

WILDLIFE AND THREATENED SPECIES BUSHFIRE RECOVERY EXPERT PANEL COMMUNIQUÉ 15 JANUARY 2020

The Wildlife and Threatened Species Bushfire Recovery Expert Panel met for the first time on 15 January at Parliament House in Canberra.

The ongoing bushfires are an ecological disaster. While the full extent of the impacts on species and natural assets will not be known until the fires are out and it is safe to access affected areas, we know they will be extensive and severe.

The Panel received briefing from the Minister for the Environment on the Australian Government's \$50 million initial commitment to emergency wildlife and habitat recovery, and updates from state government representatives on efforts underway in their jurisdictions.

The Panel was briefed on preliminary mapping that identifies the nationally listed threatened species that have been in the path of recent fires and noted that this initial assessment would be made publicly available shortly. The Panel provided guidance on further analysis required to identify species of most concern, recognising that the impacts of fire differ greatly between species and communities.

The Panel recognised the urgency of responding to the immediate needs of wildlife, threatened species and ecological communities. Once species are made extinct, we cannot bring them back.

The Panel set a series of objectives to guide immediate recovery efforts, specifically to:

- Prevent extinction and limit decline of native species.
- Reduce the immediate suffering of native animals directly impacted by the fires.
- Maximise the chances for long term recovery of native species and communities.
- Ensure learning and continual improvement is at the core of the response.

The Panel identified priority activities required immediately to meet these objectives. These are:

 Protecting unburnt areas within or adjacent to recently burnt ground that provide refugia.

- Feral predator and herbivore control to reduce the pressure on native species where appropriate.
- Emergency salvage of plant and animal species for ex-situ conservation or wild-to-wild translocation.
- Rapid on-ground assessment for species and communities of concern.
- Supplementary shelter, food, and water for animals where appropriate.

The next step is to prioritise which species and locations these actions will be targeted at, in collaboration with others. This prioritisation will be informed by spatial assessments that identify the species and communities likely to have been most impacted by bushfire.

The Panel emphasised that these objectives and priority activities are to guide to initial actions, but will change over time.

While there are urgent decisions that need to be taken, the Panel also acknowledged that the recovery of native species, ecological communities, natural assets and their cultural values for Indigenous Australians will require a sustained and strategic long-term recovery effort that we need to plan for. It will also require a coordinated and collaborative approach across jurisdictions, sectors and organisations.

At a time of devastation for our environment, there is also cause for hope and optimism. The Panel is truly inspired and heartened by the outpouring of support and willingness of the community to be part of the recovery effort.

The next meeting of the Panel is proposed for the week starting 20 January 2020.

- Dr Sally Box, Chair of the Wildlife and Threatened Species Bushfire Recovery Expert Panel.

Panel members

Dr Sally Box (Chair)

Threatened Species Commissioner

Australian Government

Professor John Woinarski

Charles Darwin University

National Environmental Science Program – Threatened Species Recovery Hub

Professor Sarah Legge

Australian National University

University of Queensland

National Environmental Science Program – Threatened Species Recovery Hub

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Zoos Victoria

Dr Dan Metcalfe

CSIRO Land and Water

Advisers

Representatives from fire-affected states and territories (Victoria, NSW, WA, SA, Queensland, Tasmania)



WILDLIFE AND THREATENED SPECIES BUSHFIRE RECOVERY EXPERT PANEL COMMUNIQUÉ 24 JANUARY 2020

The Wildlife and Threatened Species Bushfire Recovery Expert Panel met to continue urgent consideration of fire-affected wildlife, ecological communities and natural assets.

The bushfires are ongoing. The Panel acknowledged the inspirational efforts of wildlife hospitals, veterinarians, wildlife rescue and rehabilitation organisations, carers, land managers and volunteers who are at the frontline of looking after animals injured in the fires and undertaking emergency action to prevent species loss. Stories of success in protecting threatened species, like successful efforts to protect the critically endangered Wollemi Pine in New South Wales, are also providing cause for optimism in the face of these catastrophic bushfire events.

The Panel noted and welcomed the rapid on-ground work underway, supported by Federal and state governments, to meet the immediate needs of animals and plants in fire-affected areas, including pest animal and weed control, supplementary food and water, and fencing of remnant vegetation.

The Panel continued its work to identify species at greatest risk from the ongoing bushfire crisis, following publication of the national <u>initial list of fire-affected threatened species</u> earlier in the week. The Panel is working rapidly in collaboration with other scientific experts on a vulnerability assessment for fire-affected species, which takes into account each species' pre-fire imperilment (was it already threatened?), fire overlap (how much of its range was affected?) and attributes (does it have particular characteristics that make it more vulnerable to fire?). This assessment will identify priority species for emergency intervention and help inform the actions most urgently needed for these species. An interim list of high priority species, starting with birds, mammals, frogs and reptiles, will be released shortly.

Work to identify priority fish and plant species is underway, in collaboration with freshwater aquatic scientists and plant biologists; and comparable work on invertebrates is planned. Assessments have commenced to understand the impacts of fire on threatened ecological communities, World Heritage places and wetlands of international importance.

The Panel's recommendations on priority species, places and actions for emergency intervention will be guided by the Panel's immediate objectives to prevent extinction and limit decline, and will be informed by a 'prioritisation for action' framework. The Panel is prepared to make initial recommendations in the absence of perfect information, in recognition of the need to make quick decisions due to the risk of extinction. Further

recommendations will follow as the analysis progresses, and work is done to identify critical knowledge gaps.

The Panel is not working in isolation. The Panel is drawing on the diverse and deep expertise of the Australian scientific community to inform its work. The Panel, together with the Department, is working closely with state governments to foster a shared understanding of impacts and priorities for action.

The next meeting of the Panel is proposed for the week starting 3 February 2020. New data and information released prior to the next Panel meeting will be made available on the Department's website here: http://www.environment.gov.au/biodiversity/bushfire-recovery/research-and-resources.

- Dr Sally Box, Chair of the Wildlife and Threatened Species Bushfire Recovery Expert Panel.

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WILDLIFE AND THREATENED SPECIES BUSHFIRE RECOVERY EXPERT PANEL COMMUNIQUÉ 10 FEBRUARY 2020

The Wildlife and Threatened Species Bushfire Recovery Expert Panel met in Canberra to recommend species requiring urgent management intervention following the recent extreme bushfires, and to help catalyse priority responses for the recovery of biodiversity in fire-affected areas.

The Panel welcomed the downgrading of fires across the east coast of Australia, with some now considered extinguished. Despite this respite, the Panel noted that the work for recovery of Australia's environment has only just begun. As fire grounds are progressively declared safe, on-ground assessments will validate species and locations most impacted by fire, and help direct recovery actions. While the dangers of fire in some areas are reducing, a new set of challenges is likely to emerge, such as deoxygenation of waterways due to the entry of ash. Vigilance is also required to protect unburnt areas that are providing important habitat for plants and animals from future fire and other threats.

The Panel, in collaboration with state and territory governments, agreed on a provisional list of 113 priority animals requiring urgent management intervention over the coming weeks and months. The Panel considered three factors in establishing the priority list: the species' conservation status before the fires, how much of its range was potentially impacted, and how vulnerable the species it is to fire events. Some species were considered threatened before the fires, and the fires have now increased their extinction risk — species like the Kangaroo Island Dunnart and Kangaroo Glossy Black Cockatoo. Many other fire-affected species, like the Albert's Lyrebird and Parma Wallaby, were not considered threatened before the fires but have lost much of their habitat and may now be imperilled. The Panel reinforced that this list is provisional – it will change as more information becomes available. It does not yet include plants or many unlisted invertebrates, which are just as valued and will also have been impacted by the fires. A plant vulnerability assessment has commenced and work on unlisted invertebrates is planned. This is not just a list - this is a list that will inform action by governments at all levels in collaboration with many partners.

The Panel welcomed the first set of project proposals from state governments for emergency on-ground actions to be supported with funding from the Australian Government. The Panel is providing advice on these proposals to ensure they align with the Panel's national bushfire recovery objectives agreed on 15 January 2020 and are targeted at the species that are in most urgent need of support.

National collaboration is critical to an effective bushfire response. State and territory governments, the National Environmental Science Program, the National Bushfire Recovery Agency and other agencies across the Australian Government are all working together to prioritise and mobilise support for our wildlife.

Dr Dick Williams was welcomed as a new member of the Panel. His experience and expertise will bolster the Panel's capacity in fire ecology.

The next Panel meeting will be on Friday 21 February 2020.

The provisional list of priority animals requiring immediate intervention is available on the Department's website: http://www.environment.gov.au/biodiversity/bushfire-recovery/research-and-resources.

- Dr Sally Box, Chair of the Wildlife and Threatened Species Bushfire Recovery Expert Panel.

Panel members

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WILDLIFE AND THREATENED SPECIES BUSHFIRE RECOVERY EXPERT PANEL COMMUNIQUÉ 21 FEBRUARY 2020

The Wildlife and Threatened Species Bushfire Recovery Expert Panel met in Canberra to continue its assessment of the impact of the bushfires and finalise its process for providing advice to the Government on use of the Emergency Intervention Fund for post-fire recovery of species and ecological communities.

The Panel welcomed the release of preliminary analysis on the impact of the bushfires on World Heritage Areas and Threatened Ecological Communities since their last meeting.

Maps released of three World Heritage Areas show that approximately 54% of the Gondwana Rainforests of Australia, 81% of the Greater Blue Mountains Area and 99% of the Old Great North Road has been affected by fires. Other World Heritage Areas (Budj Bim Cultural Landscape (Vic), Fraser Island (K'gari) (Qld), Wet Tropics (Qld) and Tasmanian Wilderness) have also been affected.

The fire-affected ecological communities of greatest initial concern and highest priority for detailed impact assessment, include the:

- Upland Basalt Eucalypt Forests of the Sydney Basin Bioregion (in the Blue Mountains region of NSW)
- Temperate Highland Peat Swamps on Sandstone (in the Blue Mountains region of NSW)
- Lowland Rainforest of Subtropical Australia (in north-eastern NSW and South East Queensland)
- Illawarra-Shoalhaven Subtropical Rainforest (in south-eastern NSW)
- Alpine Sphagnum Bogs and Associated Fens (in the alpine regions of the ACT, NSW and Victoria)
- Eastern Stirling Range Montane Heath and Thicket (in southern WA)
- Littoral Rainforest and Coastal Vine Thickets of Eastern Australia (east coast of Qld, NSW and Victoria).

The Panel also welcomed the release of the <u>National Indicative Aggregated Fire Extent</u>

<u>Dataset</u> that brings together information on areas burnt in the 2019-20 bushfires to help us understand cumulative national impacts and inform recovery actions. This national map has been critical to the work of the Panel. As well as informing the <u>highest priority vertebrates</u> and spiny crayfish for emergency action, the national fire extent map is being used in similar

assessments to identify the plant and invertebrate species that most need urgent interventions.

The Panel considered approaches for seeking input on the impact of the fires on Indigenous cultural values and opportunities for Indigenous participation in on-ground recovery actions. The Panel agreed this work will need to be ongoing throughout the bushfire recovery effort.

The Panel provided advice on the approach for identifying priority actions to inform the selection of projects under the Emergency Intervention Fund. Members of the public should register with GrantConnect to be made aware of future grant opportunities.

The Panel considered and assessed further proposals from state governments for emergency on-ground actions to be supported with funding from the Australian Government. The Panel is providing advice on these proposals to ensure they align with the Panel's national bushfire recovery objectives agreed on 15 January 2020 and are targeted at management responses for species and places in most urgent need of support.

The Panel endorsed the South Australian Government's initial recovery priorities from its \$1.5 million in Commonwealth financial support for urgent interventions on Kangaroo Island. They include:

- The identification and support of surviving populations of small mammals, birds, bats, plants, reptiles and invertebrates.
- The deployment of multi-disciplinary teams to assess habitat suitability for those areas untouched by fires.
- Feral predator controls.
- Emergency salvage of 'at-risk' species.
- Collaboration with local community groups to carry out rapid on-ground assessments of the affected areas ensuring the protection of unburnt 'refugia'.
- Direct support for injured and distressed wildlife.
- Support for the creation of animal shelters.

Kangaroo Island is rich in unique biodiversity and about half of the island was impacted by the 2019-20 fires. Many threatened species were affected, including the Kangaroo Island Dunnart and Glossy Black Cockatoo. Because of this impact, these species were on the Panel's provisional list of animals requiring urgent management intervention.

The Panel also endorsed the Western Australian Government's key recovery priorities for \$1 million in Commonwealth financial support for:

- On-ground surveys and rapid assessment of threatened species.
- Additional acoustic recording units and intensive monitoring of Western Ground Parrot.
- Protection of regenerating habitat though fencing, watering and feral animal, invertebrate pest and weed control.
- Seed collection and establishment of seed production areas for threatened plants in the Stirling Ranges.
- Development of critical care response capacity at Perth Zoo for fire-affected threatened species.

The Stirling Range and Cape Arid National Parks were significantly affected by fire, with impacts on many threatened and endemic plants, such as the Cactus Dryandra, Maroon-flowered Daviesia and the Yellow-leafed Gastrolobium.

The Panel, and state and territory government representatives also met with Professor Graeme Samuel, the Independent Reviewer of the *Environment Protection and Biodiversity Conservation Act 1999* to discuss how the Act could better support the recovery of the environment following significant bushfire events.

The next Panel meeting will be on 11 March 2020.

- Dr Sally Box, Chair of the Wildlife and Threatened Species Bushfire Recovery Expert Panel.

Panel members

Dr Sally Box (Chair)

Threatened Species Commissioner

Australian Government

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WILDLIFE AND THREATENED SPECIES BUSHFIRE RECOVERY EXPERT PANEL COMMUNIQUÉ 11 MARCH 2020

The Wildlife and Threatened Species Bushfire Recovery Expert Panel met in Melbourne to discuss ongoing work to prioritise species and Threatened Ecological Communities requiring urgent intervention because of the impacts of the 2019-20 wildfires, to provide ongoing advice to the Government on the use of the Emergency Intervention Fund, and to discuss the medium to long-term strategy for the post-fire recovery of species and ecological communities.

The Expert Panel welcomed the recent workshop on short and long-term recovery strategies for the wildlife and plants of Kangaroo Island. The workshop identified a range of potential priority actions for fire-affected species and the Island's landscapes more broadly. The Panel noted that similar workshops for other fire-affected areas of the country with distinctive ecological characteristics could be beneficial.

Analysis of the impacts of the fires on plants and invertebrates is progressing and preliminary lists of species in these groups that are in greatest need of intervention will be available in April. The Panel recognises there is a significant amount of work involved in the development of these lists and would like to acknowledge the time and effort being put in by numerous experts and agencies assisting with this critical task.

The Panel also noted that further evidence of fire impact has led to some minor re-assessments of preliminary the list of 113 priority fire-affected vertebrate (and spiny crayfish) species published on 11 February 2020. These refinements involve eight species being added to that initial list (Gang-gang Cockatoo, South Eastern Glossy Black-Cockatoo, Kangaroo Island Western Whipbird, Kangaroo Island Southern Emu-wren, Mainland Dusky Antechinus, Oakview Leaf-tail Gecko, Kate's Leaf-tail Gecko and Ringed Thin-tail Gecko), and two species being removed from that initial list (Swan Galaxias and Tyler's Toadlet).

The Expert Panel recognises that recovery will require not only immediate emergency needs but also long-term commitment and planning. In the medium term (6 months–2 years after the fires), the Panel has recommended a focus on the following responses (noting that not all will necessarily be appropriate for all sites, species and situations):

Assessment and prioritisation:

 Continuing on-ground assessment of impacts and prioritisation of species, for both short- and longer-term management, where necessary. • Identifying the locations of key unburned refuge sites.

On ground action

- Continuing rehabilitation of injured wildlife and provision of shelter, nest boxes, and artificial hollows.
- For some animal species, captive breeding, genetic rescue, and translocation of animals for population management.
- For some plant species, seed banking, genetic rescue, and translocation of plants for population management.
- Continuing strategic feral predator and herbivore control, and weed control, at key sites.
- For some species and ecosystems, active revegetation and regeneration.
- Protecting unburnt refugia within burnt landscapes, including from further fire.

Monitoring

 Appropriate and coordinated, monitoring impact, recovery and management effectiveness, and investigation of changes to ecosystem processes and ecological transitions.

Policy, leadership

- Identifying biodiversity assets for explicit inclusion in planning documents for future fire management and suppression.
- Identifying research gaps.
- Identifying opportunities to improve preparedness and response capacity.
- Developing best practice guidelines to build capacity and the available evidence base for future fire responses.

In the longer term (2-10 years after the fires), the Panel has recommended continuing these actions, with a focus on population management, predator and weed control, and restoration at key sites, minimising the risk of future fires burning refugia, monitoring, and building capacity to respond to future fires.

These considerations will help inform the medium to long term workplan for the bushfire response. To this end, the Panel endorsed a project funded by the National Environmental Science Program to review existing monitoring programs, and develop new designs where needed, for priority fire-affected threatened species and Threatened Ecological Communities. In some cases, this work will also help assess the effectiveness of the management actions undertaken after this unprecedent fire event. The work also aligns with the rapid assessment surveys already underway that aim to describe the immediate impacts of the fires.

The Panel also agreed they would draw on the lessons from this recovery effort to develop guidance on the data needs, planning tools, coordination functions and rapid intervention activities that could help inform future environmental responses to natural disasters. This may be undertaken through development of a series of 'best practice' guidelines.

The next Panel meeting will be in late March 2020.

- Dr Sally Box, Chair of the Wildlife and Threatened Species Bushfire Recovery Expert Panel.

Panel members

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Threatened Species Commissioner

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WILDLIFE AND THREATENED SPECIES BUSHFIRE RECOVERY EXPERT PANEL COMMUNIQUÉ 17 APRIL 2020

Over the last three weeks the Wildlife and Threatened Species Bushfire Recovery Expert Panel has met several times via video and teleconference to finalise the provisional lists of plants and invertebrates requiring urgent management intervention.

471 plant and 191 invertebrate species have been identified as the highest priority for intervention taking into account information such as the geographic range of the species, the amount of their habitat impacted by fire, the species response to fire and where applicable, the effects of other stressors such as drought.

The plants span a variety of vegetation types and include rainforest trees and shrubs like Monga Waratah (*Telopea mongaensis*) and plants from subalpine vegetation, such as the Critically Endangered Bredbo Gentiana (*Gentiana bredboensis*). Some species, like the Forrester's Bottlebrush (*Callistemon forresterae*) are at imminent risk of extinction because all of their known range has been burnt and they are exposed to compounding pressures such as drought, high fire frequency, or disease.

Invertebrates most impacted include species of freshwater mussels, shrimps, burrowing crayfish, land snails, spiders, millipedes, bees, dragonflies, caddisflies, mayflies, bugs and butterflies. These species occur in Queensland, New South Wales, Victoria, South Australia and Western Australia. Assessing the impacts of fires on invertebrates was particularly challenging, because for many species there is so little known about where they live and how they respond to fire. As a result of these data limitations, an additional 147 species have been identified as priorities for further assessment and investigation. The Expert Panel believes these additional species have been impacted.

The Panel would like to acknowledge the contributions of everyone involved in the development of these lists – from the institutions who provided access to their databases and research, through to individual experts who shared their years of expertise to ground truth the results. The Panel would also like to extend a special thank you to Dr Rachael Gallagher for her work in coordinating and leading the finalisation of the priority plant list.

The release of these lists and the opening of tranche 2 of the open grants component of the Wildlife and Habitat Bushfire Recovery Program are significant milestones in the work of the Expert Panel and the broader bushfire recovery process. Along with the previously released lists of priority fire-affected wildlife and ecological communities, these lists will help guide priority management responses for priority action species at priority sites.

The Expert Panel acknowledges there are a broad range of actions that can support the recovery of impacted plants and invertebrates. A one size fits all approach is unlikely to help the recovery process. As part of the published invertebrate priority list, general actions that could support the recovery of impacted species have been identified – from rapid survey to assessing the extent of loss and location of remaining populations through to rescuing critical populations and aiding the critical habitat. For impacted plants, the Panel notes their traits can provide insight into the types of actions that could assist in recovery – from weed control to seed collection, irrigation and removal of herbivores.

The release of these lists is only the first step in determining the impacts the bushfires have had on plants and invertebrates. Further research and information gathering is needed to help fill the information gaps that proved problematic during the assessments, and the lists will be updated as information improves.

The provisional lists are available on the Department's bushfire recovery website: https://www.environment.gov.au/biodiversity/bushfire-recovery.

The Panel also considered an initial assessment by the Department of Agriculture, Water and the Environment of the impacts of the bushfires on wetlands listed under the Ramsar Convention on Wetlands of International Importance. Five of these wetlands had at least 5% of their extent within the 2019-20 bushfire preliminary analysis area. A further 34 Ramsar wetlands are within 50 km downstream of the fire area. The Panel provided advice on progressing the assessment of fire impacts on these internationally significant wetlands. Three wetlands have been identified as targets for further assessment – the Macquarie Marshes, the Gwydir Wetlands and the Gippsland Lakes Ramsar sites. The assessment will focus on how the bushfires have impacted and potentially changed the ecological character of these wetlands, as well as identifying potential management interventions.

The Government has announced an additional \$2 million for scientific research through the Threatened Species Recovery Hub of the National Environmental Science Program to help guide wildlife recovery efforts and habitat rehabilitation following the bushfires. The Expert Panel will provide advice on research needs and project proposals and to this end endorsed five priority research areas: assessment of impacts on species and ecosystems, prioritisation of actions for those species, priorities in bushfire recovery for Indigenous Australians, monitoring and investigation and lessons for the future.

The Expert Panel acknowledges the impact the COVID-19 virus is having on the delivery of on-ground, ex situ recovery and research actions being undertaken in response to the bushfires. The delivery of the bushfire recovery package continues to be a priority. While on-ground recovery actions are continuing to be implemented in a modified format or are momentarily paused, there is also an opportunity for planning and preparing for when impacted areas can be accessed again and teams can go back out into the field.

The next Panel meeting will be in early May 2020.

- Dr Sally Box, Chair of the Wildlife and Threatened Species Bushfire Recovery Expert Panel.

Panel members

Dr Sally Box (Chair)

Threatened Species Commissioner

Australian Government

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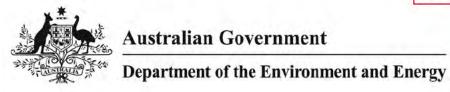
CSIRO Land and Water

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Advisers

Representatives from fire-affected states and territories (NSW, VIC, WA, SA, QLD, Tasmania, ACT)



Wildlife and Threatened Species Bushfire Recovery Expert Panel

Minutes

9.00am - 12.00pm, Wednesday 15 January 2020

Venue: Parliament House, Canberra

ATTENDEES

MEMBER	S				
Dr Sally Box		Position on Panel	Organisation Threatened Species Commissioner, Department of the Environment & Energy		
		Chair			
Professor	John Woinarski	Deputy Chair	Charles Darwin University		
Professor	Sarah Legge	Member	Australian National University		
Dr Stephe	en van Leeuwen	Member	Indigenous Advisory Committee		
Dr Libby F		Member	University of Melbourne		
	ofessor Dale Nimmo	Member	Charles Sturt University		
Dr Jenny	Gray	Member	Zoos Victoria		
Dr Dan M		Member	CSIRO Land & Water		
ADVISER	S				
s22	,s22	Adviser	Department of Environment and Science, Queensland		
s22		Adviser	Department of Environment, Land, Water and Planning, Victoria		
s22		Adviser	Department of Primary Industries, Water and the Environment, Tasmania		
s22	,s22	Adviser	Department of Planning, Industry and Environment, NSW		
s22	,s22	Adviser	Department of Biodiversity, Conservation and Attractions, WA		
s22		Adviser	Department of Environment and Water, SA		
OBSERV	ERS AND SECRETAR	IAT			
Emma Ca	mpbell	Observer	Department of the Environment & Energy		
s22	27.14	Secretariat	Department of the Environment & Energy		
s22		Technical support	Department of the Environment & Energy		
s22		Technical support	Department of the Environment & Energy		
s22	re ¹	Observer	Minister Ley's Office		
s22		Observer	Minister Ley's Office		
s22		Observer	Prime Minister's Office		
s22 s22		Observer	Department of the Prime Minister and Cabinet		

1. Welcome to members and opening remarks

The Chair acknowledged the Traditional Owners of the land the Panel was meeting on.

The Chair also acknowledged the scale and severity of the ongoing bushfire crisis and its impact on human life, property and the environment.

The Chair welcomed Minister Ley to the meeting and invited her to address the Panel.

2. Summary of the Australian Government Response

Minister Ley welcomed the Panel and provided a briefing on the Australian Government's \$50 million Wildlife and Habitat Recovery Package.

- o The \$50 million is comprised of:
 - \$25 million for an emergency intervention fund informed by the advice the Panel.
 - \$25 million for immediate on-ground support to shelter and protect our native animals and plants

Up to \$7 million for NRM groups in bushfire affected areas to carry out emergency interventions including control of feral predators, other pest animals and weeds, and habitat protection measures (such as fencing and nest boxes).

Up to \$7.5 million to support on-ground wildlife rescue, protection and care services and address emerging needs on the frontline.

Up to \$5 million for Greening Australia to increase supply of seed and native plants for revegetation.

Up to \$3 million for Taronga Zoo, Zoos South Australia and Zoos Victoria for treatment and the establishment of insurance populations.

Up to \$2.5 million for Conservation Volunteers Australia to mobilise volunteers through a national coordination point.

Delivering funding immediately for those actions which need to happen urgently for wildlife recovery is a priority.

The Panel discussed the need to distribute funds quickly while maintaining transparency and accountability for public funds. The Department has established working relationships with funding recipients already identified, such as NRM Regions, as well as a strong monitoring, evaluation, reporting and improvement (MERI) framework.

The Panel considered that monitoring arrangements for the Package were very important. It was also agreed that communication of outcomes from Panel discussions would be important.

Members requested guidance on handling requests for assistance and information on accessing funds. Anyone requesting funding should be directed to the Department using the new Bushfire Recovery email address.

Action: DoEE to distribute Bushfire Recovery email address to Members and ensure it is on the Department's website.

3. Role of Panel

The Chair explained that Minister Ley had requested the establishment of the Panel when announcing funding package on 13 January 2020.

Members had been selected for their expertise, while being mindful of including a range of institutions and jurisdictions. A draft terms of reference had been circulated to the Panel prior to the meeting and following its discussion, would be finalised and recommended to Minister Ley for approval.

The proposed purpose of the Panel is to inform the further delivery of the Australian Government's response, including priority emergency actions to support impacted animals, plants, and ecosystems, as well as medium and long term responses required to support the recovery of Australia's environment.

The Panel will:

- Provide advice on the development and analysis of spatial and ecological information to
 assess the impact of recent fires on Australia's animals, plants, ecological communities and
 other natural assets and their cultural values for Indigenous Australians.
- Assist the Minister for the Environment and the Government to prioritise species and locations requiring intervention, taking into account the severity of impact on species and ecosystems, likelihood of intervention success, benefit to multiple species or natural assets from intervention, and other principles to be set by the Panel.
- Provide advice on the recovery actions needed to support the immediate survival and longterm recovery and resilience of affected animals, plants and ecological communities and natural assets and values, including (but not limited to) provision of critical resources (food, shelter), habitat protection and restoration, threat management and ex situ conservation (captive management, seed collection).

The Panel may draw on other expertise as required, including from the National Environmental Science Program, the Threatened Species Scientific Committee and the Indigenous Advisory Committee.

The Panel will also support and promote collaboration and coordination across different government agencies, non-government organisations, scientific institutions and the private sector, so recovery efforts are coordinated and complementary.

The Chair noted that their expert judgement would be required in short timeframes, often with imperfect information.

4. Conflicts of interest

s22 - out of scope - irrelevant material

5. Impacts of bushfires on Australia's wildlife & environment

s22 - out of scope - irrelevant material

The Panel agreed that some initial analysis needed to be released by the Commonwealth as soon as possible and this should be checked for consistency with state releases. Additional public material should also be prepared for those species where there is an anticipated strong interest from the community, such as koalas.

Action: DoEE to compile information on the number of species in the path of the fires and identify the required next steps in analysis. This will be checked with state governments and the Panel before release.

6. Responding to the bushfire impacts

The Panel discussed the need for a framework for prioritisation of bushfire recovery actions.

Professor Woinarski presented a schematic developed with colleagues from the National Environmental Science Program which could provide a framework to contextualise responses and help plan sequencing of actions and how they're related.

It was agreed the paper accompanying the schematic would be distributed to Members for additional information.

Action: DoEE to circulate the draft paper "After the catastrophe: a blueprint for a conservation response to large-scale ecological disaster" to Members.

Members noted that it was the first time a response of this nature and scale had been attempted and there would be intense interest in its success. There will also likely be a disaster of this scale again so it is important to have a clear and well-documented process.

The Panel set a series of objectives to guide immediate recovery efforts, specifically to:

- Prevent extinction and limit decline of native species.
- Reduce the immediate suffering of native animals directly impacted by the fires.
- Maximise the chances for long term recovery of native species and communities.
- Ensure learning and continual improvement is at the core of the response.

7. Making recommendations on actions

The Panel discussed how they would make recommendations on actions to achieve objectives identified at item 6. The Panel identified priority activities required immediately to meet these objectives. These are:

- Protecting unburnt areas within or adjacent to recently burnt ground that provide refugia.
- Feral predator and herbivore control to reduce the pressure on native species where appropriate.
- Emergency salvage of plant and animal species for ex-situ conservation or wild-to-wild translocation.
- Rapid on-ground assessment for species and communities of concern.
- Supplementary shelter, food, and water for animals where appropriate.

The Panel emphasised that these objectives and priority activities are to guide to initial actions, but will change over time. The next step would be to prioritise which species and locations these actions will be targeted at, in collaboration with others. State governments will need to provide advice on priority species and locations, practical constraints, any risk of perverse impacts and mechanisms for delivery in their jurisdictions.

Action: DoEE to develop template to invite proposals for actions.

The role of the Panel in assessing proposals was discussed. The Panel agreed they would like to review all proposals for consistency and transparency, and to ensure alignment with agreed objectives and priorities.

Members further discussed how they would prioritise proposals, noting that this would need to be done very quickly. It was agreed this required further discussion at the next meeting.

s22 - out of scope - irrelevant material

8. Expert Panel governance and communication

s22 - out of scope - irrelevant material

9. Close

Actions – Meeting 1 – 15/1/20

Action

s22	- out of scope - irrelevant materia
4	DoEE to compile information on the number of species in the path of the fires, and identify the required next steps in analysis. This will be checked with state governments and the Panel before release.
5	DoEE to circulate the draft paper "After the catastrophe: a blueprint for a conservation response to large-scale ecological disaster" to Members.
6	DoEE to develop template to invite proposals for funding.
s22	out of scope - irrelevant materia



Department of the Environment and Energy

Wildlife and Threatened Species Bushfire Recovery Expert Panel

Minutes

10.00am - 1.00pm, Friday 24 January 2020

Venue: via teleconference

ATTENDEES

MEMBERS				
Name	Position on Panel	Organisation		
Dr Sally Box	Chair	Threatened Species Commissioner, Department of the Environment & Energy		
Professor John Woinarski	Deputy Chair	Charles Darwin University		
Professor Sarah Legge	Member	Australian National University		
Dr Stephen van Leeuwen	Member	Indigenous Advisory Committee		
Dr Libby Rumpff	Member	University of Melbourne		
Assoc Professor Dale Nim	mo Member	Charles Sturt University		
Dr Jenny Gray	Member	Zoos Victoria		
Dr Dan Metcalfe	Member	CSIRO Land & Water		
ADVISERS				
s22	Adviser	Department of Environment and Science, Queensland		
s22	Adviser	Department of Primary Industries, Water and the Environment, Tasmania		
s22	Adviser	Department of Planning, Industry and Environment, NSW		
s22 ,s22	Adviser	Department of Biodiversity, Conservation and Attractions, WA		
s22	Adviser	Department of Environment and Water, SA		
s22	Adviser	Environment, Planning and Sustainable Development Directorate, ACT		
OBSERVERS AND SECRETA	ARIAT			
Emma Campbell	Observer	Department of the Environment & Energy		
s22	Secretariat	Department of the Environment & Energy		
s22	Secretariat	Department of the Environment & Energy		
s22	Observer	Department of the Environment & Energy		
s22	Technical support	Department of the Environment & Energy		
s22	Technical support	Department of the Environment & Energy		
s22	Technical support	Department of the Environment & Energy		
APOLOGIES				
s22	Adviser	Department of Environment, Land, Water and Planning, Victoria		

1. Welcome to members and opening remarks

The Chair acknowledged the Traditional Owners of the land the Panel was meeting on.

The Chair acknowledged the significant amount of work that had occurred since the last meeting and thanked the Expert Panel for their responsiveness.

2. Meeting administration

The Panel noted the minutes of the previous meeting and agreed to provide amendments to the Secretariat directly.

Action: Expert Panel Members to provide amendments to the Secretariat by COB Tuesday 28 January.

s22 - out of scope - irrelevant material

The Panel also queried the window during which fires could be assessed as uncharacteristic and within the scope of the bushfire response. As part of this discussion, the Expert Panel was invited to advise the Department of any other uncharacteristic fires that should be considered and/or a process for identifying them.

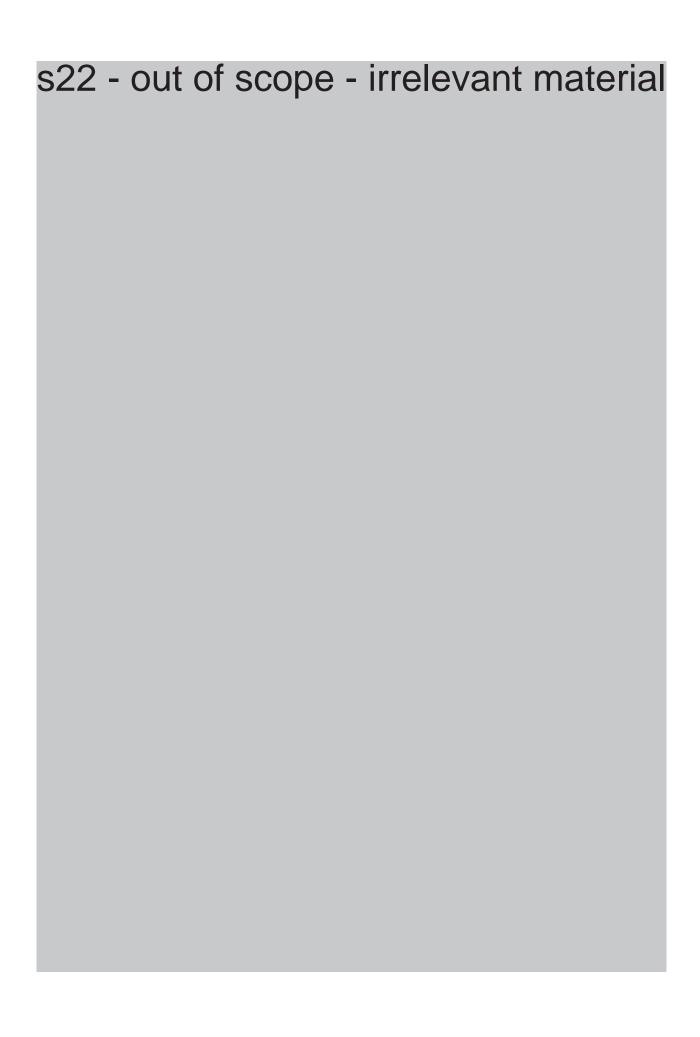
s22 - out of scope - irrelevant material

3. Update on the Australian Government, State and Territory bushfire responses

The Chair provided the Panel with an update on deliver of Australian Government funding:

Funding:	Progress:
s22 - out of scop	pe - irrelevant material

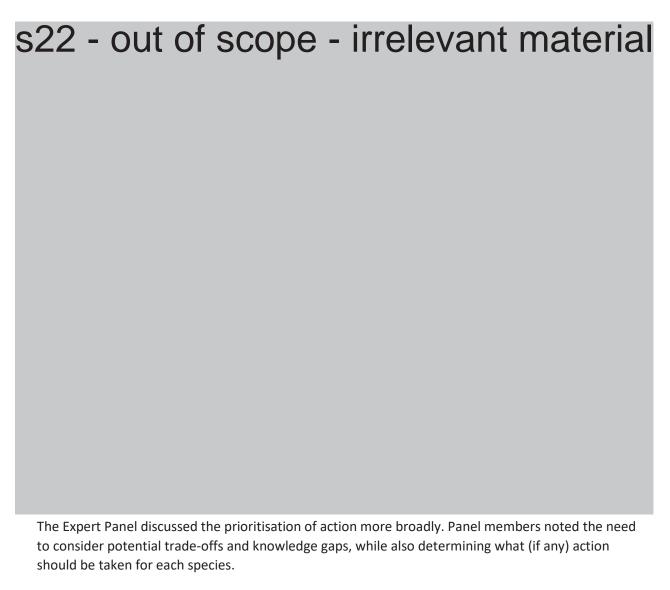
s22 - out of scope - irrelevant material \$25 million for emergency intervention A key role of the Expert Panel is to provide advice on fund for critical interventions required the priorities for disbursement of this funding. This will to support the immediate survival of be discussed further at the meeting. affected animal, plants and ecological communities and to control pests and weeds; and defining the scale of the impacts of the bushfires on the environment and the prioritization of recovery efforts



s22 - out of scope - irrelevant material 4. Other resources available to the Expert Panel

s22 - out of scope - irrelevant material

5. Impacts of bushfires on Australia's wildlife and environment



The Panel noted that decisions on emergency actions are needed in the immediate term, while at the same time planning for the medium to long-term needs to begin.

There also needs to be a clear statement from both the Department and the Expert Panel on recommendations made, timeframes and the underpinning data. This would assist in explaining the rationale of why specific species are being targeted for support at different times.

The Expert Panel agreed the initial release of information should be described as an interim list based on the best available data, noting the underpinning data will be refined over time.

s22 - out of scope - irrelevant material

6. Prioritisation of action and investment

The Expert Panel agreed this item could be further progressed out-of-session and discussed at the next Expert Panel meeting.

Members noted as part of the next discussion on this topic, consideration will need to be given as to whether separate objectives for iconic species and/or cultural values are required.

Action: DoEE to work with Libby to further refine the process/framework for prioritising actions.

7. On-ground Assessment Tool (updated)

s22 - out of scope - irrelevant material

8. Wildlife and Habitat Recovery Package Proposals

The Expert Panel discussed the draft 'Expression of Interest' form and provided feedback on the requested information fields. The Panel noted that the Department is still considering how funding proposals would be sought.

Action: Expert Panel to provide any further comments on the Expression of Interest form

9. Expert Panel Communication

s22 - out of scope - irrelevant material

10. Panel membership and knowledge gaps

s22 - out of scope - irrelevant material

11. Panel Communique

Action Summary

	Action
1.	Expert Panel Members to provide amendments on Meeting 1 minutes to the Secretariat by
	COB Tuesday 28 January.

- 13. DoEE to work with Libby to further refine the process/framework for prioritising actions.
- s22 out of scope irrelevant material
- 15. Expert Panel to provide any further comments on the Expression of Interest form.
- s22 out of scope irrelevant material



Department of the Environment and Energy

Wildlife and Threatened Species Bushfire Recovery Expert Panel

Minutes

9.00am - 5.00pm, Monday 10 February 2020

Venue: Parliament House, Canberra – Senate Committee Room 2S3

ATTENDEES

MEMBERS Name	Position on Panel	Organisation		
1171117	Chair	Threatened Species Commissioner,		
Dr Sally Box	Chair			
Darker in the Water and I	D Cl. :	Department of the Environment & Energy		
Professor John Woinarski	Deputy Chair	Charles Darwin University		
Professor Sarah Legge	Member	Australian National University		
Dr Stephen van Leeuwen	Member	Indigenous Advisory Committee		
Dr Libby Rumpff	Member	University of Melbourne		
Assoc Professor Dale Nimmo	Member	Charles Sturt University		
Dr Jenny Gray	Member	Zoos Victoria		
Dr Dan Metcalfe	Member	CSIRO Land & Water		
Professor Richard Williams	Member			
ADVISERS				
s22	Adviser	Department of Environment and Science,		
7.5		Queensland		
s22	Adviser	Department of Environment, Land, Water		
		and Planning, Victoria		
s22 – via	Adviser	Parks Victoria		
teleconference				
s22	Adviser	Department of Biodiversity, Conservation		
Contract of the Contract of th		and Attractions, WA		
s22	Adviser	Department of Environment and Water, SA		
s22	Adviser	Environment, Planning and Sustainable Development Directorate, ACT		
s22 – via	Adviser	Department of Primary Industries, Water		
teleconference		and the Environment, Tasmania		
s22 – via	Adviser	Department of Planning, Industry and		
teleconference	1.44.44	Environment, NSW		
s22 –via	Adviser	Department of Planning, Industry and		
teleconference	7.001001	Environment, NSW		
S22 – via	Adviser	Department of Planning, Industry and		
teleconference	Mariaci	Environment, NSW		
s22 – via	Adviser	NSW National Parks and Wildlife Service		
teleconference	Mariaci	1.5.1. National Land and Whalle Service		
OBSERVERS AND SECRETARIAT				
Emma Campbell	Observer	Department of Agriculture Water and the		
спппа Саттроеп	Observer	Department of Agriculture, Water and the Environment		

s22	Secretariat	Department of Agriculture, Water and the Environment
s22	Secretariat	Department of Agriculture, Water and the Environment
s22	Technical support	Department of Agriculture, Water and the Environment
s22	Technical support	Department of Agriculture, Water and the Environment
s22	Technical support	Department of Agriculture, Water and the Environment
s22	Technical support	National Environmental Science Program – \$22
s22	Technical support	CSIRO
s22	Legal support	Department of Agriculture, Water and the Environment
s22	Legal support	Department of Agriculture, Water and the Environment
s22	Observer	National Bushfire Recovery Agency
s22	Observer	Department of Agriculture, Water and the Environment
s22	Observer	Department of Agriculture, Water and the Environment
s22	Observer	Department of Agriculture, Water and the Environment

1. Welcome to members and opening remarks

The Chair acknowledged the Traditional Owners of the land the Panel was meeting on.

The Chair acknowledged the significant amount of work that had occurred since the last meeting and thanked the Expert Panel for their responsiveness.

2. Meeting administration

The Panel noted the minutes of the previous meeting and agreed to provide amendments to the Secretariat directly.

3. Update on the Australian Government, State and Territory bushfire responses

The Chair provided the Expert Panel with an update on delivery of Australian Government funding.

Panel members also received as short update on the work of the National Bushfire Recovery Agency.

The Chair invited the state and territory advisers to provide a short update on their bushfire responses:

response	es:						
s22	-	out	of	scope) –	irrelevant	material
				•			

s22 - out of scope - irrelevant material

4. Probity and confidentiality briefing

s22 - out of scope - irrelevant material

5. Priority Actions

s22 - out of scope - irrelevant material

The Expert Panel also considered and discussed the proposed approach for considering and making recommendations to the Department on proposals to be delivered out of the remaining Emergency Intervention Fund. There was general agreement that the Expert Panel should consider actions and/or species already being addressed by the states and territories and to avoid duplication of effort, as well as need to ensure priority actions do not contravene best practice.

Recommendation: The Expert Panel agreed a final review is needed to ensure the priority actions identified in any guidance material are accurate.

Recommendation: The Expert Panel noted that some of the priority actions require specific expertise or skills, and capacity of applicants to deliver should be considered when assessing proposals.

Action: DAWE to incorporate recommendations in guidelines and assessment plan.

Discussion of proposals for funding submitted by New South Wales, South Australia and Western Australia

The Chair outlined the role of the Expert Panel in considering these proposals and noted Panel members can seek additional information be provided if it critical for considering a proposal.

In total four proposals were considered – two from New South Wales and one from Western Australia and South Australia respectively.

The Expert Panel considered the merit of each proposal and sought additional information from the relevant State representative. Members considered the alignment between species identified in proposals and species identified in the provisional list of animals requiring urgent management intervention; the type of activities proposed and where appropriate, value for money.

Proposals for Queensland and Victoria will be considered at the next meeting of the Expert Panel – to be held later this week.

6.	On-ground	Rapid	Assessment
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s22 -	out	OT SO	cope	e – Irr	eleva	ant n	nate	rıal

7. Progressing species assessments

The Expert Panel discussed the species assessments for the plant and invertebrate taxa.

<u>Plants</u>

8. Species referrals to the Threatened Species Scientific Committee.

s22 - out of scope - irrelevant material

9. Identification of priority assets – Ecological Communities

s22 - out of scope - irrelevant material

10. Identification of priority assets - World Heritage Areas

s22 - out of scope - irrelevant material

11. Knowledge and Research needs

Wildlife and Threatened Species Bushfire Recovery Expert Panel – Follow up teleconference.

10.30am - 12.30pm, Friday 14 February 2020

5. Priority Actions

Discussion of proposals for funding submitted by Queensland and Victoria

In total seven proposals were considered – four from Queensland and three from Victoria respectively.

Dr Gray declared a conflict of interest with regard to Victoria's proposals as she is involved in one of the them.

The Expert Panel considered the merit of each proposal and sought additional information from the relevant State representative. Members considered the alignment between species identified in proposals and species identified in the provisional list of animals requiring urgent management intervention; the type of activities proposed and where appropriate, value for money.

Short update from DAWE on bushfire related actions.

s22 - out of scope - irrelevant material

11. Research and Knowledge needs

12. Communications

s22 - out of scope - irrelevant material

Action Summary

Action s22 - out of scope - irrelevant material DAWE to incorporate recommendations in guidelines and assessment plan. s22 - out of scope - irrelevant material

Wildlife and Threatened Species Bushfire Recovery Expert Panel

Minutes

9.30am - 4.30pm, Friday 21 February 2020

Venue: John Gorton Building, Canberra – Ngattai Meeting Room

ATTENDEES

MEMBERS						
Name	Position on Panel	Organisation				
Dr Sally Box	Chair	Threatened Species Commissioner, Department of Agriculture, Water and the Environment				
Professor John Woinarksi	Deputy Chair	Charles Darwin University				
Professor Sarah Legge	Member	Australian National University				
Dr Stephen van Leeuwen	Member	Indigenous Advisory Committee				
Dr Libby Rumpff	Member	University of Melbourne				
Assoc Professor Dale Nimmo	Member	Charles Sturt University				
Dr Jenny Gray – via teleconference	Member	Zoos Victoria				
Professor Richard Williams	Member	Charles Darwin University				
ADVISORS						
s22	Adviser	Department of Environment and Science, Queensland				
s22	Adviser	Department of Environment and Science, Queensland				
s22	Adviser	Department of Environment and Water, SA				
s22	Adviser	Department of Environment, Land, Water and Planning, Victoria				
s22	Adviser	Department of Planning, Industry and Environment, NSW				
s22	Adviser	Department of Planning, Industry and Environment, NSW				
s22	Adviser	Department of Planning, Industry and Environment, NSW				
s22	Adviser	Department of Planning, Industry and Environment, NSW				
s22	Adviser	Department of Biodiversity, Conservation and Attractions, WA				
s22	Adviser	Environment, Planning and Sustainable Development Directorate, ACT				
OBERSVERS AND SECRETA	RIAT					
s22	Secretariat	Department of Agriculture, Water and the Environment				
s22	Secretariat	Department of Agriculture, Water and the Environment				
s22	Secretariat	Department of Agriculture, Water and the Environment				

s22	Secretariat	Department of Agriculture, Water and the Environment
s22	Technical Support	Department of Agriculture, Water and the Environment
s22	Technical Support	Department of Agriculture, Water and the Environment
s22	Technical Support	Department of Agriculture, Water and the Environment
Professor Graeme Samuel	Independent Reviewer of the EPBC Act	Attended for item 3
s22	EPBC Act Review support	Department of Agriculture, Water and the Environment Attended for item 3
s22	EPBC Act Review support	Department of Agriculture, Water and the Environment Attended for item 3
APOLOGIES		
s22	Member	CSIRO Land & Water

1. Welcome to members and opening remarks

The Chair acknowledged the Traditional Owners of the land the Panel was meeting on.

The Chair noted the progression of several key issues and pieces of work, including work to identify plants and invertebrates needing priority action.

The Panel noted that media outlet the Conversation has approached the Expert Panel to author a series of articles surrounding the bushfires. Members noted this request would be discussed in more detail later in the meeting.

2. Meeting administration

The Panel noted the minutes of the previous meeting and agreed to provide any amendments to the Secretariat directly.

The Panel noted the actions arising from the previous meeting – several outstanding action items are also on the agenda for today's meeting. Any further amendments to the action items provided to the Secretariat directly.

The Panel also noted the summary document of the various Ministerial Roundtable meetings that have occurred in response to the bushfires. The Chair noted while this is a high-level document, further detail can be provided to members if requested.

3. Environment Protection and Biodiversity Conservation Act Review

The Expert Panel received a briefing from Professor Graeme Samuel, independent reviewer of the *Environment Protection and Biodiversity Conservation* (EPBC) *Act*, on the progress of the Review currently underway.

A key component of the Review is understanding how the EPBC Act can work better, avoid duplication and better engage Traditional Owners and Indigenous land managers.

The Expert Panel provided advice on a range of issues, that had come to the fore in the context of preparing a bushfire recovery response, that could potentially be considered as part of a review of the EPBC Act including: increased focus on key threatening processes and landscape-level interventions; improvements to the species listing processes; implementation of recovery plans and threat abatement plans; the need for national monitoring and data collection and reporting; and the challenges of species bias in the EPBC Act threatened species list due to data deficiencies.

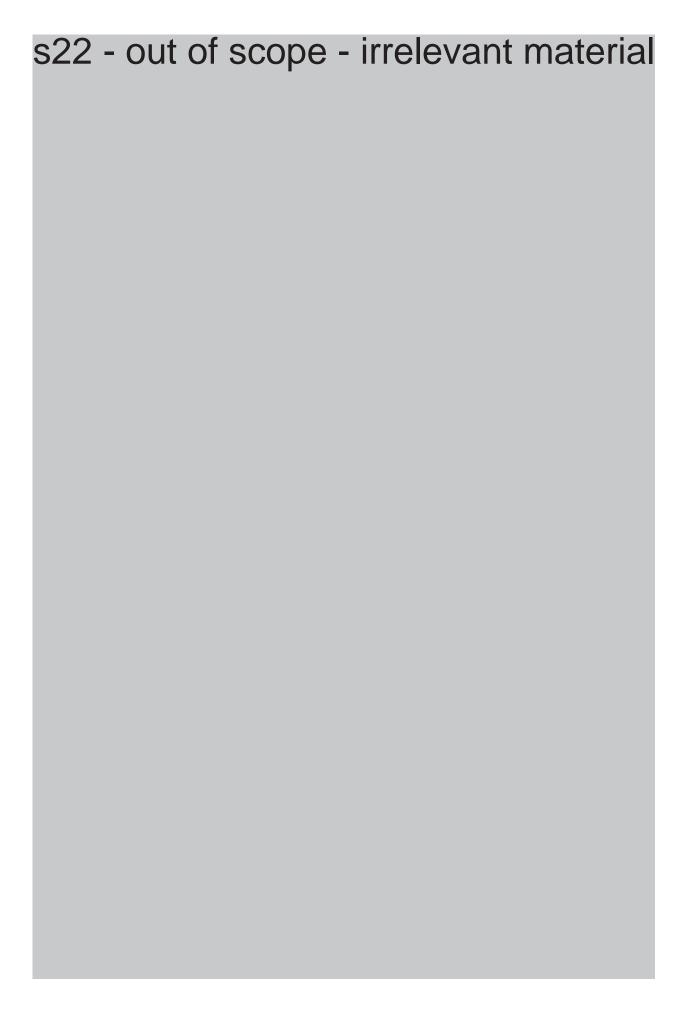
The Panel noted that, although improving the effectiveness of the EPBC Act is especially relevant after the bushfires, the issue of biodiversity loss has been ongoing for many years.

The Expert Panel discussed the Panel's continued engagement in the EPBC Act review. Members considered whether they would make a formal submission to the Review.

Action: The Expert Panel to raise with the Independent Reviewer any further issues that the Panel encounters in responding to the bushfires that could be addressed through the EPBC Act Review.

4. Update on the Australian Government, state and territory bushfire responses

The Chair provided the Expert Panel with an update on delivery of Australian Government funding. The Panel also received an update on the status of projects being funded from the Commonwealth funds allocated to the state and territories.





5. Funding process

Prior to this discussion, Expert Panel members and state advisors were reminded of their confidentiality and conflict of interest declaration obligations.

S47C

Action: DAWE to provide draft guidelines and application form to the Expert Panel for their feedback prior to release.

Gap analysis

The Expert Panel discussed the preliminary gap analysis prepared by the Department and provided advice on further refinements.

Members noted the following inclusions would be useful – links to vulnerability assessment, additional projects as they are approved; the range states of species (taking into account jurisdictions where the range may be minimal); inclusion of mapping/spatial overlays showing action location, burnt areas and species distributions; and the inclusion of a comparison between identified priority actions and action underway=.

The Expert Panel noted that there is uncertainty associated with some proposed actions (i.e. some proposed actions are dependent on the results of on-ground assessments) and that the gap analysis would need to be updated as decisions are taken,

The Expert Panel noted the need for collaboration with other working groups including the Threatened Species Scientific Committee and the International Union for Conservation of Nature regarding fire impact assessment and responses. Aligning perspectives, objectives and data across all parties should be prioritised.

Action: DAWE to incorporate Panel's feedback and revise gap analysis approach and tool in partnership with the Expert Panel.

Action: DAWE to create a map that overlays fire affected areas and sites of actions underway to be used to assist gap analysis.

s22 - out of scope - irrelevant material

6. Progressing species assessments - Plants

<u> </u>	O O I O I		

Progressing species assessments - Animals

The Expert Panel noted that the fire distribution map should be updated to include an analysis on spatial variation in fire severity, as this information becomes available. Fire severity mapping, together with improved species distribution modelling in some cases, would improve the vulnerability assessment.

The Expert Panel also noted the value of updating the priority animal list preceding the call out for grant applications and discussed the need for a structured approached to how changes to the priority list are assessed, managed and communicated.

Recommendation: The Expert Panel agreed that fire severity and improved species distribution data analysis should be progressed.

Recommendation: The Expert Panel recommended DAWE analyse and map bushfire severity and assign resources for improved species distribution mapping.

Recommendation: The Panel agreed there is a need for structure to be put in place to manage and communicate changes to the priority species lists.

Common Assessment Method Working Group

s22 - out of scope - irrelevant material

7. Approach for consideration of Indigenous cultural values

s22 - out of scope - irrelevant material

s22 - out of scope - irrelevant material

Recommendation: The Expert Panel encourages applications from Indigenous entities, partnerships and collaborations with Indigenous parties, and the identification of culturally significant areas in future funding rounds.

Action: DAWE to encourage collaboration with Indigenous parties and consideration of cultur
values in the guidelines for the remaining bushfire funding.

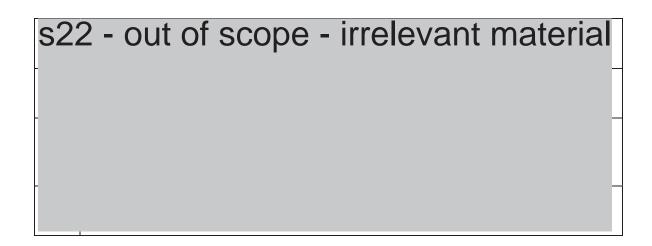
8. Revision to the preliminary fire mapping analysis area

s22	- C	out	of	SCO	ре	- ir	rele	evar	nt m	ate	rial

9. Communications

Action Summary

	Action
1.	The Expert Panel to raise with the Independent Reviewer any further issues that the Panel encounters in responding to the bushfires that could be addressed through the EPBC Act Review.
s22	2 - out of scope - irrelevant material
4.	DAWE to provide draft guidelines and application form to the Expert Panel for their feedback prior to release.
5.	DAWE to incorporate Panel's feedback and revise gap analysis approach and tool in partnership with the Expert Panel.
6.	DAWE to create a map that overlays fire affected areas and sites of actions underway to be used to assist gap analysis.
s2	2 - out of scope - irrelevant material
10.	DAWE to encourage collaboration with Indigenous parties and consideration of cultural values in the guidelines for the remaining bushfire funding.
s2	2 - out of scope - irrelevant material



Wildlife and Threatened Species Bushfire Recovery Expert Panel

Minutes

9.30am - 4.30pm, Wednesday 11 March 2020

Venue: L2.2 Birrarung Conference Room

Customs House

Corner Grants and Centre Road, Melbourne Airport

ATTENDEES

MEMBERS		
Name	Position on Panel	Organisation
Dr Sally Box	Chair	Threatened Species Commissioner, Department of Agriculture, Water and the Environment
Professor John Woinarksi	Deputy Chair	Charles Darwin University
Professor Sarah Legge	Member	Australian National University
Dr Stephen van Leeuwen	Member	Indigenous Advisory Committee
Dr Libby Rumpff	Member	University of Melbourne
Assoc Professor Dale Nimmo	Member	Charles Sturt University
Dr Jenny Gray	Member	Zoos Victoria
Professor Richard Williams	Member	Charles Darwin University
ADVISORS		
s22	Adviser	Department of Environment and Science, QLD
s22	Adviser	Department of Environment and Water, SA
s22	Adviser	Department of Environment, Land, Water and Planning, VIC
s22	Adviser	Department of Planning, Industry and Environment, NSW
s22	Adviser	Department of Planning, Industry and Environment, NSW
s22	Adviser	Department of Biodiversity, Conservation and Attractions, WA
s22	Adviser	Environment, Planning and Sustainable Development Directorate, ACT
OBSERVERS AND SECRETA	RIAT	
s22	Secretariat	Department of Agriculture, Water and the Environment
s22	Secretariat	Department of Agriculture, Water and the Environment
s22	Secretariat	Department of Agriculture, Water and the Environment
s22	Observer	Department of Agriculture, Water and the Environment
s22	Technical Support	Department of Agriculture, Water and the Environment

APOLOGIES		
s22	Member	CSIRO Land & Water
s22	Advisor	Department of Planning, Industry and Environment, NSW

1. Welcome to members

The Chair acknowledged the Traditional Owners of the land the Panel was meeting on.

2. Meeting administration

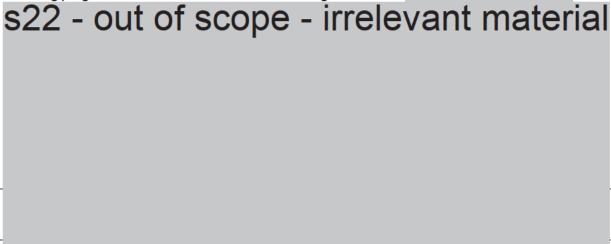
The Panel noted the minutes of the previous meeting and agreed to provide amendments to the Secretariat directly.

The Panel discussed the actions arising from previous meetings, noting several outstanding items were due to be discussed today. Members to provide any further amendments to action items directly to the Secretariat.

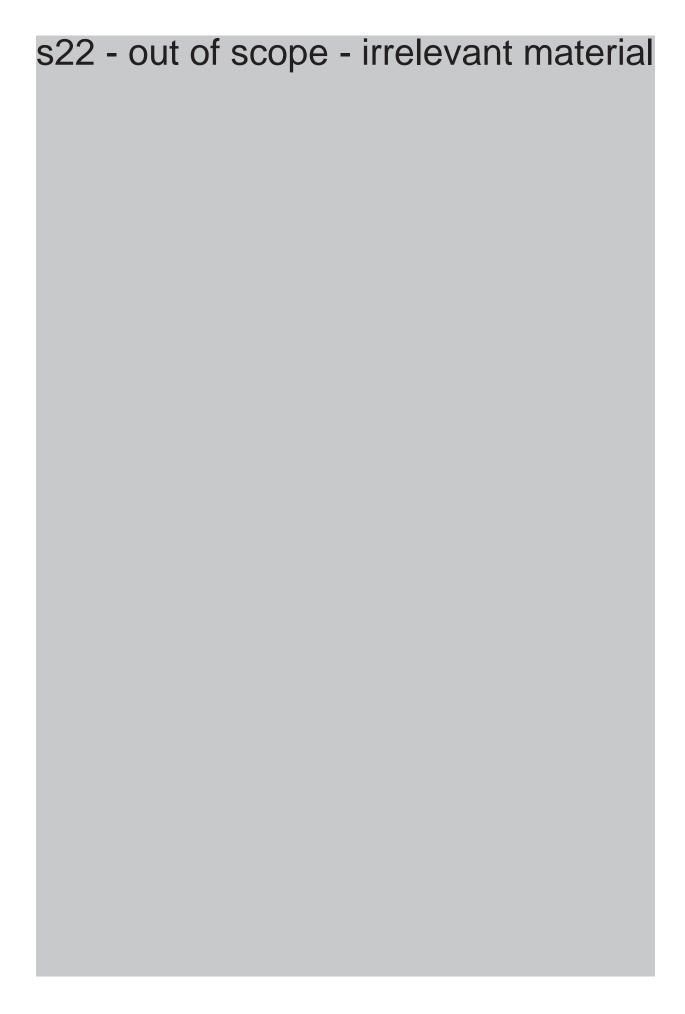
Action: Secretariat to review and update pending action items to reflect current status – Pending, Complete, No action required – Overtaken by events.

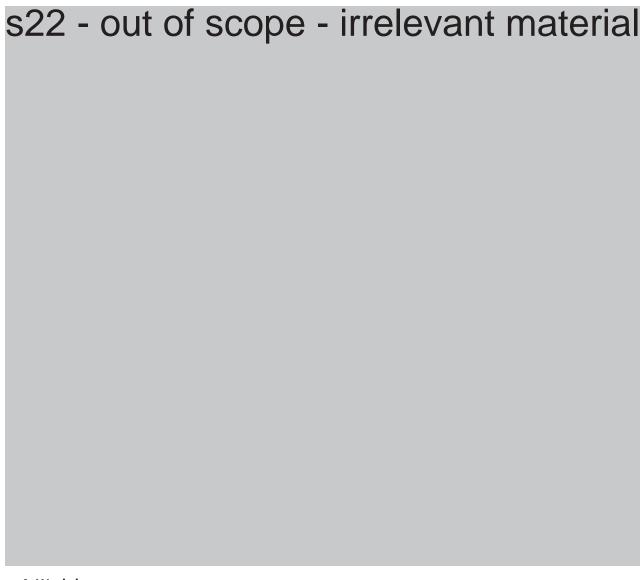
3. Update on the Australian Government, state and territory bushfire response

The Chair provided the Expert Panel with an update on delivery of Australian Government funding, including progress on the allocation of funds to state governments. S22 - out of scope - irrelevant material



The Chair invited the state and territory advisers to provide a short update on their bushfire responses:





4. Workshops

Kangaroo Island Post-Bushfire Workshop

s22 - out of scope - irrelevant material

Zoo and Aquarium Association workshop

5. Strategic prioritisation

The Chair noted the Expert Panel's comments on the draft grant guidelines and provided members with an overview of the process going forward.

The Expert Panel discussed the priority list of animals and threatened ecological communities within scope of the upcoming Grant round. Further evidence of fire impact has led to some minor re-assessments of preliminary the list of 113 priority fire-affected vertebrate (and spiny crayfish) species published on 11 February 2020. These refinements involve eight species being added to that initial list (Gang-gang Cockatoo, South Eastern Glossy Black-Cockatoo, Kangaroo Island Western Whipbird, Kangaroo Island Southern Emu-wren, Mainland Dusky Antechinus, Oakview Leaf-tail Gecko, Kate's Leaf-tail Gecko and Ringed Thin-tail Gecko), and two species being removed from that initial list (Swan Galaxias and Tyler's Toadlet).

In discussing the revised list of threatened ecological communities, the Panel queried the inclusion of three of the listed communities: the Aquatic Root Mat community of the Swan Coastal Plain, the Silurian Limestone Pomaderris and the Littoral Rainforest.

To ensure continued transparency, DAWE will document the rationale for changes to the priority lists.

Recommendation: The Expert Panel recommended DAWE revise and update the current list of provisional list of animals requiring urgent management intervention to reflect new information based on improved spatial information and reports from field assessments.

Action: Expert Panel to review and amend the current list of priority animals and provide the updated list and underpinning rationale to DAWE by 13 March 2020.

Action: DAWE to either remove the three TEC's from the list or provide additional justification to the Expert Panel for their continued inclusion.

Action: DAWE to develop (in partnership with the Expert Panel) communication products to support revisions to the priority species list.

S47C

The Expert Panel discussed their role in the upcoming funding process. To assist with their preparations for providing advice on proposals, DAWE will provide the Expert Panel with a copy of the Assessment Plan for the upcoming round.

To better understand the bushfire recovery actions already underway, the Expert Panel requested information on how states and territories are using their bushfire response funding (Australian Government and State).

Action: State and Territories to provide spatial information to DAWE on where they are undertaking activities.

6. Medium to long-term actions

s22	-	out	of	scop	oe -	irre	leva	nt r	nate	erial

s22 - out of scope - irrelevant material 7. Progressing species assessments – Plants and Invertebrates s22 - out of scope - irrelevant material

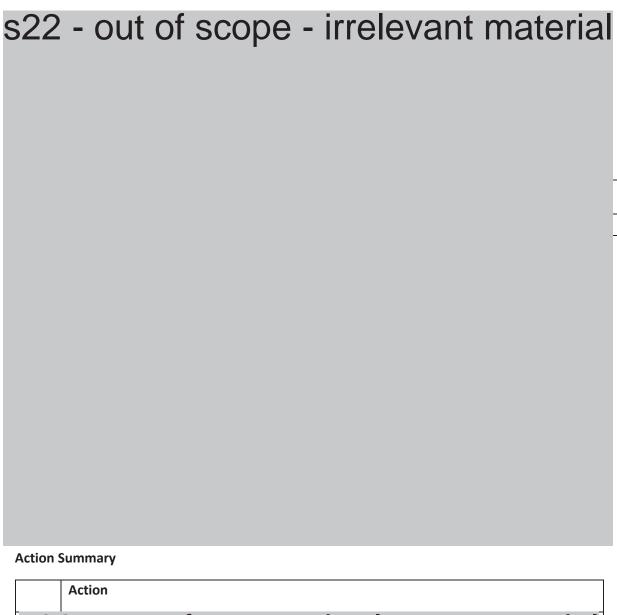
9. On-ground assessment and monitoring

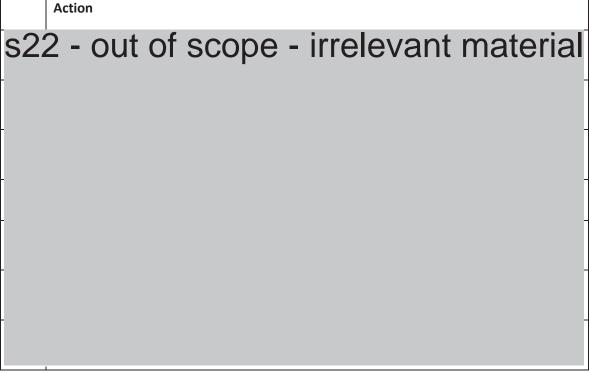
s22 - out of scope - irrelevant material

10. Threatened Species Scientific Committee (TSSC) – Fire Response Plan & revised protocol for interaction with Expert Panel

s22 - out of scope - irrelevant material

11. Expert Panel Work Program



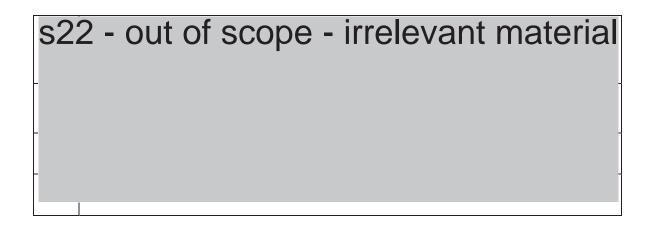


- **9.** Expert Panel to review and amend the current list of priority animals and provide the updated list and underpinning rationale to DAWE by 13 March 2020.
- **10.** DAWE to either remove the three TEC's from the list or provide additional justification to the Expert Panel for their continued inclusion.
- **11.** DAWE to develop (in partnership with the Expert Panel) communication products to support revisions to the priority species list.

s47C

s22 - out of scope - irrelevant material

15. State and Territories to provide spatial information to DAWE on where they are undertaking activities.



Wildlife and Threatened Species Bushfire Recovery Expert Panel

Minutes

9.30am - 4.30pm, Friday 27th March 2020

Venue: John Gorton Building, Canberra – Bulun Bulun Room and via teleconference

ATTENDEES

MEMBERS		
Name	Position on Panel	Organisation
Dr Sally Box	Chair	Threatened Species Commissioner, Department of Agriculture, Water and the Environment
Professor John Woinarksi	Deputy Chair	Charles Darwin University
Professor Sarah Legge	Member	Australian National University
Dr Stephen van Leeuwen	Member	Indigenous Advisory Committee
Dr Libby Rumpff	Member	University of Melbourne
Assoc Professor Dale Nimmo	Member	Charles Sturt University
Dr Jenny Gray	Member	Zoos Victoria
Dr Dan Metcalfe	Member	CSIRO Land & Water
Professor Richard Williams	Member	Charles Darwin University
ADVISORS		
s22	Adviser	Department of Environment and Science, QLD
s22	Adviser	Department of Environment and Water, SA
s22	Adviser	Department of Environment, Land, Water and Planning, VIC
s22	Adviser	Department of Planning, Industry and Environment, NSW
s22	Adviser	Department of Biodiversity, Conservation and Attractions, WA
s22	Adviser	Environment, Planning and Sustainable Development Directorate, ACT
OBSERVERS AND SECRETA	RIAT	
s22	Secretariat	Department of Agriculture, Water and the Environment
s22	Secretariat	Department of Agriculture, Water and the Environment
s22	Communications	Department of Agriculture, Water and the Environment
s22	Technical Support	Department of Agriculture, Water and the Environment
s22	Technical Support	Zoo and Aquarium Association
s22	Technical Support	Macquarie University
s22	Observer	Department of Agriculture, Water and the Environment

s22	Observer	Department of Agriculture, Water and the
		Environment

1. Welcome to members

The Chair acknowledged the Traditional Owners of the land the Panel was meeting on.

2. Meeting administration

The Panel noted the minutes of the previous meeting and agreed to provide any amendments directly to the Secretariat.

The Panel discussed the actions arising from previous meetings. Several items were noted as being complete or overtaken by events. Members agreed to provide any further amendments to action items directly to the Secretariat.

Action: Secretariat to review and update pending action items to reflect current status: Pending, Complete, No action required – Overtaken by events.

The Chair acknowledged the challenges associated with the Covid-19 pandemic and its impact on the implemention of some bushfire recovery activities. The bushfire response remains a high priority for the Australian Government and the Department is considering how best to continue to facilitate its delivery.

Members discussed the impact Covid-19 is having on organisations delivering some on-ground, ex situ recovery and research actions in response to the bushfire, and considered options for continuing work while restrictions are in place. These included providing maximum flexibilty in funding agreements, and completing the administrative work necessary to prepare for when on-ground activity can occur again. Members noted that a range of on-ground activities are continuing.

Noting the impact Covid-19 is having on interstate travel, the Panel also discussed options for holding the next meeting remotely, as well as potential timing for upcoming meetings.

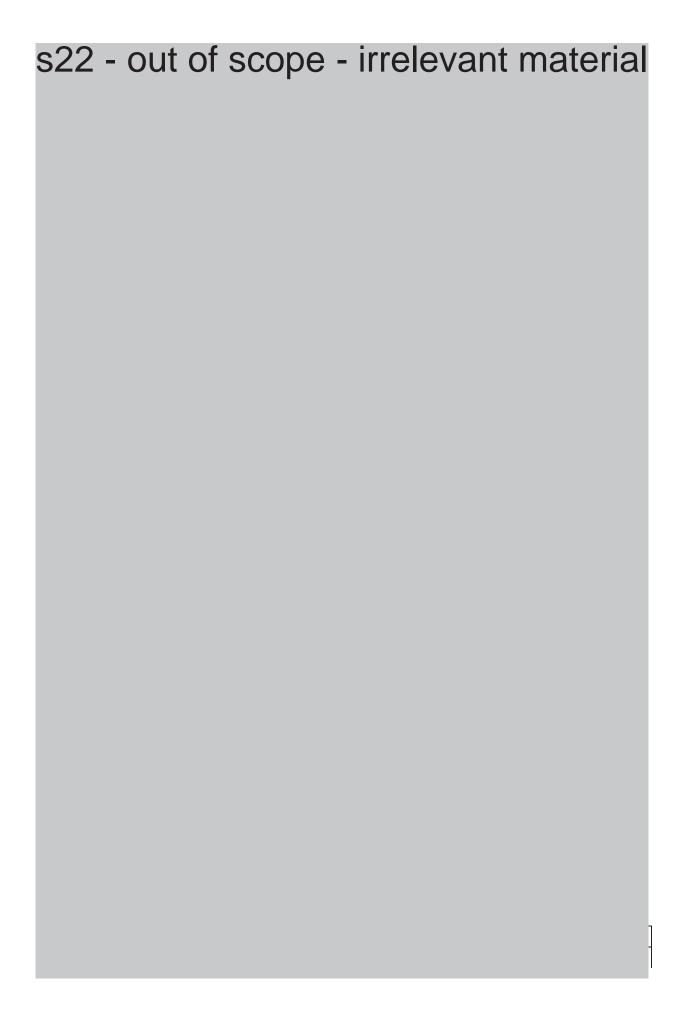
Action: DAWE to coordinate short online meetings with the Expert Panel to test the approach for future meetings.

3. Update on the Australian Government, state and territory bushfire response

and will be provided to Panel members once approved.

The Chair provided the Expert Panel with an update on delivery of Australian Government funding, including progress on the allocation of funds to state governments. The Department will continue to work with the states and territories to progress their agreed projects, and discussions with Tasmania and the ACT on their proposals are continuing.

The Expert Panel noted an update on the pending open grant round. In preparation for the announcement of the grant round opening, talking points are being developed



s22 - out of scope - irrelevant material	
4. Strategic Prioritisation	
s22 - out of scope - irrelevant material	
Recommendations on funding in the open grant round may have to be made prior to the completion of the strategic prioritisation. The Panel agreed that the combined advice from experts, State and Territory Governments, Departmental assessors and existing information on candidate actions for priority species and will be sufficient to guide decision making if necessary.	
Action : Panel to reassess the feasibility of completing strategic prioritisation prior to assessment of grant applications.	
s22 - out of scope - irrelevant material	
	•

5. Species Assessment - Plants

Action: Revised report to be circulated to states and territories, the Panel and DAWE for it to be agreed upon and cleared for use in Tranche 2 funding.

s22 - out of scope - irrelevant material

6. Species Assessement - Invertebrates

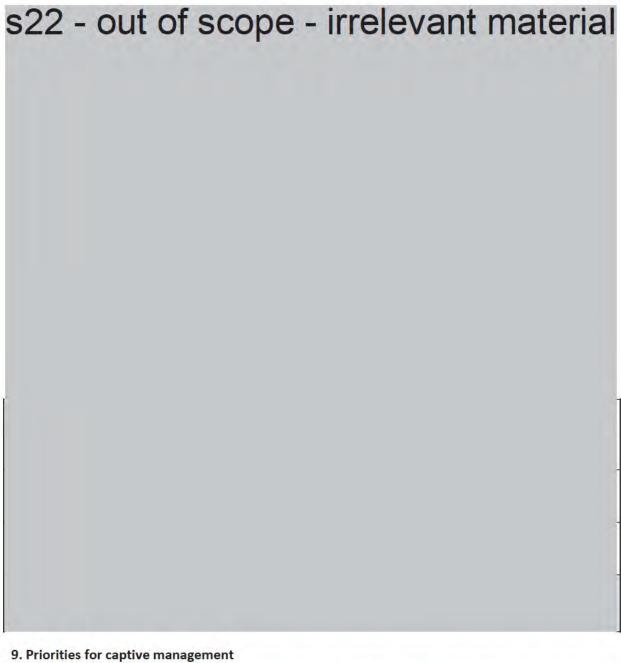
The Expert Panel also noted the priority list of invertebrates needs to be finalised, endorsed and published prior to applications for the second tranche of grant funding opening.

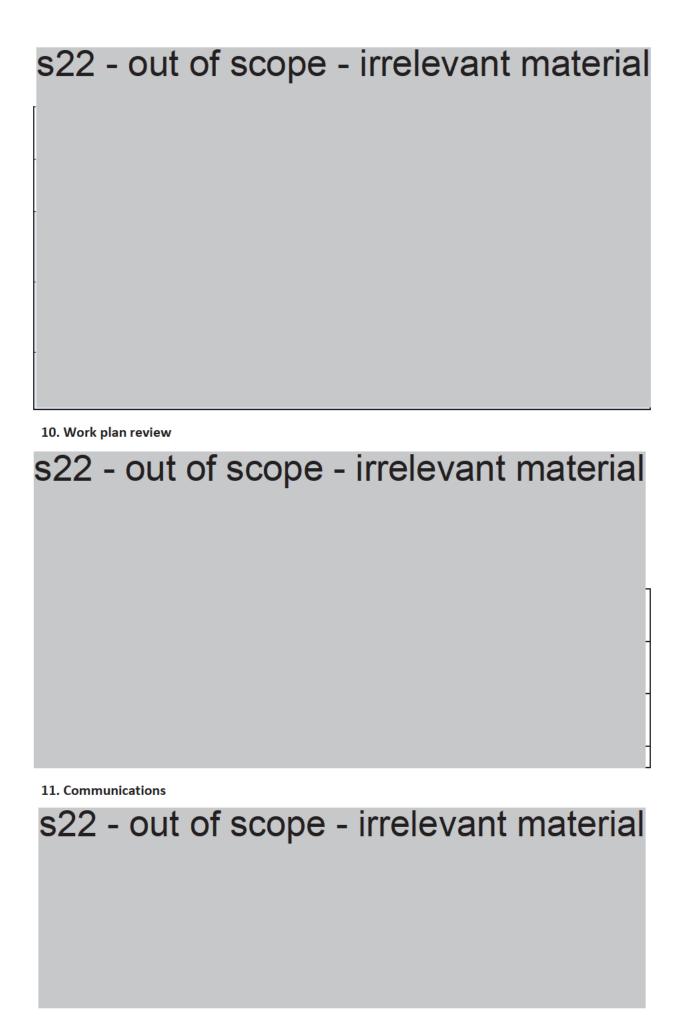
s22 - out of scope - irrelevant material

7. Ecological Community Analysis

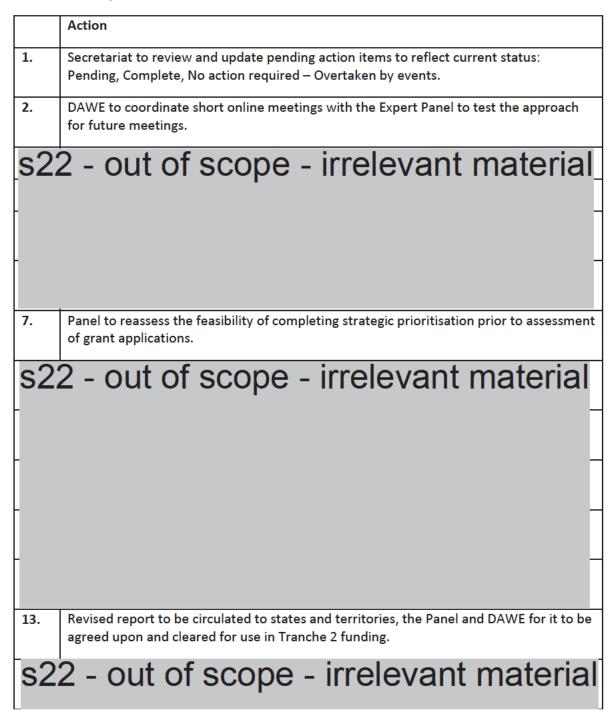
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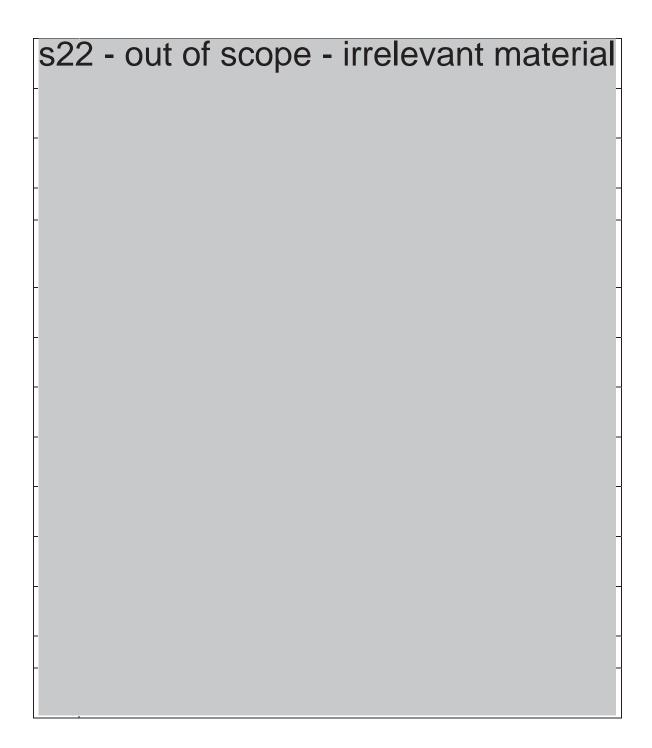
8. NESP Threatened Species Recovery Hub - Additional Bushfire research funding





Action Summary





Minutes

10.00am - 1.00pm, Thursday 9 April 2020

Venue: Videoconference

ATTENDEES

MEMBERS		
Name	Position on Panel	Organisation
Dr Sally Box	Chair	Threatened Species Commissioner, Department of Agriculture, Water and the Environment
Professor John Woinarksi	Deputy Chair	Charles Darwin University
Professor Sarah Legge	Member	Australian National University
Dr Stephen van Leeuwen	Member	Indigenous Advisory Committee
Dr Libby Rumpff	Member	University of Melbourne
Assoc Professor Dale Nimmo	Member	Charles Sturt University
Dr Dan Metcalfe	Member	CSIRO Land & Water
OBSERVERS AND SECRETA	RIAT	
s22	Secretariat	Department of Agriculture, Water and the Environment
s22	Secretariat	Department of Agriculture, Water and the Environment
s22	Communications	Department of Agriculture, Water and the Environment
s22	Technical Support	Department of Agriculture, Water and the Environment
s22	Technical Support	Macquarie University
APOLOGIES		
s22	Member	Zoos Victoria
s22	Member	Charles Darwin University

1. Welcome to members

The Chair acknowledged the Traditional Owners of the land Panel members were meeting on.

The Expert Panel noted this meeting was a extension of the 27 March meeting and would focus on four specific items – the revised prioritisation list for plants; s22 - out of scope - irrelevant material

and the opening of the grants round.

2. Species assessment - Plants

szz - out of scope - irrelevant materia	は
Recommendation : The Expert Panel recommended a summary document – similar to that released the provisional list of priority animals - be developed for release with the plant priority list and technical report.	for
the provisional list of priority animals - be developed for release with the plant priority list and technical report.	for
the provisional list of priority animals - be developed for release with the plant priority list and technical report. 3. NESP Threatened Species Recovery Hub bushfire projects	
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s22 - out of scope - irrelevant material

5. Covid-19 impacts on the bushfire response

The Expert Panel noted an update on bushfire recovery work being undertaken during the Covid-19 pandemic.

Panel members provided an update of their organisation's response and impacts to their work. Some on-ground work cannot be undertaken due to social distancing requirements, but there is sustained focus on planning and preparation for when restrictions are lifted.

Members noted the contingencies in place in relation to the completion of Australian Government funded bushfire recovery actions.

Action: DAWE to liaise with the states and territories around opportunities to lift restrictions for onground bushfire recovery actions on the basis that they are critical activities.

6. Open Grants process

The Expert Panel noted the status update on applications commenced for the first round of open grant funding.

Further information on the assessment process and the Expert Panel's involvement will be provided at the next meeting.

7. Next meeting

s22 - out of scope - irrelevant material

Action Summary

Action

s22 - out of scope - irrelevant material

5. DAWE to liaise with the states and territories around opportunities to lift restrictions for on-ground bushfire recovery actions on the basis that they are critical activities.

Minutes

9.30am - 4.30pm, Friday 17 April 2020

Videoconference

ATTENDEES

MEMBERS				
Name	Position on Panel	Organisation		
Dr Sally Box	Chair	Threatened Species Commissioner, Department of Agriculture, Water and the Environment		
Professor John Woinarksi	Deputy Chair	Charles Darwin University		
Professor Sarah Legge	Member	Australian National University		
Dr Stephen van Leeuwen	Member	Indigenous Advisory Committee		
Dr Libby Rumpff	Member	University of Melbourne		
Assoc Professor Dale Nimmo	Member	Charles Sturt University		
Dr Dan Metcalfe	Member	CSIRO Land & Water		
Professor Richard Williams	Member	Charles Darwin University		
ADVISORS				
s22	Adviser	Department of Environment and Science, QLD		
s22	Adviser	Department of Environment and Science, Queensland		
s22	Adviser	Department of Environment and Water, SA		
s22	Adviser	Department of Environment, Land, Water and Planning, Victoria		
s22	Adviser	Department of Planning, Industry and Environment NSW		
s22	Adviser	Department of Planning, Industry and Environment NSW		
s22	Adviser	Department of Biodiversity, Conservation and Attractions, WA		
s22	Adviser	Environment, Planning and Sustainable Development Directorate, ACT		
OBSERVERS AND SECRETA	RIAT			
s22	Secretariat	Department of Agriculture, Water and the Environment		
s22	Secretariat	Department of Agriculture, Water and the Environment		
s22	Observer	Department of Agriculture, Water and the Environment		
s22	Observer	Department of Agriculture, Water and the Environment		
s22	Observer	Department of Agriculture, Water and the Environment		
s22	Technical support	Department of Agriculture, Water and the Environment		
s22	Technical Support	Department of Agriculture, Water and the Environment		

s22	Technical	Department of Agriculture, Water and the
	support	Environment
s47F	Technical	Macquarie University
	support	
APOLOGIES		
s22	Member	Zoos Victoria
s22	Adviser	Department of Environment and Water, SA
s22	Adviser	Parks VIC
s22	Adviser	Department of Planning, Industry and Environment,
		NSW

1. Welcome

The Chair acknowledged the Traditional Owners of the lands the Panel members were meeting on.

2. Meeting administration

The Panel discussed the minutes of the previous two meetings and agreed to provide further amendments to the Secretariat directly.

The Panel discussed the actions arising from previous meetings, noting several outstanding items were due to be discussed today. Members to provide any further amendments directly to the Secretariat.

Action: DAWE to liaise with state and territory representatives to assist with the completion of outstanding action items.

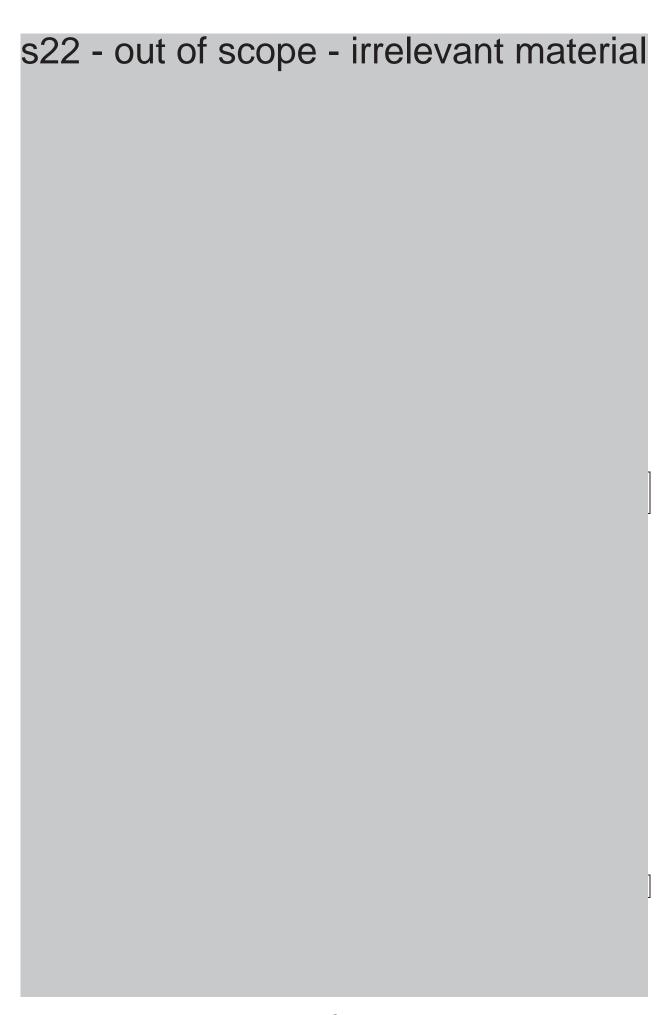
3. Update on the Australian Government, state and territory bushfire response

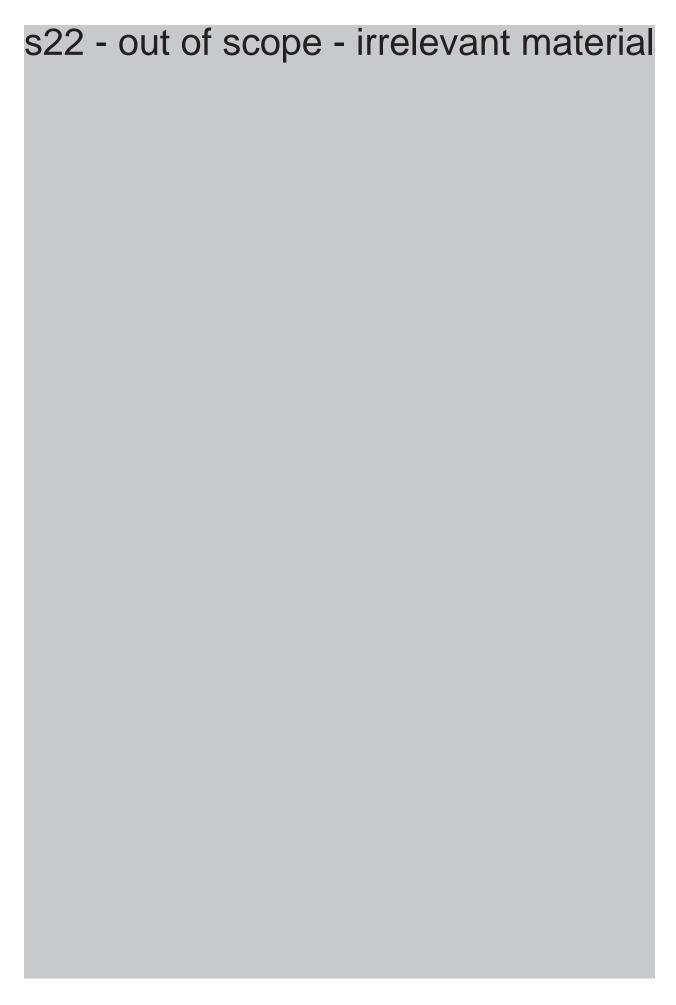
The Chair provided the Expert Panel with an update on the delivery of the remaining funding of the Wildlife and Habitat Bushfire Recovery Package. \$22 - Out Of SCOPE - Irrelevant material

s22 - out of scope - irrelevant material

The Panel discussed the impact COVID-19 is having on the implementation of the recovery package and noted the Department is receiving updates from project proponents as part of the regular reporting processes.

The Chair invited the state and territory advisers to provide a short update on their bushfire responses.





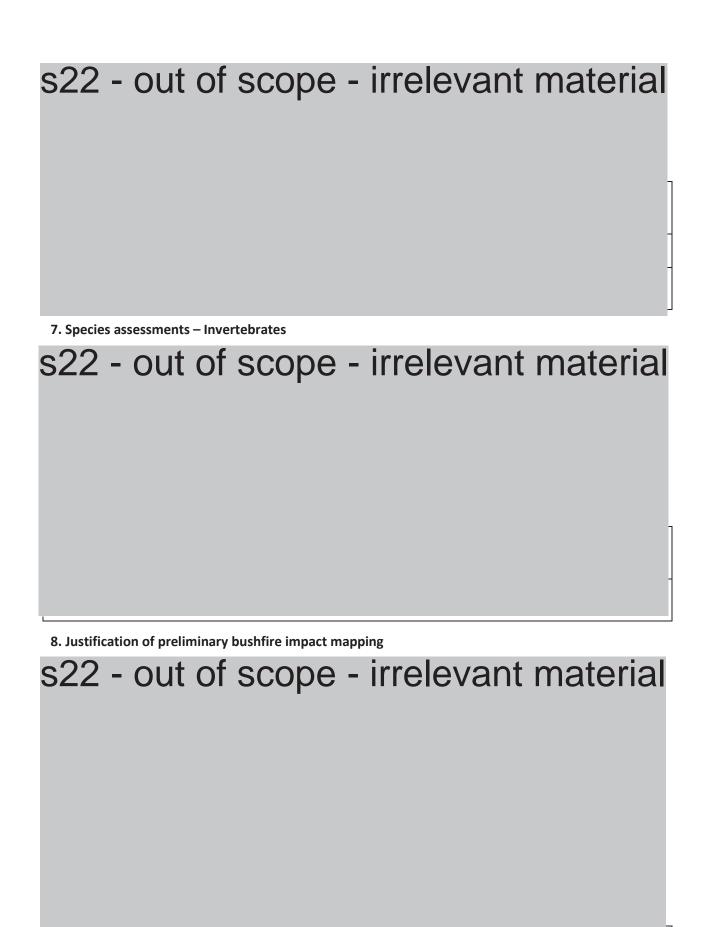
s22 - out of scope - irrelevant material

4. Preparation for assessment of open round applications

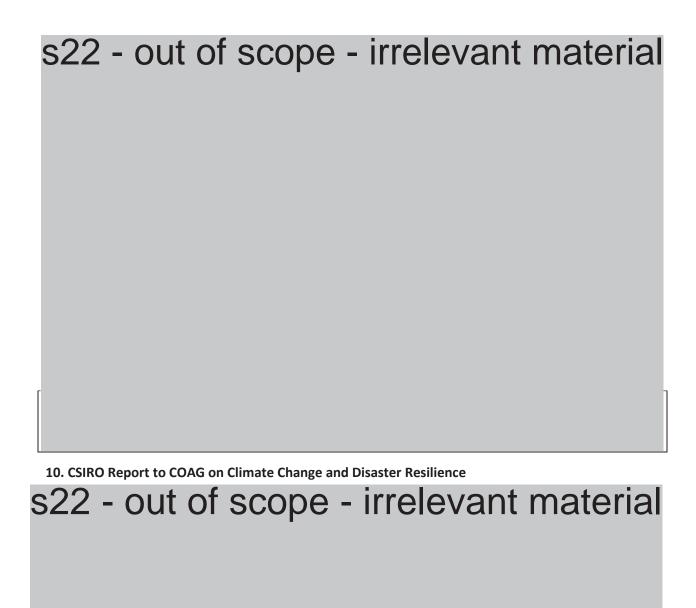
The Chair provided an overview of the first tranche of the Wildlife and Habitat Bushfire Recovery grants program including the timeframe and process for considering applications.

s22 - out of scope - irrelevant material

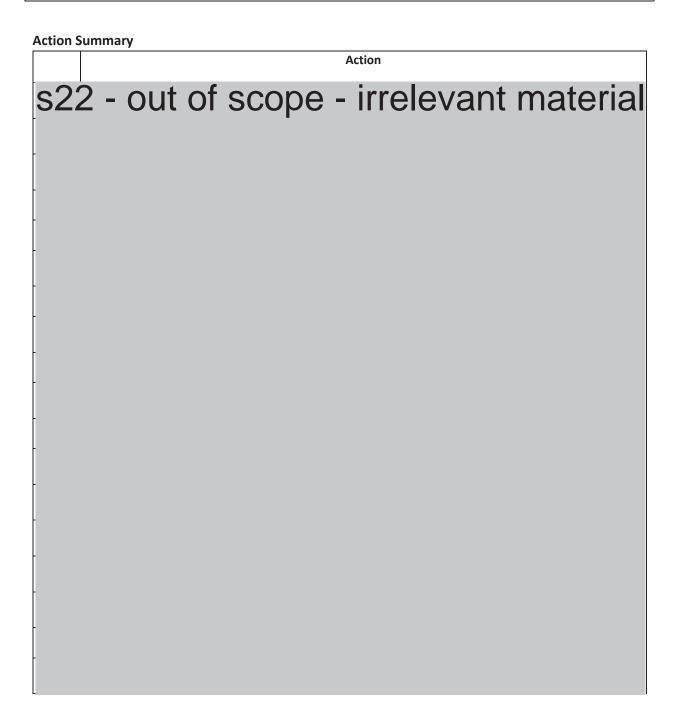
5. Assessment of NRM Tranche 2 proposals

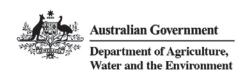


9. Impacts of fire on RAMSAR wetlands



11. Communications





Assessment of Funding Proposal Initial Funding Allocation for States and Territories

Proposal Name	Threatened Species of the Gondwana Rainforests World Heritage Area: Part 1	
Agency / Organisation	Queensland Department of Environment and Science	
Contact person	s22	
Anticipated costs	TOTAL: \$800,000	

Wildlife and Threatened Species Bushfire Recovery Expert Panel comments		 Advised that the proposal aligns with the high priority species identified at the national level by the Panel and noted co-benefits for other co-located species. Also questioned why reptiles, some priority mammals and 'cross-jurisdictional' plants, have been excluded. 	
		• Noted the need to liaise with NSW in relation to the various cross jurisdictional elements (eg coordination of assessments and actions for cross-jurisdictional species, coordination of pest management).	
		• Queried how the NESP work on on-ground assessments could be used to support Queensland's rapid assessment work and national level reporting.	
		 Requested further information actions to be undertaken for each of the species listed, acknowledging that decisions on actions may depend on results of post-fire assessments. The Panel requires this information to keep track of species- specific interventions to avoid duplicating efforts. 	
		• Requested further information on the breakdown of funding between different elements of the proposal.	
		• Requested further information on how actions will be	

monitored and reported on.

Additional information provided by State/Territory representative (if applicable)

QLD noted:

- The proposal has been pitched at a high level due to difficulties in collating data in the quickly moving postbushfire environment. Additional work is underway to fill in the missing detail.
- Proposals put forward align with a set of broader projects
 Queensland is undertaking to address bushfire impacts more generally.
- Some priority species have been identified for exclusion and some non-priority species have been identified for inclusion through the expert workshops run by QLD. Some priority species were excluded on the basis that Queensland distribution is small, or was unaffected by fire.
- Completion of the rapid assessment is critical and will assist in identifying what actions need to be undertaken.
- Focus is not only on assessments, there will be ongoing actions. The actions needing to be done will be undertaken once the rapid on-ground assessment has been done.

Wildlife and Threatened Species Bushfire Recovery Expert Panel Recommendation

Recommended in-principle:

- Panel does not need to review proposal again prior to commencement.
- Further action required between Department and Queensland Department of Environment and Science prior to commencement.

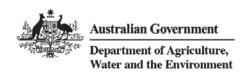
The Australian Government Department of Agriculture, Water and the Environment and the Queensland Department of Environment and Science to refine elements of the proposal as part of the agreement negotiation and MERI Plan development process:

Further action

(if required)

- Additional justification for why some identified priority species are not included in the proposal.
- Additional information on plans for cross-jurisdictional collaboration with NSW.
- Additional information on actions to be undertaken for each species (when known).
- Additional information on the monitoring of and reporting on actions being undertaken.
- Provision of a detailed breakdown of the proposal's funding.

Recommendation date 14 February 2020	
Recommendation date 14 February 2020	

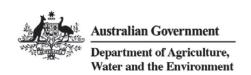


Proposal Name	Threatened species recovery in Bulburin National Park	
Agency / Organisation	Queensland Department of Environment and Science	
Contact person	s22	
Anticipated costs	TOTAL: \$200,000	

Wildlife and Threatened Species Bushfire Recovery Expert Panel comments	Advised that the proposal aligns with the high priority animal species identified at the national level by the Panel, including several invertebrates. The Panel also noted co-benefits for other co-located species. Noted the range of management actions for species outlined in the proposal and requested further information on how actions will be monitored and reported on. Queried the inclusion of track work and whether it is a business-as-usual action for the QLD National Parks and Wildlife Service. Queried if proposal could be expanded to other National Parks. Requested further information on the breakdown of funding between different elements of the proposal.	
Additional information provided by State/Territory representative (if applicable)	LD noted: Intention is to investigate whether these actions could also be undertaken in nearby National Parks. Actions in these areas would be supported by the QLD National Parks and Wildlife Service. The proximity of these areas to each other means there would be value in the actions being completed across parks bringing co-benefits to co-located species. Proposals put forward align with a set of broader projects Queensland is undertaking to address bushfire impacts more	

generally, acknowledging that decisions on actions may depend on results of post-fire assessments
The intent is for the management of weeds and pest animals to be supported by the QLD National Parks and Wildlife Service by a longer term project.

Wildlife and Threatened Species Bushfire Recovery Expert Panel Recommendation	Recommended in-principle:
Further action (if required)	 The Australian Government Department of Agriculture, Water and the Environment and the Queensland Department of Environment and Science to refine elements of the proposal as part of the agreement negotiation and MERI Plan development process: Additional information on the monitoring of and reporting on actions being undertaken. Provision of a detailed breakdown of the proposal's funding.
Recommendation date	14 February 2020



Proposal Name	Threatened species recovery in Sunshine Coast/Cooloola: Part 1	
Agency / Organisation	Queensland Department of Environment and Science	
Contact person	s22	
Anticipated costs	TOTAL: \$300,000	

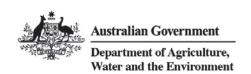
Wildlife and Threatened Species Bushfire Recovery Expert Panel comments	 Advised that the proposal includes some high priority animal species identified at the national level by the Panel, and noted potential co-benefits for other co-located species. Noted a cross over into protecting Ecological Communities and Species, clarification needed as whether the work would focus on an Ecological Community or National Park. Requested further information on the actions to be undertaken for each of the species listed, acknowledging that decisions on actions may depend on results of post-fire assessments. The Panel requires this information to keep track of species-specific interventions to avoid duplicating efforts. Requested further information on the breakdown of funding between different elements of the proposal. Noted some of the anticipated outcomes are linked to long-term actions. Requested further information on how actions will be monitored and reported on.
Additional information provided by State/Territory representative (if applicable)	 QLD noted: The proposal has been pitched at a high level due to difficulties in collating data in the quickly moving post-bushfire environment. Additional work is underway to fill in the missing detail.

- Proposals put forward align with a set of broader projects
 Queensland is undertaking to address bushfire impacts more
 generally.
 Some priority species have been identified for exclusion and
 some non-priority species have been identified for inclusion
 through the expert workshops run by QLD. Some priority
 - Completion of the rapid assessment is critical and will assist in identifying what actions need to be undertaken.

species were excluded on the basis that Queensland distribution is small, or was unaffected by fire.

• Focus is not only on assessments, there will be ongoing actions. The actions needing to be done will be determined once the rapid on-ground assessment has been done.

Wildlife and Threatened Species Bushfire Recovery Expert Panel Recommendation	Recommended in-principle: - Panel does not need to review proposal again prior to commencement. - Further action required between Department and Queensland Department of Environment and Science prior to commencement.
Further action (if required)	 The Australian Government Department of Agriculture, Water and the Environment and the Queensland Department of Environment and Science to refine elements of the proposal as part of the agreement negotiation and MERI Plan development process: Additional justification for why some identified priority species are not included in the proposal. Additional information on actions to be undertaken for each species (when known). Additional information on the monitoring of and reporting on actions being undertaken. Provision of a detailed breakdown of the proposal's funding.
Recommendation date	14 February 2020



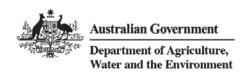
Proposal Name	Fauna recovery in Wide Bay/Burnett vine thickets
Agency / Organisation	Queensland Department of Environment and Science
Contact person	s22
Anticipated costs	TOTAL: \$250,000

Wildlife and Threatened Species Bushfire Recovery Expert Panel comments	 Advised that the proposal aligns with the high priority reptile species identified at the national level by the Panel, and noted potential co-benefits for other co-located species. Noted rapid assessment (or similar activities) are being done and that this is a critical first step. Queried how the NESP work on on-ground assessments could be used to support Queensland's rapid assessment work and national level reporting. Requested further information actions to be undertaken for each of the species listed, acknowledging that decisions on actions may depend on results of post-fire assessments. The Panel requires this information to keep track of species-specific interventions to avoid duplicating efforts. Requested further information on the breakdown of funding between different elements of the proposal. Requested further information on how actions will be
	monitored and reported on.
Additional information provided by State/Territory representative (if applicable)	 QLD noted: The proposal has been pitched at a high level due to difficulties in collating data in the quickly moving post-bushfire environment. Additional work is underway to fill in the missing detail.

 Proposals put forward align with a set of broader projects Queensland is undertaking to address bushfire impacts more generally, acknowledging that decisions on actions may depend on results of post-fire assessments
• Completion of the rapid assessment is critical and will assist in identifying what actions need to be undertaken.
• Focus is not only on assessments, there will be ongoing actions. The actions needing to be done will be determined

once the rapid on-ground assessment has been done.

Wildlife and Threatened Species Bushfire Recovery Expert Panel Recommendation	Recommended in-principle: - Panel does not need to review proposal again prior to commencement. - Further action required between Department and Queensland Department of Environment and Science prior to commencement.
Further action (if required)	 The Australian Government Department of Agriculture, Water and the Environment and the Queensland Department of Environment and Science to refine elements of the proposal as part of the agreement negotiation and MERI Plan development process: Additional information on actions to be undertaken for each species (when known). Additional information on the monitoring of and reporting on actions being undertaken. Provision of a detailed breakdown of the proposal's funding.
Recommendation date	14 February 2020

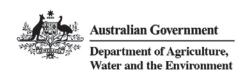


Proposal Name	Kangaroo Island Rapid Species Assessment and Immediate Risk Mitigation
Agency / Organisation	Department for Environment and Water (SA DEW)
Contact person	s22
Anticipated costs	TOTAL: \$986,100 Rapid field assessment of fire impact - \$107,100 Acquisition and analysis of high-resolution data - \$264,600 Baseline (detailed) assessment of fire impacts including trapping \$443,400 Threat Abatement - \$144,300 Collation and analysis - \$26,700

Expert Panel comments	 Noted the appropriate focus of interventions on Kangaroo Island, given potential fire impacts on the Island's many endemic species and communities. Advised that the proposal aligns well with the high priority animal species identified at the national level by the Panel. Noted that the proposal also addresses several other fireaffected animal and plant species on Kangaroo Island. Questioned the high cost associated with the acquisition of high-resolution data. Noted that the Kangaroo Island Expert Workshop to be held week commencing 24th February would help inform implementation of the proposal.
Additional information	SA noted:
provided by	There is a need to acquire high-resolution data as part of the
State/Territory	project, South Australia is happy to work with relevant areas
representative	to source the needed data at lower cost, if possible.
(if applicable)	

Agreed that the Kangaroo Island Expert Workshop would
help to inform the delivery of the proposal.

Expert Panel Recommendation	Recommended in-principle - Panel does not need to review proposal again prior to commencement.
Further action (if required)	 The Australian Government Department of Agriculture, Water and the Environment and South Australian Department for Environment and Water to refine elements of the proposal as part of the agreement negotiation and MERI Plan development process: Further discussion on the costs associated with the acquisition of data and potential reductions in costs through data sharing. Incorporation of outcomes/baseline information arising through the proposed Kangaroo Island Expert Workshop.
Recommendation date	10 February 2020

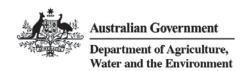


Proposal Name	Emergency extraction to prevent extinction and limit species decline
Agency / Organisation	Victorian Department of Environment, Land, Water and Plannin
Contact person	s22
Anticipated costs	\$750 000

Wildlife and Threatened Species Bushfire Recovery Expert Panel comments	Advised that the proposal aligns with some of the high priority galaxid species identified at the national level by the Panel. The proposal includes flora and ecological communities that have likely experienced high fire impacts (although these priorities have not yet been idnentified at the national level).
	• Sought further advice on the 'six other' galaxiids mentioned, the '14 species listed under the EPBC Act (as per question 3).
	Requested that as the flora species for seed collection were identified, this information was provided to the Commonwealth Government.
	Sought further information on the potential overlap in terms of species and actions between this and the long-term resilience proposal. Further information is needed on key differences between proposals and how they fit together.
	Noted that Commonwealth funding has been provided to Greening Australia for collection of seed from priority plant species, and requested clarification that this activity was not being duplicated.
	Requested further information on the breakdown of funding between different elements of the proposal.

	Requested further information on how actions will be monitored and reported, including spatial information when known.
Additional information	VIC noted:
provided by	Its proposals are focussed at a high level and some actions
State/Territory	also have state funding contributions.
representative (if applicable)	 The species identified in the proposal are example species of what is expected to be targeted. A framework has been developed to assess and identify specific species and actions to be done. (<i>Note: framework was provided to Panel following discussion</i>). This proposal (when compared to the long-term resilience focus) has a focus on fish and critical plant species, for temporary extraction. Mammals are not expected targets for emergency extraction.

Wildlife and Threatened Species Bushfire Recovery Expert Panel Recommendation	 Recommended in-principle: Panel does not need to review proposal again prior to commencement. Further action required between Department and Victorian Department of Environment, Land, Water and Planning prior to commencement.
Further action (if required)	 The Australian Government Department of Agriculture, Water and the Environment and the Victorian Department of Environment, Water. Land and Planning to refine elements of the proposal as part of the agreement negotiation and MERI Plan development process: Provision of a detailed breakdown of the proposal's funding. Additional information on the monitoring of and reporting on actions being undertaken, including spatial information. Additional information on the species to be targeted and the actions to be undertaken for each species. Provision of a list of individual Galaxias being targeted through this project (<i>Note: this action complete</i>).
Recommendation date	14 February 2020

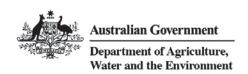


Proposal Name	Immediate reconnaissance and assessment of critical flora and fauna species and communities
Agency / Organisation	Victoria State Government Department of Environment, Land, Water and Planning (DELWP)
Contact person	s22
Anticipated costs	TOTAL: \$750 000

Wildlife and Threatened Species Bushfire Recovery Expert Panel comments	 Advised that the proposal generally aligns with the high priority animal species identified at the national level by the Panel. Noted there are no aquatic species and plant species identified in the proposal, and that the proposal included ecological communities that were not identified as a priority by the Department.
	Requested further information on the rationale for selecting species and ecological communities.
	Queried how the proposed NESP work to develop an on- ground assessments could be used to support Victoria's reconnaissance work and national level reporting.
	Queried how decisions about management actions would flow from surveys outlined in this proposal.
	Requested further information on the breakdown of funding between different elements of the proposal.
	Requested further information on how activities will be monitored and reported, including spatial information when detail is known.
Additional information	VIC noted:
provided by State/Territory	Its proposals are focussed at a higher level and some actions also have state funding contributions.
representative	

(if applicable)	•	A framework has been developed to assess and identify
		specific species and actions following reconnaissance (Note:
		framework circulated to Panel following discussion).

Wildlife and Threatened Species Bushfire Recovery Expert Panel Recommendation	Further information required to inform Panel's advice. Further action between Department and Victorian Department of Environment, Water, Land and Planning prior to commencement.
Further action (if required)	Panel requests further information from the Victorian Government on the rationale for the proposed ecological communities targeted which differ from those identified by the Commonwealth. The Australian Government Department of Agriculture, Water and the Environment and the Victorian Department of Environment, Water, Land and Planning to refine other elements of the proposal as part of the agreement negotiation and MERI Plan development process: Provision of a detailed breakdown of the proposal's funding. Additional information on the species to be targeted, including rationale for selection. Additional information on the monitoring of and reporting on actions being undertaken, including spatial information.
Recommendation date	14 February 2020



Assessment of Funding Proposal Initial Funding Allocation for States and Territories

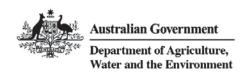
Proposal Name	Maximise long term resilience	
Agency / Organisation	Victorian Department of Environn	nent, Water. Land and Planning
Contact person	s22	
Anticipated costs	TOTAL: \$1,500,000	

Wildlife and Threatened Species Bushfire Recovery Expert Panel comments

- Advised that the proposal largely aligns with the high priority animal species identified at the national level by the Panel.
 Some non-priority species and ecological communities that are not national priorities have also been identified and included in the proposal, but the Panel recognises collateral benefits in recovering these assets.
- Requested further information on the fish species prioritised through this proposal and how the actions here differ from those in the emergency extraction proposal.
- Requested further information on the breakdown of funding between different elements of the proposal.
- Sought further clarification on the potential overlap between this and the Emergency Extraction proposal. Further information is needed on which species and actions are relevant to each proposal, proposal differences and how they fit together.
- Noted strong linkage to the type of activities being undertaken by Greening Australia through their Australian Government bushfire recovery funding.
- Noted the lack of management actions for species outlined in the proposal and requested a better understanding of process and decision points for choosing actions.

	 Requested further information on how actions will be monitored and reported, including spatial information. Noted that the funding support available through this program is available up to June 2021, but the application outlines work that will 'run over the next two years. Commended the commitment to Indigenous involvement in this proposed project.
Additional information provided by State/Territory representative (if applicable)	 VIC noted: Proposals are focussed at a high level and some actions also have state funding contributions. The species identified in the proposal are example species of what is expected to be targeted. A framework has been developed to assess and identify specific species and actions to be done. (Note: document outlining framework provided to Panel following discussion).
	This proposal (when compared to the emergency extraction one) has a longer-term focus on population management (vs short-term emergency extraction).

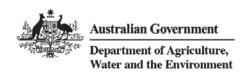
Wildlife and Threatened Species Bushfire Recovery Expert Panel Recommendation	 Recommended in-principle: Panel does not need to review proposal again prior to commencement. Further action required between Department and Victorian Department of Environment, Water. Land and Planning prior to commencement.
Further action (if required)	 The Australian Government Department of Agriculture, Water and the Environment and the Victorian Department of Environment, Water, Land and Planning to refine elements of the proposal as part of the agreement negotiation and MERI Plan development process: Provision of a detailed breakdown of the proposal's funding within the stipulated program timelines. Additional information on the species to be targeted and the actions to be undertaken for each species. Additional information on the monitoring of and reporting on actions being undertaken, including spatial information. The Australian Government will work with Victoria to ensure linkages with the Greening Australia project are realised.
Recommendation date	14 February 2020



Proposal Name	WA State funding allocation
Agency / Organisation	Department of Biodiversity, Conservation and Attractions (WA DBCA)
Contact person	s22
Anticipated costs	TOTAL: \$1 million

Expert Panel comments	 Advised that the proposal aligns well with the high priority animal species identified at the national level by the Panel. Noted that the proposal also addresses several other fireaffected species in south-west Western Australia, identified as a high priority based on significant local expertise. Questioned the urgent need for the development of treatment protocols for wildlife carers and potential duplication of work in other jurisdictions nationally. Requested further information on the breakdown of funding between different elements of the proposal, for instance on
Additional information provided by State/Territory representative (if applicable)	 funding for wildlife care, treatment and hospitals vs other activities. Requested further information on how each of the actions to be undertaken relate to the species listed. The Panel requires this information to keep track of species-specific interventions to avoid duplicating efforts. WA noted: A wildlife carers protocol is required for WA. The proposal has a focus on training and capacity building for wildlife carers, which is a strong need in WA.

Expert Panel Recommendation	Recommended in-principle - Panel does not need to review proposal again prior to commencement.
Further action (if required)	 The Australian Government Department of Agriculture, Water and the Environment and the West Australian Department of Biodiversity, Conservation and Attractions to refine elements of the proposal as part of the agreement negotiation and MERI Plan development process: Additional information on the rationale for targeting specific plant species. Additional information on actions to be undertaken for each species. Provision of a detailed breakdown of funding, with a particular focus on funding for wildlife care, treatment and hospitals vs other activities.
Recommendation date	10 February 2020



Assessment of Funding Proposal Initial Funding Allocation for States and Territories

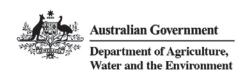
Proposal Name	Targeted interventions for threatened species	
Agency / Organisation	Department of Planning, Industry and Environment (NSW)	
Contact person	s22	
Anticipated costs	TOTAL: \$2.31 million	
	Wollemi pine \$100,000	
	Statewide monitoring program to quantify species impacts and	
	response – strengthen coordination and support \$400,000	
	Fencing of vulnerable plants to prevent grazing of regrowth	
	\$300,000	
	Rebuilding southern corroboree frogs enclosures damaged by fire \$220,000	
	Range of rescue action for threatened species \$200,000	
	Mountain Pygmy Possums \$300,000	
	Smoky Mouse \$400,000	
	Brush-tailed rock-wallaby \$100,000	
	Koala Southern Highlands, Southern Tablelands and Far South	
	Coast \$170,000	
	Broad-toothed Rat post-fire recovery monitoring \$120,000	

Wildlife and Threatened Species Bushfire Recovery Expert Panel comments

- Supportive that several priority animal species identified by the Panel are included in the proposal, but queried the inclusion of others such as the Wollemi Pine which is understood to have been saved.
- Panel noted that the proposal would not necessarily include all priority species identified by the Panel (as they may be supported via other programs), but requested further information on why particular species were selected (for example, the proposal does not address any fish or reptile species)
- Concerned that the proposal does not:

		
	- clearly outline what plant species will be targeted,	
	 include detail on actions being proposed for specific species, and 	
	- clearly articulate the approach for reporting the outcomes of actions undertaken.	
	Noted there is inconsistency in the detail provided. Some actions are clearly outlined, while others lack detail.	
	Agreed monitoring is critically important, however questioned:	
	 the significant portion of funding allocated to monitoring activities, 	
	 how the proposed monitoring will be linked to species and actions, 	
	- if the data collected through the monitoring program will be shared to inform national view of management effectiveness of recovery efforts.	
Additional information	NSW noted:	
provided by State/Territory representative (if applicable)	The Panel was correct in its understanding of the Wollemi Pine being protected from the direct impacts of the fires (i.e. being burnt), however its inclusion in the proposal is to allow the broader bushfire impact on the grove to be surveyed.	
	The focus on the mammals in the proposal is based on NSW expert advice and linked to ground-truthing activities being undertaken locally.	
	Consideration and assessment of aquatic species is underway.	

Wildlife and Threatened Species Bushfire Recovery Expert Panel Recommendation	Further information required to inform Panel's advice
Further action (if required)	Panel requests further information from NSW – detail on monitoring program inclusions, plants to be targeted and further detail on the action proposed for specific species. Please revise and resubmit for consideration.
Recommendation date	10 February 2020



Proposal Name	NSW Post Fire Immediate Action Pest Animal Control Program – Wildlife & Habitat Recovery		
Agency / Organisation	Department of Planning, Industry and Environment (NSW)		
Contact person	s22		
Anticipated costs	TOTAL: \$2,000,000 Aerial Baiting 30,000 km of aerial baiting	\$1,000,000	
	Aerial Shooting Ammunition 410 hours of aircraft time	\$100,000 \$900,000	

Wildlife and Threatened Species Bushfire Recovery Expert Panel comments	 Supportive of action to manage pest animals after the bushfire event. This aligns with the high priority actions identified at the Panel's first meeting. Noted that this proposal represents a significant increase in
	 effort beyond business as usual, which is beneficial post-fire. Concerned that the proposal does not include sufficient information to provide assurance that:
	 the proposed activities would be strategic, spatially targeted and directed at assets in most need of protection,
	 that there are sufficient resources (beyond those requested) to achieve a baiting density that can effectively reduce the density of the focal species,
	 the impacts of the activity on pest animal population suppression and native animal recovery would be adequately monitored,

- the potential perverse impacts of the activity have been considered and would be monitored to halt activity if perverse outcomes are observed (e.g. higher than expected bait consumption by native species or fox suppression leading to meso-predator release i.e. increases in feral cat numbers),
- contingency plans are in place should significant unintended impacts be detected,
- a plan is in place for the long-term and includes follow up actions for delivering enduring outcomes.
- The Panel requested further information on the proposal's design (e.g. bait densities and how these might vary across space), monitoring arrangements and contingency plans prior to finalising its recommendation.
- The Panel requested further details on how the actions outlined in the proposal align with NSW's broader pest management work, especially across and in relation to neighbourhood tenures.
- Noted cross-jurisdictional controls (between States) and coordination with Local Land Services (undertaking off-park pest management) would be needed to ensure treated areas are not repopulated with pest species from other jurisdictions/ parts of the state.
- Monitoring and reporting of treated areas affected by the activity and species predicted to have benefited is also requested.

Additional information provided by State/Territory representative (if applicable)

NSW noted:

- Broadly speaking, the proposal seeks to build on existing pest management approach to improve the delivery and impact of feral predator control.
- Development of post-impact monitoring approach for the proposal is being developed with the state's monitoring area.
- Contingency approach/actions for perverse impacts to be developed as part of a broader monitoring approach.
- Engagement with Local Land Service organisations and other states and territories to ensure cross-tenure and crossjurisdiction coordination.

Wildlife and Threatened Species Bushfire

Further information required to inform Panel's advice

Recovery Expert Panel Recommendation	
Further action (if required)	The Expert Panel was supportive of the need to control feral animals after bushfire events, but requested further information to address concerns outlined above.
	Please revise and resubmit for consideration.
Recommendation date	10 February 2020

s22

From: S47F

Sent: Tuesday, 21 April 2020 4:41 PM

To: \$22

Cc: ; Sally Box; 'Nimmo, Dale'; 'John Zichy-

Woinarski'; s47F '; s47F ; s47F

s47F

Subject: RE: For Revision: Table A9 - actions for priority species [SEC=OFFICIAL]

Attachments: Priority actions for species_20200420.xlsx

His22

You did an amazing job of presenting the comments back on the master sheet in a way that made addressing the comments super-efficient for us – thank you!.

In the attached version, I've gone through the MASTER tab and edited cells as appropriate. I also asked each of the taxon experts to check comments on their groups. Any stray comments from states that don't fit somewhere in the matrix, is left in the righthand column.

s47C

The feedback from the states was great, it would be super if you could thank them for us.

S47C

I don't think we need panel endorsement of this updated table; it has some extra info, but no substantial changes. Perhaps you could circulate it to the panel to alert them that the states have provided extra material, it's been incorporated, but with no big changes. It is only a guide after all, but I think it'll be handy.

Thanks Sarah

s47F

From: \$47F To: \$22

Cc: \$22 ; Sally Box; "Nimmo, Dale"; "John Zichy-Woinarski"; \$47F

(F ;547F 547

Subject: RE: For Revision: Table A9 - actions for priority species [SEC=OFFICIAL]

Date: Wednesday, 22 April 2020 08:54:38

Attachments: image001.jpg

Priority actions for species MASTER 20200422.xlsx

His22

s47C

This attached version also has the handful of edits form WA.

Thanks,

Sarah

From: S22

Sent: Tuesday, 21 April 2020 5:38 PM

To: S47F

Cc: \$22 \$22

\$22 ; Sally Box <Sally.Box@environment.gov.au>; 'Nimmo, Dale'

s47F ; 'John Zichy-Woinarski' s47F ; s47F

s47F ;s47F

s47F ;s47F

s47F

Subject: RE: For Revision: Table A9 - actions for priority species [SEC=OFFICIAL]

Hi Sarah

Thanks so much for pulling this together so quickly. It is much appreciated.

s47C

I will send it out to the Panel members for information once we've resolved the question mark issue. Thanks also for your positive feedback, our graduate $\mathbf{S22}$ (who prepared the consolidated version) will appreciate it.

Many Thanks

s22

Assistant Director

Bushfire Recovery Taskforce

Biodiversity Conservation Division

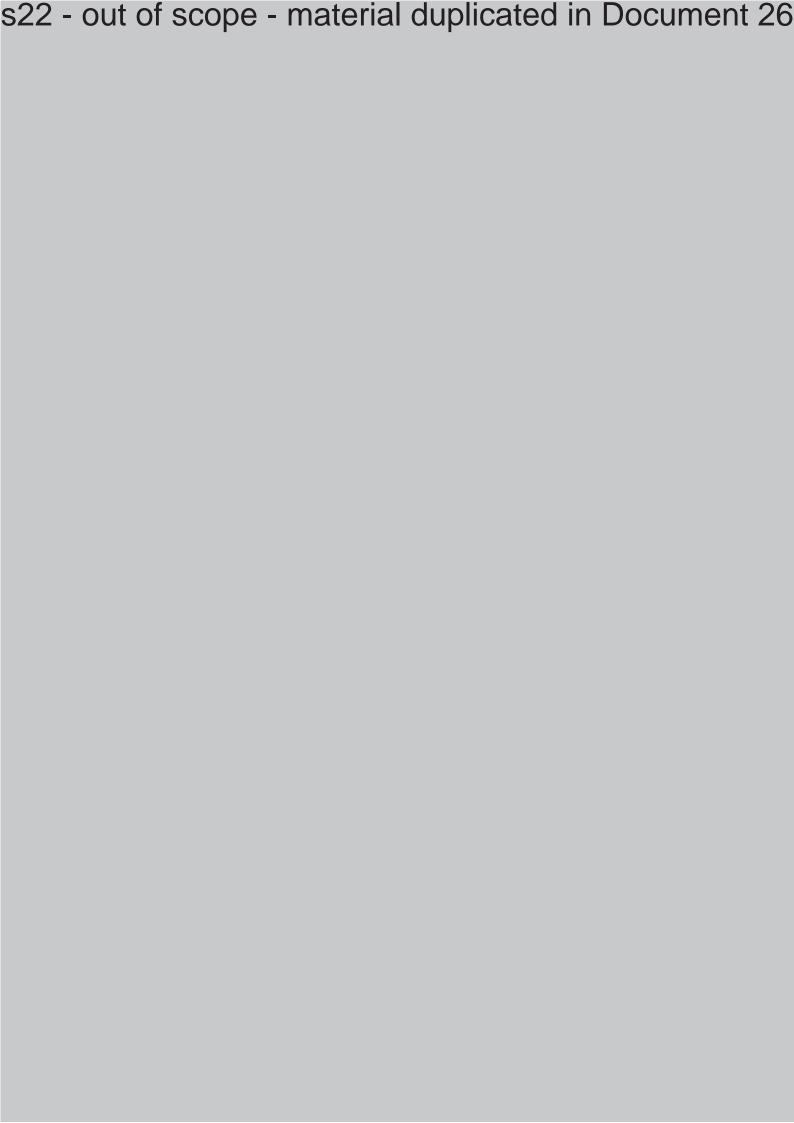
Department of Agriculture, Water and the Environment

GPO Box 787 CANBERRA ACT 2601

Ph: (02) 6274 **\$22 \$22**

s22

Reconciliation%20Email%20Footer



FOI 200509 Document 28

s47F s22 s22 From: To:

;s22 ;s47F ; Sally Box; "Nimmo, Dale"; "John Zichy-Woinarski"; s47F Cc:

; s47F

RE: For Revision: Table A9 - actions for priority species [SEC=OFFICIAL] Subject:

Date: Wednesday, 22 April 2020 14:40:56

Attachments: image001.jpg Priority actions for species MASTER 20200422v2.xlsx

His22

S

From: S22

Sent: Wednesday, 22 April 2020 11:01 AM

To:s47F

Cc: \$22 ;s22

s22 ; Sally Box <Sally.Box@environment.gov.au>; 'Nimmo, Dale'

s47F ; 'John Zichy-Woinarski' \$47F ;s47F

s47F ;s47F ; s47F

s47F : s47F

s47F

Hi Sarah



Please use the version I sent to you because I have added the SPRAT IDs to the table which we need to map our datasets.

Thanks

s22

Assistant Director
Bushfire Recovery Taskforce
Biodiversity Conservation Division
Department of Agriculture, Water and the Environment
GPO Box 787 CANBERRA ACT 2601

Ph: (02) 6274 **s22 s22**

s22

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s22	- out	of scop	e - mat	terial du	uplicate	ed in Do	cumen	t 27
s22	- out o	f scope	- materi	al duplic	cated in	Docume	ents 26 8	§ 27





From: <u>Professor Sarah-Maria Legge</u>

To: \$22 ; \$22 ; Sally Box Subject: PLEASE USE THIS VERSION to show states

Date: Friday, 31 January 2020 09:30:32

Attachments: Assessments of species vulnerability to fire impacts 20200131.docx

we did a couple of last minute tweaks to this.

C

From: Professor Sarah-Maria Legge

To: Sally Box; \$22
Cc: \$22
Subject: full package

Date: Sunday, 9 February 2020 14:36:13

Attachments: A1 TRAITS BY GROUP 20200209 for web.xlsx

A2 Fire2019-20 SpeciesTraits BIRDS 20200209 for web.xlsx
A3 Fire2019-20 SpeciesTraits MAMMALS 20200209 for web.xlsx
A4 Fire2019-20 SpeciesTraits REPTILES 20200209 for web.xlsx
A5 Fire2019-20 SpeciesTraits FROGS 20200209 for web.xlsx
A6 Fire2019-20 SpeciesTraits INVERTS 20200209 for web.xlsx
A7 Fire2019-20 SpeciesTraits CRAYFISH 20200209 for web.xlsx
A8 Fire2019-20 SpeciesTraits FISH 20200209 for web.xlsx
A9 Priority species with actions 20200209 for web.xlsx

Provisional list of animals requiring urgent management intervention 9 Feb 2020 FINAL.docx

Assessments of species vulnerability to fire impacts 20200209.docx

Hi Sally, **s22**

Here is the full package of documents including

The short form doc s22 - out of scope - irrelevant material

s22 - out of scope - irrelevant material

- The long report
- · The excel attachments

Sarah

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			 					. ii e ovella	p communes					Ph	ysical		E	Ecological			Physica	al
Family	Common name	Scientific Name	taxon level	EPBC listing	IUCN Listing	Score for pre-	Fire overlap	ERIN SDM	Grided	Alpha hull	Score for fire	RISK due to	Notes on	ability to	Score	Shelter site	Score	Dominant	Score	Score for Fire	Size	Score
				(Jan 2020)		fire imperilment	(fire extent	31 Jan 2020	observation	(4 feb 2020	overlap	imperilment and	Risk	flee				habitat		Mortality		
							from 1 July		points	and 11 feb		fire overlap										
							2019 to 28		analysis (1 x	2020)												
							Jan 2020)		1 km unless indicated in													
									incell													
									comment)													
			1.1				'				2 50 000	Score for pre-fire										
				'	AT.						* ~/	imperilment PLUS by score for fire				* #			-			
						use the						overlap				16.0			scored this for			
	ower threshold for fire overlap												so	ore weighti	1.0			1.0	1.0			0.5
Muridae	Broad-toothed Rat (mainland) Tooarrana	Mastacomys fuscus mordicus	subspecies	VU	n/a	2	26				1	3		poor	2	under veg		3 grassland	1	6	medium	1
Muridae Muridae	Smoky Mouse Konoom Hastings River Mouse Koontoo	Pseudomys fumeus Pseudomys oralis	species species	EN	VU VU	3	26 70				1 3	4		poor	2	under veg under veg		3 heathland 3 wet euc forest	2	7	medium medium	1
Potoroidae	Long-footed Potoroo	Potorous longipes	species		VU	3	77				3	6	Fire overlap r	ntermediate	1	under veg		3 wet euc forest	2	6	medium	1
Burramyidae	Mountain Pygmy-possum	Burramys parvus	species	EN	CR	4	17				1	5		poor	2	in rocks		0 heathland	2	4	medium	1
Pseudocheiridae	Greater Glider	Petauroides volans	species		VU	2	29				1	3	On basis of p	poor	2	hollow in tree		2 euc forest or woo		6	medium	1
Macopodidae	Brush-tailed Rock-wallaby	Petrogale penicillata	species	VU	VU	2	40				2	4		intermediate	1	in rocks		0 euc forest or woo		3	large	2
Potoroidae Dasyuridae	Long-nosed Potoroo (SE Mainland) Spot-tailed Quoll Spotted-tail Quoll Tiger Quoll	Potorous tridactylus tridactylus I (Dasyurus maculatus maculatus (SE mainla	subspecies n subspecies	VU FN	n/a n/a	2	36 29	12			2	4		intermediate poor	2	under veg in rocks or hollo lo	16	3 euc forest or woo 1 wet euc forest	2	6	medium medium	1
Muridae	New Holland Mouse Pookila	Pseudomys novaehollandiae	species	VU	VU	2	35				2	4		poor	2	in shallow burrow		1 heathland	2	5	small	0
Tachyglossidae	Kangaroo Island Echidna	Tachyglossus aculeatus multiaculeatus	subspecies	EN	n/a	3	54				3	6		poor	2	in shallow burrow		1 euc forest or woo	2	5	medium	1
Dasyuridae	Kangaroo Island Dunnart	Sminthopsis griseoventer aitkeni	subspecies	EN	n/a	3	97				4	7		poor	2	under veg		3 euc forest or woo		7	small	0
Peramelidae	Southern Brown Bandicoot (eastern) Southern I		subspecies	EN	n/a NT	3	25				1	4		intermediate	1	under veg		3 euc forest or woo		6	medium	1
Vespertilionidae Phascolarctidae	Large-eared Pied Bat Large Pied Bat Koala (combined populations of Queensland Ne	Chalinolobus dwyeri ev Phascolarctos cinereus (combined populat	species t subspecies*	VU	n/a	2	20 13	11			1	3		better poor	2	in rocks no shelter		0 euc forest or woo 3 euc forest or woo		2	small large	2
Vespertilionidae	Golden-tipped Bat	Phoniscus papuensis	species	l [*]	LC	0	-3		42	40	2	2		intermediate	1	under veg		3 rainforest	3	7	small	0
Macopodidae	Parma Wallaby	Notomacropus parma	species		NT	1			57	54	3	4		intermediate	1	under veg		3 wet euc forest	2	6	medium	1
Macopodidae	Red-necked Pademelon	Thylogale thetis	species	l	LC	0			29	31	2	2		intermediate	1	under veg		3 wet euc forest	2	6	medium	1
Petauridae Dasvuridae	Yellow-bellied Glider Silver-headed Antechinus	Petaurus australis Antechinus argentus	species species	ENI	NT not assessed	1	thd		53	49	3 2	4 5		poor	2	hollow in tree hollow in tree		2 euc forest or woo 2 wet euc forest	. 2	6	medium medium	1
Ornithorhynchidae	Platypus	Ornithorhynchus anatinus	species	EIN	NT	1	tou	17	12	21	1	2		poor	2	in deep burrow		0 wetland	3	5	medium	1
Pteropodidae	Grey-headed Flying-fox	Pteropus poliocephalus	species	VU	VU	2	17				1	3		better	0	no shelter		3 euc forest or woo	. 2	5	medium	1
Peramelidae	Long-nosed Bandicoot	Perameles nasuta	species		LC	0			34	36	2	2		intermediat	1	under veg		3 euc forest or woo	. 2	6	medium	1
Dasyuridae	Agile Antechinus	Antechinus agilis	species		LC	0			32	28	1	1		poor	2	hollow in tree		2 euc forest or woo		6	small	0
Dasyuridae Rhinolophidae	Brown Antechinus Eastern Horseshoe-bat	Antechinus stuartii Rhinolophus megaphyllus	species species		LC LC	0			39 34	31 30	2 2	2 2		poor better	2	hollow in tree in rocks		2 euc forest or woo 0 wet euc forest	2	6	small small	0
Vespertilionidae	Gould's Long-eared Bat	Nyctophilus gouldi	species		LC	0			35	25	2	2		better	0	hollow in tree		2 euc forest or woo	2	4	small	0
Vespertilionade	Eastern Broad-nosed Bat	Scotorepens orion	species		LC	0			28	35	2	2		better	0	hollow in tree		2 euc forest or woo		4	small	0
Vespertilionidae	Greater Broad-nosed Bat	Scoteanax rueppellii	species		LC	0			25	36	2	2		better	0	hollow in tree		2 euc forest or woo		4	small	0
Vespertilionade	Eastern Forest Bat	Vespadelus pumilus	species		LC	0			26	24	1	1		better	0	hollow in tree		2 euc forest or woo		4	small	0
Vombatidae Muridae	Common Wombat	Vombatus ursinus	species species		LC LC	0			33 31	29 51	2	1 2		intermediate	1	in deep burrow hollow in tree		0 euc forest or woo		3	large small	2
Vespertilionade	White-footed Dunnart Eastern False Pipistrelle	Sminthopsis leucopus Falsistrellus tasmaniensis	species		LC	0			32	34	2	2		poor better	0	hollow in tree		2 euc forest or woo		4	small	0
Molossidae	East Coast Free-tailed Bat	Micronomus norfolkensis	species		VU	2			15	17	1	3		better	0	hollow in tree		2 euc forest or woo		4	small	0
Muridae	Bush Rat	Rattus fuscipes	species		LC	0			37.74	31.40	2	2		poor	2	in shallow burrow		1 euc forest or woo		5	medium	1
Petauridae	Sugar Glider	Petaurus breviceps	species		LC	0			35.54	29.33	2	2		poor	2	hollow in tree		2 euc forest or woo		6	medium	1
Vespertilionade	Large Forest Bat	Vespadelus darlingtoni	species		LC	0			34.40	29.68	2	2		better	0	hollow in tree		2 euc forest or woo		4	small medium	0
Macopodidae Phalangeridae	Rufous Bettong Short-eared Possum	Aepyprymnus rufescens Trichosurus caninus	species species		LC LC	0			32.35 31.83	22.65 36.47	2	1 2		intermediate poor	2	under veg hollow in tree		2 wet euc forest	2	6	medium	1
Muridae	Swamp Rat	Rattus lutreolus	species		LC	0			31.45	23.81	1	1		poor	2	in shallow burrow		1 wetland	3	6	medium	1
Dasyuridae	Mainland Dusky Antechinus	Antechinus mimetes (swainsonii)	species		LC (NT in MA	1			30.25	35.58	2	3		poor	2	in shallow burrow		1 wet euc forest	2	5	medium	1
	et the lower threshold for fire overlap																					
Vespertilionade Maconodidae	Southern Forest Bat	Vespadelus regulus		l	LC	0			29.24	21.51	1	1										
Macopodidae Acrobatidae	Red-necked Wallaby Feathertail Glider	Notamacropus rufogriseus Acrobates pygmaeus			LC LC	0			28.36 28.15	25.34 23.81	1	1										
Burramyidae	Little Pygmy Possum	Cercartetus lepidus			LC	0			28.05	2.97	1	1										
Vespertilionade	Chocolate Wattled Bat	Chalinolobus morio			LC	0			27.36	20.97	1	1										
Macopodidae	Swamp Wallaby (Black Wallaby)	Wallabia bicolor			LC	0			26.05	25.58	1	1										
Vespertilionade Vespertilionade	Eastern Blossom-bat Little Forest Bat	Syconycteris australis Vespadelus vulturnus		l	LC LC	0			25.25 24.31	5.47 22.39	1 1	1										
Muridae	Fawn-footed Melomys	Melomys cervinipes			LC	0			23.47	21.08	1	1										
Burramyidae	Eastern Pygmy Possum	Cercartetus nanus		l	LC	0			22.86	42.33	1	1										
Dasyuridae	Subtropical Antechinus	Antechinus subtropicus			LC	0			21.67	7.95	1	1										
Phalangeridae Phalangeridae	Northern Brush-tailed Possum Mountain Brush-tailed Possum	Trichosurus vulpecula Trichosurus cunninghami			LC LC	0			21.34 21.32	19.61 20.03	1 1	1										
Phalangeridae Molossidae	White-striped Freetail bat	Austronomus australis			LC	0			20.43	16.74	1	1										
Pseudocheiridae	Common Ringtail Possum	Pseudocheirus peregrinus			LC	0			20.09	20.78	1	1										
Dasyuridae	Buff-footed Antechinus	Antechinus mysticus		l	LC	0			18.18	3.16	1	1										
Vespertilionade	Lesser Long-eared Bat	Nyctophilus geoffroyi		l	LC	0			17.54	11.29	1	1										
Miniopteridae Petauridae	Little Bent-wing Bat Sgirrel Glider	Miniopterus australis Petaurus norfolcensis			LC	0			17.42 15.75	19.37 16.36	1	1										
Vespertilionade	Large-footed Myotis	Myotis macropus			LC	0			15.75	28.66	1	1										
Molossidae	Eastern Free-tailed Bat	Ozimops ridei			LC	0			15.6	26.03	1	1										
Muridae	Eastern Chestnut Mouse	Pseudomys gracilicaudatus			LC	0			15.14	4.70	1	1										
Macopodidae	Eastern Grey Kangaroo	Macropus giganteus			LC	0			13.71	11.83	1	1										
Peramelidae Dasyuridae	Northern Brown Bandicoot Brush-tailed Phascogale	Isoodon macrourus Phascogale tapoatafa			LC LC	0			13.11 12.99	13.72 14.77	1	1										
Macopodidae	Red-legged Pademelon	Thylogale stigmatica			LC	0			12.99	21.84	1	1										
Pteropodidae	Estern Tube-nosed Bat	Nyctimene robinsoni			LC	0			12.23	1.95	1	1										
Macopodidae	Whiptail Wallaby	Notamacropus parryi			LC	0			12.15	10.82	1	1										
Dasyuridae	Yellow-footed Antechinus	Antechinus flavipes		l	LC	0			12.04	10.23	1	1										
Vespertilionade	Gould's Wattled Bat	Chalinolobus gouldii	1	ı	LC	U			12.04	12.23	1	1	•									

							MORTALITY	POST-FIRE													
et	Score	Dietary specialisation	Score	Habitat speciificity	Score	Postfire vegetation age specificity	Score Home range size	Score Dispersiveness Score	Susceptibility to introduced predators	Score	Susceptibility to impacts from grazing by introduced herbivores	Score	Sociality	Score	Post-fire Mortality score	Fire and post fire mortality	Shelter site	Score	Dietary specialisation	Score	Habitat speciificity
	2						21 2					a tiny bit			Species with high scores may need interventions including feeding (if		to the second se		1 1 1 1 1	,	
rbivore	1.0	specialised	1	.0 2 specialised	1	.0 2 long unburnt	1.0 2 small	1.0 0 attached to place	1.0 1 Extreme-High	1	2 Extreme-High	1.	2 group-living	0.	12.5	18.5	under veg	1	.0 specialised	1.0	specialised
rbivore	2	intermediate		1 intermediate		1 mid-aged	1 medium	1 attached to place	1 Extreme-High		2 Extreme-High		2 group-living		10 5	17.5	under veg		0 intermediate		intermediate
rbivore ngivore	2	intermediate intermediate		1 intermediate 1 specialised		1 mid-aged 2 mid-aged	1 medium 1 large	1 attached to place 2 attached to place	1 Extreme-High 1 Extreme-High		2 Low 2 Low		1 group-living 1 solitary		10 10.5	17.0 16.5	under veg under veg		0 intermediate 0 intermediate	1	intermediate specialised
rbivore	2	specialised		2 specialised		2 long unburnt	2 small	0 attached to place	1 Extreme-High		2 Low		1 group-living		1 12	16.0	in rocks		0 specialised		specialised
rbivore rbivore	2	specialised intermediate		2 intermediate 1 specialised		1 long unburnt 2 dont give a fig	2 medium	1 attached to place	1 Not 1 Extreme-High		0 Not 2 Extreme-High		0 solitary 2 group-living	9	9 5	15.5 15.0	hollow in tree in rocks		2 specialised 0 intermediate		intermediate specialised
ngivore	1	intermediate		1 intermediate		1 mid-aged	0 large 1 medium	1 attached to place	1 Extreme-High		2 Low		1 solitary		8.5	14.5	under veg		0 intermediate	1	intermediate
edator	1	generalist		0 intermediate		1 mid-aged	1 very large	3 attached to place	1 Low		1 Not		0 solitary		8.5	13.5	in rocks or hollo lo		0 generalist	0	intermediate
rbivore sectivore	2	intermediate specialised		1 specialised 2 generalist		2 recently burnt	0 small	0 attached to place 2 attached to place	1 Extreme-High		2 Low 1 Not		1 group-living 0 solitary		85	13.5 13.5	in shallow burrow in shallow burrow		0 intermediate 0 specialised	1	specialised generalist
sectivore	2	generalist		0 generalist		0 dont give a fig 0 dont give a fig	0 large 0 medium	1 attached to place	1 Extreme-High		2 Not		0 solitary 0 solitary		6	13.5	under veg		0 generalist		generalist
nnivore	1	generalist		0 generalist		0 mid-aged	1 medium	1 attached to place	1 Extreme-High		2 Low		1 solitary		6.5	12.5	under veg		0 generalist	0	generalist
sectivore rbivore	2	generalist specialised		0 specialised 2 intermediate		2 dont give a fig 1 mid-aged	0 large 1 medium	2 attached to place 1 attached to place	1 Not 1 Low		0 Not 1 Not		0 group-living 0 solitary		1 7 10	9.0 17.0	in rocks no shelter		0 generalist 0 specialised		specialised intermediate
sectivore	2	specialised		2 specialised		2 long unburnt	2 medium	1 attached to place	1 Not		0 Not		0 solitary		10	17.0	under veg		0 specialised		specialised
rbivore	2	generalist		0 specialised		2 long unburnt	2 large	2 attached to place	1 Low		1 Extreme-High		2 solitary	1	10.5	16.5	under veg		0 generalist		specialised
rbivore nnivore	2	generalist intermediate		0 intermediate 1 intermediate		1 long unburnt 1 mid-aged	2 large 1 very large	2 attached to place 3 attached to place	1 Extreme-High 1 Not		2 Low 0 Not		1 solitary 0 group-living		10.5	16.5 15.5	under veg hollow in tree		0 generalist 2 intermediate		intermediate
sectivore	2	generalist		0 specialised		2 long unburnt	2 small	0 attached to place	1 Low		1 Not		0 solitary		8 5	14.5	hollow in tree		1 generalist		specialised
sectivore Igivore	2	specialised intermediate		2 specialised 1 generalist		2 dont give a fig 0 dont give a fig	0 large 0 very large	2 attached to place 3 dispersive	1 Not 0 Not		0 Not 0 Not		0 solitary 0 group-living	1	9.5 1 7.5	14.5 12.5	in deep burrow no shelter		0 specialised 0 intermediate		specialised generalist
nnivore	1	generalist		0 generalist		0 mid-aged	1 medium	1 attached to place	1 Extreme-High		2 Not		0 solitary		65	12.5	under veg		0 generalist		generalist
sectivore	2	generalist		0 generalist		0 mid-aged	1 small	0 attached to place	1 Low		1 Low		1 solitary		5	11.0	hollow in tree		1 generalist		generalist
sectivore sectivore	2	generalist intermediate		0 generalist 1 specialised		0 mid-aged 2 long unburnt	1 small 2 medium	0 attached to place 1 attached to place	1 Low 1 Not		1 Low 0 Not		1 solitary 0 group-living		5 1 9	11.0 11.0	hollow in tree in rocks		1 generalist 0 intermediate		generalist intermediate
sectivore	2	generalist		0 generalist		0 mid-aged	1 large	2 attached to place	1 Not		0 Not		0 group-living		6	10.0	hollow in tree		2 generalist		generalist
sectivore sectivore	2	generalist generalist		0 generalist 0 generalist		0 dont give a fig 0 dont give a fig	0 large 0 large	2 attached to place 2 attached to place	1 Not 1 Not		0 Not 0 Not		0 group-living 0 group-living		5	9.0 9.0	hollow in tree hollow in tree		1 generalist 1 generalist		generalist generalist
sectivore	2	generalist		0 generalist		0 dont give a fig	0 large	2 attached to place	1 Not		0 Not		0 group-living		5	9.0	hollow in tree		1 generalist		generalist
rbivore	2	generalist		0 generalist		0 dont give a fig	0 large	2 attached to place	1 Not		0 Low		1 solitary	1	6	9.0	in deep burrow		0 generalist		generalist
sectivore sectivore	2	generalist intermediate		0 generalist 1 specialised		0 mid-aged 2 long unburnt	1 small 2 large	0 attached to place 2 attached to place	1 Extreme-High 1 Not		2 Not 0 Not		0 solitary 0 group-living		6 1 10	12.0 14.0	hollow in tree hollow in tree		1 generalist 1 intermediate		generalist specialised
sectivore	2	generalist		0 generalist		0 mid-aged	1 large	2 attached to place	1 Not		0 Not		0 group-living		6	10.0	hollow in tree		2 generalist		generalist
rbivore nnivore	2	generalist generalist		0 intermediate 0 generalist		1 mid-aged 0 mid-aged	1 small 1 medium	0 attached to place 1 attached to place	1 Low 1 Low		1 Not 1 Low		0 solitary 1 group-living	1	6.5	11.5 12.0					
sectivore	2	generalist		0 generalist		0 dont give a fig	0 large	2 attached to place	1 Not		0 Not		0 group-living		5	9.0	hollow in tree		1 generalist	0	generalist
rbivore	2	intermediate		1 intermediate		1 mid-aged	1 large	2 attached to place	1 Extreme-High		2 Low		1 solitary		10.5	16.5					
rbivore rbivore	2	generalist intermediate		1 specialised		1 long unburnt 2 long unburnt	2 large 2 small	2 attached to place 0 attached to place	1 Low 1 Extreme-High		1 Low 2 Low		1 solitary 1 solitary		9.5	15.5 16.5	hollow in tree		2 generalist	0	intermediate
sectivore	2	generalist		0 intermediate		1 long unburnt	2 small	0 attached to place	1 Extreme-High		2 Low		1 solitary		8.5	13.5	in shallow burrow		0 generalist	0	intermediate
		_				_							_						_		
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1.0 1.0	xtreme-High xtreme-High ow xtreme-High ow xtreme-High txtreme-High ktreme-High kot ow vtreme-High lot ow xtreme-High lot ow xtreme-High lot ow ktreme-High lot ow	impacts fr grazing by introduce herbivore:	d s s sight	1.0 2 group-living 2 group-living 2 group-living 1 group-living 1 solitary 2 group-living 1 solitary 2 group-living 0 solitary 2 group-living 0 solitary 0 solitary 1 group-living 0 solitary 1 group-living 0 solitary 1 group-living 0 solitary 1 solitary 1 solitary 2 solitary 2 solitary 2 solitary 2 solitary 2 solitary 2 solitary	0.10 0.10 1 < 1 km 0 1 : 10 km 1 : 10 km 0 1 : 10 km 1 : 10 km	1.0 2 2 2 2 2 1 1 1 1 1 1 0 2 2 2 2 2 2 2	Number breeding events per year 1 to 2 continuous continuous continuous continuous		2 to 5 2	0.25 2 2 2 2 2 2 2 2 2 1	Minimum 3 age of first reproducti on	0.25 0 0 1 1 0 1	2 to 5 1 to 2 2 to 5 5 to 10 5 to 10 5 to 10 5 to 10 5 to 10		13.35 11.6 10.6 11 12.6 10 11.1
1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	cattreme-High txtreme-High txtreme-High txtreme-High txtreme-High tot txtreme-High txtreme-High ow txtreme-High ow txtreme-High tot ow tot ow tot tot ow tot tot tot to	1.0 2 Extreme- 2 Extreme- 2 Low 2 Low 0 Not 2 Extreme- 2 Low 1 Not 2 Extreme- 2 Low 1 Not 2 Low 0 Not 1 Extreme- 2 Low 0 Not 0 Not 1 Extreme- 2 Low 0 Not 0 Not 1 Extreme- 2 Low 0 Not	iligh High	1.0 2 group-living 2 group-living 1 group-living 1 solitary 1 group-living 0 solitary 2 group-living 1 solitary 2 group-living 0 solitary 1 group-living 0 solitary 1 solitary 1 solitary 0 group-living 0 solitary 1 solitary 0 group-living	0.10 1 < 1 km 1 < 1 km 1 < 1 km 1 < 1 km 0 1:0 km 1 < 1 km 0 < 1 km 1 :10 km 0 1:0 km 1 < 1 km 0 1:0 km 1 :10 km	1.0 2 2 2 2 2 2 2 2 2 1 1 0 1 0 2 2 2 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1	1 to 2 1 to 2 1 to 2 continuous 1 1 continuous continuous continuous 1 continuous	0.25 1 1 1 0 3 3 3 0 0 0 3	2 to 5 2 to 5 2 to 5 2 to 5 2 to 5 1 2 to 5 2 to 5 2 to 5 5 to 5	0.25 2 2 2 2 2 2 2 3 2 2 2 2 2 2 2 2 2 2 2	<1 <1 1 to 2 1 to 2 <1 1 to 2	0.25 0 0 1 1 0 1 1	2 to 5 1 to 2 2 to 5 5 to 10 5 to 10 5 to 10 5 to 10 5 to 10	0.25 2 3 2 1 1 1	11.6 10.6 11 12.6 10 11.1
2 long unburnt 2 small 0 Extre 1 mid-aged 1 medium 1 Extre 2 mid-aged 1 large 2 Extre 2 long unburnt 2 small 0 Extre 1 mid-aged 1 large 2 Extre 2 long unburnt 2 small 0 Extre 1 long unburnt 2 medium 1 Not 2 dont give a fig 0 large 2 Extre 1 mid-aged 1 medium 1 Extre 1 mid-aged 1 medium 1 Extre 1 mid-aged 1 very large 3 Low 2 recently burnt 0 small 0 Extre 0 dont give a fig 0 large 2 Low 1 mid-aged 1 medium 1 Extre 1 mid-aged 1 medium 1 Extre 1 mid-aged 1 medium 1 Extre 2 long 1 mid-aged 1 medium 1 Extre 2 long 1 mid-aged 1 medium 1 Extre 2 long unburnt 2 large 2 low 2 long unburnt 2 medium 1 low 2 long unburnt 2 large 2 Low 1 long unburnt 2 large 2 Extre 1 mid-aged 1 very large 3 Not 2 long unburnt 2 large 2 Extre 1 mid-aged 1 very large 3 Not 2 long unburnt 2 small 0 Low 2 dont give a fig 0 large 2 Not 0 dont give a fig 0 large 3 Not 1 mid-aged 1 small 0 Low 3 nid-aged 1 medium 1 Extre 3 Not 3 mid-aged 1 small 0 Low 3 mid-aged 1 small 0 Low 5 mid-aged 1 small 0 Low 5 mid-aged 1 large 1 mid-aged 1 medium 1 Extre 3 Not 5 mid-aged 1 medium 1 Extre 3 Not 6 mid-aged 1 medium 1 Extre 3 Not 6 mid-aged 1 small 0 Low 6 mid-aged 1 large 2 Not 7 mid-aged 2 large 2 Not 7 mid-aged 1 large 2 Not 7 mid-aged 2 large 2 Not 7 mid-aged 2 large 2 Not 7 mid-aged 3 large 2 Not 7 mid-ag	xtreme-High xtreme-High xtreme-High xtreme-High xtreme-High itot kitel k	2 Extreme-1 2 Low 2 Low 2 Low 0 Not 2 Extreme-1 2 Low 1 Not 2 Low 0 Not 2 Low 0 Not 1 Extreme-1 2 Low 0 Not 1 Not 0 Not 1 Extreme-1 2 Low 0 Not 1 Extreme-1 2 Low 0 Not	tigh High	2 group-living 2 group-living 1 group-living 1 solitary 1 group-living 2 group-living 0 solitary 2 group-living 0 solitary 0 solitary 1 group-living 0 solitary 1 group-living 0 solitary 0 solitary 0 solitary 0 solitary 0 solitary 0 group-living 0 solitary 0 solitary 0 solitary 0 solitary	1 < 1 km 1 < 1 km 1 < 1 km 0 1-10km 1 < 1 km 0 < 1 km 1 1-10km 0 > 10 km 1 < 1 km 0 1-10km 0 < 1 km 0 1-10km	2 2 2 2 1 1 2 2 1 1 1 1 0 0 2 1 1 2 2 1 1 1 1	1 to 2 1 to 2 continuous 1 1 continuous continuous 1 continuous	1 1 0 3 3 0 0 0 3 0	2 to 5 2 to 5 2 to 5 2 to 5 1 2 to 5 2 to 5 2 to 5 2 to 5 5 to 10	2 2 2 2 2 3 2 2 2	<1 1 to 2 1 to 2 <1 1 to 2 1 to 2 1 to 2 1 to 2 1 to 2	0 0 1 1 0 1	1 to 2 2 to 5 5 to 10 5 to 10 5 to 10 5 to 10 5 to 10	0.25 2 3 2 1 1 1 1	11.6 10.6 11 12.6 10 11.1
1 mid-aged 1 medium 1 Extre 2 mid-aged 1 medium 1 Extre 2 mid-aged 1 large 2 Extre 2 long unburnt 2 medium 1 Not 2 dont give a fig 0 large 2 Extre 1 mid-aged 1 medium 1 Extre 1 mid-aged 1 medium 1 Extre 2 mid-aged 1 medium 1 Extre 2 mid-aged 1 medium 1 Extre 3 low 2 recently burnt 0 small 0 Extre 4 mid-aged 1 medium 1 Extre 5 mid-aged 1 medium 1 Extre 6 mid-aged 1 medium 1 Extre 7 mid-aged 1 medium 1 Extre 8 mid-aged 1 medium 1 Extre 9 mid-aged 1 medium 1 Extre 9 long unburnt 2 large 2 low 1 mid-aged 1 medium 1 low 2 long unburnt 2 large 2 Low 1 long unburnt 2 large 2 Extre 1 mid-aged 1 medium 1 Not 2 long unburnt 2 large 2 Extre 1 mid-aged 1 medium 1 Not 2 long unburnt 2 large 2 Extre 9 mid-aged 1 medium 1 Low 2 long unburnt 2 large 2 Extre 1 mid-aged 1 medium 1 Low 2 long unburnt 2 large 2 Extre 1 mid-aged 1 medium 1 Extre 1 mid-aged 1 large 2 Not 0 dont give a fig 0 very large 3 Not 0 dont give a fig 0 very large 3 Not 0 mid-aged 1 small 0 Low 1 large 2 Not 0 mid-aged 1 small 0 Low 1 large 2 Not 0 mid-aged 1 small 1 large 2 Not 0 mid-aged 1 large 2 Not 0 mid-a	xtreme-High xtreme-High xtreme-High xtreme-High xtreme-High itot kitel k	2 Extreme-l- 2 Low 2 Low 0 Not 2 Extreme-l- 2 Low 1 Not 2 Not 2 Not 1 Not 2 Not 1 Not 1 Not 0 Not 1 Extreme-l- 2 Low 0 Not 1 Not 0 Not 1 Extreme-l- 2 Low 0 Not	tigh High	2 group-living 1 group-living 1 solitary 1 group-living 0 solitary 2 group-living 1 solitary 0 solitary 1 group-living 0 solitary 1 solitary 1 solitary 0 group-living 0 solitary 1 solitary 0 group-living 0 solitary 0 group-living	1 < 1 km 1 < 1 km 0 1-10km 1 < 1 km 0 < 1 km 1 1-10km 0 1-10km 0 > 10 km 1 < 1 km 0 1-10km 0 < 1 km 1 > 10 km	2 1 2 2 1 1 1 1 0 0 2 1 1 1 1 1 1 1 1 1	1 to 2 1 to 2 continuous 1 1 continuous continuous 1 continuous	1 0 3 3 0 0 0 3 0 3	2 to 5 2 to 5 2 to 5 2 to 5 1 2 to 5 2 to 5 2 to 5 2 to 5 5 to 10	2 2 2 3 2 2 2	<1 1 to 2 1 to 2 <1 1 to 2 1 to 2 1 to 2 1 to 2 1 to 2	1 0 1 1	1 to 2 2 to 5 5 to 10 5 to 10 5 to 10 5 to 10 5 to 10	2 3 2 1 1 1 1	11.6 10.6 11 12.6 10 11.1
1 mid-aged 1 medium 1 Extre 2 long unburnt 2 mail aged 1 large 2 Extre 2 long unburnt 2 medium 1 Not 2 dont give a fig 0 large 1 mid-aged 1 medium 1 Extre 1 mid-aged 1 medium 1 Extre 1 mid-aged 1 very large 2 low 0 dont give a fig 0 large 2 low 1 mid-aged 1 medium 1 Extre 2 long 0 large 2 low 1 mid-aged 1 medium 1 Extre 2 long 0 large 2 low 1 mid-aged 1 medium 1 Extre 2 long 1 medium 1 Extre 2 long 1 medium 1 Low 2 long unburnt 2 medium 1 low 2 long unburnt 2 medium 1 low 2 long unburnt 2 large 2 low 1 long unburnt 2 large 2 low 1 long unburnt 2 large 2 low 2 long unburnt 2 large 3 Not 2 long unburnt 2 large 3 Not 2 long unburnt 2 medium 1 low 3 long unburnt 2 large 3 Not 3 long unburnt 2 large 3 Not 4 long unburnt 2 large 3 Not 5 long unburnt 2 large 3 Not 6 long unburnt 2 large 3 Not 7 long unburnt 2 large 3 Not 8 long unburnt 2 large 3 Not 9 large 4 large 4 large 4 large 4 large 5 large 6 large 6 large 7 large 7 large 8 large 9 large	xtreme-High xtreme-High xtreme-High iot xtreme-High oo xtreme-High oo xtreme-High oo xtxtreme-High oo xtxtreme-High iot oo xtreme-High iot oo w iot iot oo iot oo iot iot oo iot	2 Low 2 Low 0 Not 2 Extreme-H 2 Low 1 Not 2 Low 1 Not 2 Not 2 Not 2 Not 0 Not 1 Not 1 Kerme-H 2 Low Not	High	1 group-living 1 solitary 1 group-living 0 solitary 2 group-living 1 solitary 0 solitary 1 group-living 0 solitary 1 group-living 0 solitary 1 group-living 0 solitary 1 solitary 0 group-living 0 solitary 0 solitary 0 solitary 0 solitary	1 < 1 km 0 1-10km 1 < 1 km 0 < 1 km 1 1-10km 0 1-10km 0 > 10 km 1 < 1 km 0 1-10km 0 < 1 km 1 < 10km	2 1 2 2 1 1 1 1 0 0 2 1 1 1 1 1 1 1 1 1	1 to 2 continuous 1 1 continuous continuous 1 continuous 1 continuous 1 1	1 0 3 3 0 0 0 3 0 3	2 to 5 2 to 5 2 to 5 1 2 to 5 2 to 5 2 to 5 2 to 5 5 to 10	2 2 2 3 2 2 2	1 to 2 1 to 2 <1 1 to 2 1 to 2 1 to 2 1 to 2 1 to 2	1 0 1 1	2 to 5 5 to 10 5 to 10 5 to 10 5 to 10 5 to 10 5 to 10	3 2 1 1 1 1	10.6 11 12.6 10 11.1
2 mid-aged 1 large 2 Extre 2 long unburnt 2 medium 1 Not 2 dont give a fig 1 medium 1 Extre 1 mid-aged 1 medium 2 long unburnt 2 medium 1 Not 1 mid-aged 1 medium 2 long unburnt 0 mid-aged 1 medium 1 Extre 0 dont give a fig 0 large 2 low 0 dont give a fig 0 large 2 low 0 dont give a fig 0 medium 1 Extre 2 dont give a fig 0 large 2 Not 1 mid-aged 1 medium 1 Extre 2 dont give a fig 0 large 2 Not 1 mid-aged 1 medium 1 low 2 long unburnt 2 large 2 Not 2 long unburnt 2 large 2 Extre 1 mid-aged 1 very large 3 Not 2 long unburnt 2 large 2 Extre 1 mid-aged 1 very large 3 Not 2 long unburnt 2 large 2 Not 2 long unburnt 2 large 3 Not 2 long unburnt 2 large 3 Not 3 long unburnt 4 large 3 Not 3 large 3 long unburnt 4 large 3 long unburnt 5 large 5 long unburnt 6 long unburnt 7 long unburnt	xtreme-High txtreme-High txtreme-High txtreme-High txtreme-High ow txtreme-High ow txtreme-High tot ow txtreme-High tot tot tot tot tot tot tot tot tot to	2 Low 2 Low 0 Not 2 Extreme-t 2 Low 1 Not 2 Low 1 Not 2 Low 0 Not 1 Not 2 Low 0 Not 1 Low 0 Not 1 Extreme-t 2 Low 0 Not		1 solitary 1 group-living 0 solitary 2 group-living 1 solitary 0 solitary 1 group-living 0 solitary 1 solitary 1 solitary 0 solitary 1 solitary 0 solitary 0 group-living 0 solitary 0 solitary 0 solitary 0 solitary	0 1-10km 1 < 1 km 0 < 1 km 1 1-10km 0 1-10km 1 < 1 km 0 1-10km 0 < 1 km 1 > 10 km	1 2 2 2 1 1 1 1 1 0 0 2 1 1 2 1 1 1 1 1	continuous 1 1 continuous continuous 1 continuous 1 1 1 1	0 3 3 0 0 0 3	2 to 5 2 to 5 1 2 to 5 2 to 5 2 to 5 5 to 10	2 2 3 2 2 2	1 to 2 <1 1 to 2 1 to 2 1 to 2 1 to 2 1 to 2	1 0 1 1	5 to 10 5 to 10 5 to 10 5 to 10 5 to 10	1 1 1 1	11 12.6 10 11.1
2 long unburnt 2 small 0 Extre	xtreme-High tot xtreme-High xtreme-High xtreme-High ow xtreme-High ow xtreme-High tot ow xtreme-High tot ow xtreme-High tot ow xtreme-High tot ow tot tot ow tot tot tot tot tot t	2 Low 0 Not 2 Extreme-l- 2 Low 1 Not 2 Low 1 Not 2 Not 2 Low 0 Not 1 Not 0 Not 1 Extreme-l- 2 Low 0 Not		1 group-living 0 solitary 2 group-living 1 solitary 0 solitary 1 group-living 0 solitary 1 solitary 0 solitary 0 solitary 0 group-living 0 solitary 0 solitary 0 solitary	1 < 1 km 0 < 1 km 1 1-10km 0 1-10km 0 > 10 km 1 < 1 km 0 1-10km 0 < 1 km 0 1-10km 1 > 10 km	2 2 1 1 1 1 0 0 2 1 1 2 1 1 1 1 1 1 1 1	1 1 continuous continuous 1 continuous 1 1 1	3 3 0 0 3 0 3	2 to 5 1 2 to 5 2 to 5 2 to 5 5 to 10	2 3 2 2 2	<1 1 to 2 1 to 2 1 to 2 1 to 2	0 1 1	5 to 10 5 to 10 5 to 10 5 to 10	1 1 1	12.0 10 11.1
1 long unburnt 2 medium 1 Not 2 dont give a fig 0 large 2 Extre 1 mid-aged 1 medium 1 Extre 1 mid-aged 1 very large 3 Low 2 recently burnt 0 small 0 Extre 0 dont give a fig 0 large 2 Low 0 dont give a fig 0 large 2 Low 1 medium 1 Extre 0 mid-aged 1 medium 1 Extre 2 dont give a fig 0 large 2 Not 1 mid-aged 1 medium 1 Low 2 long unburnt 2 medium 1 Not 2 long unburnt 2 large 2 Low 1 long unburnt 2 large 2 Low 1 long unburnt 2 large 2 Low 1 long unburnt 2 large 2 Low 0 long unburnt 2 large 2 Low 1 long unburnt 2 large 2 Low 1 long unburnt 2 large 2 Low 1 mid-aged 1 very large 3 Not 0 dont give a fig 0 large 2 Not 0 dont give a fig 0 very large 3 Not 0 dont give a fig 0 very large 3 Not 0 dont give a fig 0 very large 3 Not 0 dont give a fig 0 very large 3 Not 0 dont give a fig 1 medium 1 Extre 0 mid-aged 1 medium 1 Extre 0 mid-aged 1 small 0 Low 0 mid-aged 1 small 1 Not 0 mid-aged 1 large 2 Not 1	lot xtreme-High xtreme-High ow xtreme-High ow xtreme-High ow xtreme-High tot ow lot ow xtreme-High lot tot ow lot ow ktreme-High lot tot ow lot	2 Extreme-l- 2 Low 1 Not 2 Low 1 Not 2 Not 2 Not 1 Not 0 Not 1 Extreme-l- 2 Low 0 Not		0 solitary 2 group-living 1 solitary 0 solitary 1 group-living 0 solitary 1 solitary 1 solitary 0 solitary 0 solitary 0 solitary 0 group-living 0 solitary 0 solitary 0 solitary	0 < 1 km 1 1-10km 0 1-10km 0 > 10 km 1 < 1 km 0 1-10km 0 < 1 km 1 1-10km 1 > 10 km	2 1 1 1 0 2 1 2	continuous continuous 1 continuous 1	0 0 3 0 3	2 to 5 2 to 5 2 to 5 5 to 10	2 2 2	1 to 2 1 to 2 1 to 2	1	5 to 10 5 to 10	1 1 1	10 11.
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O dont give a fig	extreme-High totology totology totology totology txtreme-High totology txtreme-High totology totology	2 Not 2 Low 0 Not 1 Not 0 Not 1 Extreme-H 2 Low 0 Not	ligh	0 solitary 1 solitary 0 group-living 0 solitary 0 solitary	0 < 1 km 0 1-10km 1 > 10 km	2	1				<1	0	1 to 2	3	9.1
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1 long unburnt 2 small 0 Extre	xtreme-High	2 Low		1 solitary	0 < 1 km	0	1	3	5 to 10	1	<1	0	1 to 2	3	
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Common name	Scientific Name	EPBC listing	IUCN Listing		Score for fire	RISK due to	Fire mortality	
		(Jan 2020)		pre-fire	overlap	imperilment	PLUS Post-fire	
				imperilment		and fire	mortality score	
						overlap		
High risk and intermediate risk with high trait sco	avae							
Kangaroo Island Dunnart	Sminthopsis griseoventer aitkeni	EN	- /-	2	4		12.0	
•		EN EN	n/a VU	3	3	6	13.0 17.0	
Hastings River Mouse, Koontoo	Pseudomys oralis	EN	VU	3	3	6	16.5	
Long-footed Potoroo	Potorous longipes	EN			3	6		
Kangaroo Island Echidna	Tachyglossus aculeatus multiaculeatus	EN	n/a	3		6	13.5	
Mountain Pygmy-possum	Burramys parvus	EN	CR	4	1	5	16.0	
Silver-headed Antechinus	Antechinus argentus	EN	not assessed	3	2	5	14.5	
Broad-toothed Rat (mainland), Tooarrana	Mastacomys fuscus mordicus	VU	n/a	2	1	3	18.5	
Smoky Mouse, Konoom	Pseudomys fumeus	EN	VU	3	1	4	17.5	
	v Sc Phascolarctos cinereus (combined populations of Q	VU	n/a	2	1	3	17.0	
Parma Wallaby	Notomacropus parma		NT	1	3	4	16.5	
Yellow-bellied Glider	Petaurus australis		NT	1	3	4	15.5	
Greater Glider	Petauroides volans	VU	VU	2	1	3	15.5	
Brush-tailed Rock-wallaby	Petrogale penicillata	VU	VU	2	2	4	15.0	
Long-nosed Potoroo (SE Mainland)	Potorous tridactylus tridactylus	VU	n/a	2	2	4	14.5	
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (sou Dasyurus maculatus maculatus (SE mainland popula	EN	n/a	3	1	4	13.5	
New Holland Mouse, Pookila	Pseudomys novaehollandiae	VU	VU	2	2	4	13.5	
Mainland Dusky Antechinus	Antechinus mimetes (swainsonii)		LC (NT in MA	1	2	3	13.5	added 13 march
Grey-headed Flying-fox	Pteropus poliocephalus	VU	VU	2	1	3	12.5	on boundary; retain because we know it's highly vulnerbale to heat
Golden-tipped Bat	Phoniscus papuensis		LC	0	2	2	17.0	close to boundary of next fire overlap category, which would make it intermediate risk with high trait score
Platypus	Ornithorhynchus anatinus		NT	1	1	2	14.5	Evidence of marked pop decline before fire; if pre-fire imperilment score is higher, this species becomes intermediate risk.
intermediate risk with low trait scores, or low ris	k							
Large-eared Pied Bat, Large Pied Bat	Chalinolobus dwyeri	VU	NT	2	1	3	9.0	
Red-necked Pademelon	Thylogale thetis		LC	0	2	2	16.5	
Southern Brown Bandicoot (eastern), Southern Br	ow Isoodon obesulus obesulus	EN	n/a	3	1	4	12.5	
Long-nosed Bandicoot	Perameles nasuta		LC	0	2	2	12.5	
White-footed Dunnart	Sminthopsis leucopus		LC	0	2	2	12.0	
Brown Antechinus	Antechinus stuartii		LC	0	2	2	11.0	
Eastern Horseshoe-bat	Rhinolophus megaphyllus		LC	0	2	2	11.0	
Gould's Long-eared Bat	Nyctophilus gouldi		LC	0	2	2	10.0	
Eastern Broad-nosed Bat	Scotorepens orion		LC	0	2	2	9.0	
Greater Broad-nosed Bat	Scoteanax rueppellii		LC	0	2	2	9.0	
Eastern False Pipistrelle	Falsistrellus tasmaniensis		LC	0	2	2	14.0	
East Coast Free-tailed Bat	Micronomus norfolkensis		VU	2	1	3	10.0	
Bush Rat	Rattus fuscipes	l	LC	0	2	2	11.5	
Sugar Glider	Petaurus breviceps		LC	0	2	2	12.0	
Large Forest Bat	Vespadelus darlingtoni		LC	0	2	2	9.0	
Short-eared Possum	Trichosurus caninus		LC	0	2	2	15.5	
		•	-	•			15.5	

From: \$47F To: \$22 Cc: \$22

Cc: \$22 ; \$22
Subject: RE: Priority actions table for the TSSC [SEC=OFFICIAL]

Date: Friday, 15 May 2020 09:49:01

Hi **s22**

Sorry to be a bit tardy, it's been a nutty week.

I had a look through your edits and they mostly seem fine to me, s47C

s47C

Thanks Sarah

Support immediate post-fire recovery efforts by appending information on fire impacts and key actions to support recovery to the Conservation Advices and Recovery Plans of fire-affected species and ecological communities. Key actions (including cultural practices) will align with the priority activities identified by the Bushfire Recovery Expert Panel.

From: s22

Sent: Wednesday, 13 May 2020 10:55 AM

To:s47F

Cc: s22 ; s22

s22

Subject: Priority actions table for the TSSC [SEC=OFFICIAL]

Hi Sarah,

I have been asked to help out with the last bit of stewardship on the priority actions table. I wanted to give you an update and get your OK on a few things

s47C

3. **s22 s47**C

s47C

If you are happy with the edits, and the proposed use in a TSSC paper, I will comb through once more for typos, layout consistency etc. and then send to \$22 and to the states to get there final OK

Cheers

s22

s22

Assistant Director | Bushfire Response Taskforce | 02 6275 **\$22** | **\$22** Department of Agriculture, Water and the Environment Biodiversity Conservation Division
John Gorton Building, King Edward Terrace, Parkes ACT GPO Box 787, Canberra ACT 2601