently with the management plan</li> <li>• development of the West Kangaroo Island Management Plan has begun, to replace existing management plans, and will cover 14 parks and wilderness areas</li> <li>• community discussions and Working Group structures are being utilised through the ‘Reimagining KI’ process</li> <li>• some of the emerging themes are supporting the recovery of fire-affected ecosystems</li> <li>• values issues: wilderness areas, conserving wildlife, conserving maritime and pastoral heritage features, managing wilderness protection areas.</li> </ul>   |
| Stuart Paul - Director,<br>Regional Operations, DEW                          | Friday 2<br>October 2020 | <p>The Taskforce received an overview on park operations, current priorities for the year ahead and challenges, providing further insight on the following key points:</p> <ul style="list-style-type: none"> <li>• NPWS has a 7-region model and employs 300 staff within the regions, including 135 rangers and 80 project fire fighters</li> <li>• staff are responsible for day-to-day management of National Parks and delivery of statewide programs across those parks, along with business support, fire planning and management, conservation ecologists, tour guides and asset managers</li> <li>• programs are broad and diverse, including conservation and wildlife management programs, visitor and volunteer group management, fire management, and commercial tours</li> <li>• NPWS performs a key education role along with enforcement and compliance</li> <li>• current priorities for the year ahead include delivery of capital investment projects, expansion of and continuing to support existing co-management arrangements with Aboriginal partners across the state (including 14 co-management boards or advisory committees), supporting the relationship with the 100 Friends of Parks groups, and engaging with 100 new volunteer rangers</li> <li>• challenges include managing the impacts of total grazing pressure, which is critical in NPWS’s role as a wildlife management authority</li> <li>• delivering conservation programs in the field (e.g. Bounceback)</li> <li>• working with fauna rescue groups, including training about fire ground safety as first responders</li> <li>• climate change is a key challenge to all areas of operations</li> <li>• COVID-19 has posed significant challenges to park operations and recovery activities, especially with closure of parks; with restrictions relaxing and parks open to visitors, visitation is up by 85 per cent compared to the same time in 2019.</li> </ul> |



| Who  | When                      | Subject   |
|--|---------------------------|---|
| Dr Dan Rogers - DEW<br>Principal Ecologist, Science<br>and Corporate Services, DEW                 | Friday 2<br>October 2020  | <p>The Taskforce received an update on the regional Australian Government funding for Kangaroo Island and how that is progressing since the Kangaroo Island workshop in August. Kangaroo Island has been identified as one of the seven national priority regions affected by fire to receive Commonwealth investment. The Commonwealth have been partnering with DEW and the Landscape Board on Kangaroo Island to develop a proposal through a workshop approach to undertake medium-term on-ground actions that build a base for long-term resilience.</p> <p>The projects need to demonstrate a link to outcomes for those priority species that have been identified by the national expert panel; funds are invested in on-ground action that also improves knowledge of distribution and habitat for the species. The workshop included Taskforce members and incorporated the outcomes of the Taskforce's own workshop, and identified the following priority actions:</p> <ul style="list-style-type: none"> <li>• cat control, focused on minimising predation risk to priority species</li> <li>• fire management planning, capacity building and implementation</li> <li>• glossy black cockatoo, acting as needed for the recovery of the species</li> <li>• species specific monitoring followed by specific actions as needed (e.g. weed control, fencing, erosion control, Phytophthora management and revegetation).</li> </ul> <p>The Taskforce expressed support for the priorities.</p> |
| Joel Taggart - A/Director,<br>Preparedness Operations,<br>South Australian Country Fire<br>Service | Friday 30<br>October 2020 | <p>The Taskforce received an overview of the role of the CFS. The Taskforce discussed the issues regarding coordination of wildlife response during the fires and discussed protocols of the CFS and the need to clarify arrangements for wildlife beyond the role of SAVEM.</p> <p>The Taskforce discussed the issue of habitat and trees, specifically decision-making with respect to tree removal and the implications for wildlife and habitat. This issue is being explored by the State Bushfire Coordination Committee. The Taskforce heard about the focus of the CFS on continuous improvement, the importance of natural values advice (priority environmental values) in responding to bushfires, and that the CFS is focused on how to avoid future issues.</p>  |

| Who  | When                    | Subject   |
|--|-------------------------|---|
| Denise LeBlond - Principal Planner, Planning and Land Use Services, PlanSA | Friday 30 October 2020  | <p>The Taskforce received an update on the planning legislation and an outline of its operation. The planning and policies associated with climate change and natural hazards was seen as most relevant to the Taskforce and its interests. The Taskforce discussed how the state planning policies are very high level, with principles and objectives for the state to guide the planning systems in the future, supported by regional planning. Regional Plans are a key planning instrument, with each region having its own regional plan. The Taskforce were advised of the work PlanSA and the CFS have been undertaking to incorporate climate change, the hazards from extreme weather events and the impacts of bushfire into planning reforms.</p> <p>The Taskforce was briefed on the opportunities across government for embedding climate change scenario modelling into regional planning (commencing in 2021) to inform the Planning and Design Code.</p> <p>The Planning and Design Code is a single document and is delivered online with all the zones to assist with point-in-time development assessments. The Taskforce discussed how planning overlays work in the Planning and Design Code with regard to bushfire-prone areas, including the policies and rules that apply and how to deliver better planning outcomes that reduce risk and provide better protection to wildlife habitat.</p>   |
| Nicki Putland - Director, Corporate Services, Kangaroo Island Council      | Friday 13 November 2020 | <p>The Taskforce received an update from Kangaroo Island Council on its activities with regard to roadside vegetation management following the recent bushfires, involving the rollout of a two-stage project. Vegetation that is being dealt with immediately:</p> <ul style="list-style-type: none"> <li>• vegetation close to the road edge (for road safety concerns)</li> <li>• vegetation off the road edge will be maintained as it stands</li> <li>• vegetation on the sides of the road will be managed—bringing down to smaller material to deal with—then distributed back to the verge to keep the level of growth and coverage in place</li> <li>• the larger material will be removed from site.</li> </ul> <p>The Taskforce heard of the Kangaroo Island Council's development of a Roadside Native Vegetation Management Plan in collaboration with the NVC. Given how valuable roadside vegetation is to Kangaroo Island, the Council advised that they are also working closely with local DEW officers and are keen to work more closely with regard to mapping strategies and overlays. The Taskforce discussed the issues that Kangaroo Island Council is dealing with in relation to management of roadside vegetation since the bushfires and the receipt of advice and expert input into management.</p> <p>The Taskforce was briefed on how Kangaroo Island Council have been working with Rob Manton on recovery, the challenging issue of waste management and the opportunities for green waste to be recycled and re-used on the Island. The Taskforce was advised that the sharing of information between various departments and stakeholders is valuable.</p> <p>The Taskforce heard that there are no council resources or budget to deliver the recovery actions outlined in the Kangaroo Island recovery plan. A general discussion took place about resourcing on Kangaroo Island, and how it could be possible to involve the community in the recovery actions with limited resources and the need to engage with the local recovery coordinator.</p> <p>The issue of housing challenges on Kangaroo Island to support workers was also discussed and identified as an issue to be highlighted.</p> |

| Who  | When                    | Subject   |
|--|-------------------------|---|
| Jan-Claire Wisdom, Mayor, and David Waters, Bushfire Recovery Director, Adelaide Hills Council | Friday 27 November 2020 | <p>The Taskforce received an update from Mayor Wisdom and Mr Waters on Adelaide Hills Council's activities since the Cudlee Creek fire. Mr Waters showed an image displaying fire-damaged areas pre fire and post fire in Lobethal and Woodside.</p> <p>The Taskforce was advised there were five key areas burnt by the fire, particularly Lobethal Bushland Park. Some great work has been done since the fire, but now parks have to fight against introduced species, with weed incursion being the biggest threat, along with rabbits. Also, there is a need to watch erosion, particularly in Lobethal Bushland Park where there are a number of creeks.</p> <p>Visits from both the state and Commonwealth environment ministers occurred post-fire, and the Taskforce was advised of concern expressed to the ministers relating to seeking support with costs of recovery, with \$700,000 being the estimated costs incurred by council, and that the council is seeking further funding. The various aspects of the financial implications of the existing disaster recovery arrangements between local government and the state (and, by extension, the Commonwealth) were discussed, particularly that current arrangements exclude environmental work and natural assets. Adelaide Hills was not defined as one of the seven highest impacted regions eligible for federal funding, despite recognition that the Adelaide Hills was severely impacted. Finally, the support the Council received from the volunteers was acknowledged.</p> <p>Mayor Wisdom raised some possible recommendations for the Taskforce to consider:</p> <ol style="list-style-type: none"> <li>1. review of the disaster recovery criteria with consideration of environmental recovery and to include road reserves</li> <li>2. the status of Lobethal Bushland Park – consideration for state conservation status for better protection in the future</li> <li>3. the funding and resources issue.</li> </ol> <p>The Taskforce highlighted the need for natural assets to be regarded in the same way as human-made infrastructure given its importance to overall recovery, and that there would be value in councils collaborating on this issue. The Taskforce discussed whether Council had considered other funding programs through the LGA or PIRSA/DEW and were advised that PIRSA/DEW are working together on a proposal for local economic recovery plan funding.</p> <p>Mayor Wisdom spoke of how there is an opportunity to elevate the importance of the environment and adapt the language being used, regarding how the environment being an important part of recovery. COVID-18 has raised the importance of mental health, and now could be an opportunity to make a linkage: ('how important environmental recovery is for the mental health of the people who are not only living here but for those who wish to visit').</p> |

# Appendix 3: Principles of communication

The Communication Working Group recommends the following overarching principles for communication during, immediately after and in the longer term after a catastrophic fire.

Communications should be:

**Two way** - listening to and engaging with communities and not simply 'talking at them' will be more effective.

**Frequent and regular** - it is vital that communication about wildlife and habitat is frequent and regular, especially during and immediately after a fire, and that clear and consistent messages are provided to the public.

**Honest** - while there is a demand and a need for positive stories about wildlife recovery, honest communication about the species not faring well, the things that could be done better, the important role of euthanasia and the prognosis for the future should not be avoided.

**Targeted** - different types of communication will be needed for different audiences.

**Engaging** - a range of techniques are needed to engage and inspire audiences, including personal stories, humour, visually appealing material, and art–science collaborations. 'How does having healthy habitat and wildlife impact me and my family?'

**Proactive and far reaching** - it is important to ensure that communication is not passive, catering mostly to those who seek out information about wildlife, but also reaches out proactively to the less engaged.

**Broad** - in addition to finding strategies to better communicate wildlife recovery following fires, the longer-term health and resilience of wildlife and the habitats they rely on should provide the broader context within which all communication is positioned.

# Appendix 4: Principles of community engagement

The Community Engagement Working Group recommends the following principles be recognised and incorporated in community engagement, arising from the community engagement workshop.

Overall:

- Use a narrative / language of emphasising the importance of local community and local solutions.
- Unlock local resources and local knowledge – the lived experiences of local communities.
- Include Aboriginal cultural thinking and knowledge into local decision-making and forward planning for wildlife welfare, habitat and rehabilitation.
- Aboriginal Traditional ecological knowledge can contribute to local solutions and forward planning.
- Aboriginal cultural stories of local animals and habitats are important factors for recovery, as they provide meaning and purpose. Local capability and capacity respond to what is important to the community (e.g. prevention programs, local community plans, animal welfare, and managing local protocols).
- A focus prior to fires is needed to enable the use of local capacity where possible. Connecting with local recovery teams or committees is important. Local people and their engagement and involvement in decision-making, using local knowledge before and after a fire emergency, is also important.
- Local community decision-making processes should be incorporated into decisions about emergency response.
- Map the community's social assets, such as networks, groups and individuals – i.e. know who they are.

Post-fire recovery:

- Use the Aboriginal workforce in recovery work, land regeneration and vegetation propagation, and in the management of this process with the wider community and NGOs.
- Contribute and support existing processes, both during and after emergency events (a local community plan should be integrated with existing plans of authorities and emergency responders).
- Locally driven and coordinated activities for improved outcomes in local plans should be supported by aligning local actions with Aboriginal cultural stories related to location / geography and species.
- Empower local communities and local decisions during emergency situations.
- Learn from other relevant emergencies.
- Use Aboriginal cultural knowledge about the use of fire for sustainability.
- Coordinate local action both during and after an emergency.
- Assist local decision-makers to create a legal entity to manage public fundraising through various sources.

Negative outcomes from poor community engagement can include:

- Loss of local community involvement, loss of empowerment, loss of engagement, and loss of decision-making expose the community to outside decision-makers.
- Doing the same thing in every emergency and not learning or improving.
- Recovery of local community takes longer because of local grievances.

# Appendix 5: Taskforce Working Groups

## Wildlife Welfare Response Working Group

The Wildlife Welfare Response Working Group was convened to provide advice into the welfare response for wildlife as part of the broader wildlife and habitat bushfire response that was implemented by the South Australian government during and after the 2019–20 bushfires.

Members of the Wildlife Welfare Response Working Group:

- Paul Stevenson (Convenor) - RSPCA
- Dr Phil Ainsley - Director Life Sciences, Zoos SA
- Felicity-ann Lewis - Taskforce Chairperson
- Sue Mackenzie - Manager, Cleland Wildlife Park
- Rachel Wescott - Founder, SAVEM
- Dana Mitchell - KI Wildlife Park
- Anthony Freebairn - Manager Wildlife Programs, DEW

## Communication Working Group

The Communication Working Group was convened to assess communication about wildlife and habitat during, directly after, and in the months following the bushfires and make recommendations for the future.

Members of the Communication Working Group:

- Dr Susannah Elliott (Convenor) - Australian Science Media Centre
- Dr Chris Daniels - CEO, International Koala Centre of Excellence
- Karen Ashford - Director of Communications, Flinders University
- Michael Mills - Creative Director, Heaps Good Communications
- Dr Sheryn Pitman - Program Manager, Inspiring South Australia
- Melissa Martin – Team Leader, Communications, DEW

## Resource Coordination Working Group

The Resource Coordination Working Group was tasked with providing advice on ways to better coordinate resources and funding following the 2019–20 bushfires and in future fire events.

Members of the Resource Coordination Working Group:

- Craig Wilkins (Convenor) - Conservation Council of SA
- Hugo Hopton - Nature Foundation SA
- Natasha Davis - Trees For Life
- Duncan McKenzie - Friends of Parks
- Michael Stead - Nature Conservation Society of SA
- Mick Durant - Greening Australia
- Jason Higham - Manager Conservation and Threatened Species, DEW

## Economic Recovery Working Group

The Economic Recovery Working Group was tasked with providing advice on how to better achieve economic recovery and with identifying opportunities resulting from the bushfires, particularly where environmental recovery can also create economic opportunities.

Members of the Economic Recovery Working Group:

- Wendy Campana (Convenor) - Former Kangaroo Island Commissioner
- Felicity-ann Lewis - Taskforce Chairperson
- Lyn Dohle - Land Management Consultant, PIRSA
- Pierre Gregor - Chairman, KI Tourism
- Greg Sarre - Manager Strategic Planning and Economic Development, District Council of Mount Barker
- Joe Keynes - President of Livestock SA
- Parry Agius - Presiding Member, Alinytjara Wilurara Landscape Board
- Joanne Davidson - Research and Policy Manager, Strategy and Insights, SATC
- Jo Podoliak - Director, Tourism and Economic Development, DEW
- Melissa Bright - Economic Development Officer, Adelaide Hills Council

### **Community Engagement Working Group**

The Community Engagement Working Group was convened to provide advice and input on engagement of the community and to seek their views and feedback on issues and partnerships to improve future preparedness.

Members of the Community Engagement Working Group:

- Parry Agius (Convenor)
- Felicity-ann Lewis
- Brenton Chivell
- Simon Jackson
- Jeffrey Newchurch
- Mark Elliott
- Derek Walker
- Andrew Gilfillan
- Ivan Copley
- Michelle Nimmo
- Billy-Jo Brewer
- Jason Higham

### **Research and Science Working Group**

The Research and Science Working Group was convened to determine the research priorities that would best allow for more informed management of the environment to reduce the risk to ecosystems and individual species from future fires.

Members of the Research and Science Working Group:

- Prof. Bob Hill (Convenor) - University of Adelaide
- Prof. Craig Simmons - Flinders University
- Prof. Steve Donnellan - South Australian Museum
- Prof. Michelle Waycott - State Herbarium of South Australia, University of Adelaide
- Assoc. Prof. Patrick O'Connor - Landcare, University of Adelaide
- Ms Amelia Hurren - Trees For Life
- Jennie Fluin - Partnerships Manager, DEW
- Dr Daniel Rogers - Principal Ecologist, DEW

### **Long-term Resilience Working Group**

The Long-Term Resilience Working Group was convened to provide advice on the strategic challenges and opportunities relating to the long-term resilience of wildlife and habitat recovery (e.g. volunteer support, economic recovery, seed banks, fire ecology, disease transmission and contamination).

Members of the Long-Term Resilience Working Group:

- Dr Felicity-ann Lewis (Convenor) - Taskforce Chairperson
- Vicki-Jo Russell - Trees For Life
- Michael Stead - Nature Conservation Society of SA
- Mick Durant - Greening Australia
- Prof. Phil Weinstein - Nature Foundation SA, University of Adelaide
- Jason Higham - Manager Conservation and Threatened Species, DEW



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