

Australian Government bushfire recovery package for wildlife and their habitat

Provisional list of animals requiring urgent management intervention

The 2019-20 bushfires in southern and eastern Australia have had severe impacts on many animal species. The fires have covered an unusually large area and, in many places, they have burnt with unusually high intensity. Some species were considered threatened before the fires, and the fires have now likely increased their risk of extinction. Many other fire-affected animal species were considered secure and not threatened before the fires, but have now lost much of their habitat and may be imperiled.

To support protection and recovery of these species, conservation action will be needed for many species, at many sites. Such informed management will need to be supported by a wide range of government agencies, non-government conservation organisations, university researchers, community groups and the public.

However, some species are in need of more urgent help than others. The following 113 animal species have been identified by experts as the highest priorities for urgent management intervention in the coming weeks and months. Most of these animals have had at least 30% of their range burnt, and many have had substantially more.

The priority animals were identified based on the extent to which their range has potentially been burnt, how imperiled they were before the fires (for example, whether they were already listed as vulnerable, endangered or critically endangered), and the physical, behavioural and ecological traits which influence their vulnerability to fire. The framework and methods used to determine the priority species is described in the report available on the [Department's website](#).

The analysis includes animals in bioregions that have been impacted by fires from south-west Western Australia, southern South Australia, Victoria, southern and eastern New South Wales, south-eastern Queensland and Tasmania. A map of this area is available on the [Department's website](#). This preliminary analysis area may be revised in future versions.

This analysis builds on the initial spatial analysis of species listed under the *Environment Protection and Biodiversity Conservation Act 1999* released by the Department of Environment and Energy on 20 Jan 2020 (<http://www.environment.gov.au/biodiversity/bushfire-recovery/research-and-resources>). In addition to listed threatened and migratory species protected under the EPBC Act, this new analysis also includes other mammal, bird, reptile, frog and spiny crayfish species which are not currently listed as threatened under the EPBC Act or by the IUCN but mostly have more than 30% of their range within the burnt areas. The new analysis also incorporates the potential vulnerability of each species to fire, as well as the fire overlap information. We have not yet done this type of analysis for most invertebrates that are not currently listed as threatened under the EPBC Act.

WHAT IS IN THE LIST?

The provisional list includes 13 bird, 19 mammal, 20 reptile, 17 frog, 5 invertebrate, 22 spiny crayfish and 17 freshwater fish species.

Some of these species, like the Kangaroo Island Dunnart, Pugh's Frog and the Blue Mountains Water Skink, are at imminent risk of extinction because most of their range has been burnt, they were already highly threatened, and they are susceptible to fire and its after effects.

Other species have a substantial portion of their range potentially affected by fires and require emergency intervention and strategic response to support their recovery. These include species like the Smoky Mouse, Koala and Giant Burrowing Frog.

Some species of freshwater fish have been included because they occur downstream of burnt areas, and will probably experience large mortality events if heavy rain washes large volumes of ash and sediment down waterways.

The priority list includes animals that are not well known, like the Banksia brownii Plant Louse and the Golden-tipped Bat. Some of these animals play important roles in our native ecosystems and their recovery from the fires is important to ecosystem function.

Several listed threatened species that were not included in the analysis published on 20 January have now been identified as priorities, because the more recent data and analysis has shown a greater potential impact on these species.

WHAT IS IN THE TABLE BELOW?

The table groups species by type (birds, mammals, etc) and includes the following columns:

Common Name is the plain language name(s) used for the species.

Scientific Name is the formal name for the species accepted by the Australian Faunal Directory. In some cases, the species is in the process of being formally described.

EPBC Act listed status is the category within the *Environment Protection and Biodiversity Conservation Act 1999* threatened species list that the species is listed in. Categories reflect the risk of extinction, with Critically Endangered species being at greatest risk, then Endangered and Vulnerable species. Criteria for listing in each of these categories are set out in the *Environment Protection and Biodiversity Conservation Regulations 2000* and follow the global IUCN Red List categories and criteria. One species, the Black-faced Monarch, is listed as Migratory under the EPBC Act because it moves outside of Australia and is subject to international migratory species conservation agreements.

States and territories are the states and territories that the species may occur in. The fires may not have affected each species in all states and territories where it occurs.

NEXT STEPS FOR UNDERSTANDING FIRE IMPACTS

The Expert Panel is working as quickly as it can, in collaboration with experts and state and territory governments, to identify species that may need urgent management intervention. The provisional list is not complete, but is an important step in understanding and responding to the bushfires.

The provisional list does not include plants at this stage. A plant assessment is underway but requires more time because of the large number of species being assessed. Listed threatened plants will be assessed first. Likewise, the impacts of fire on most invertebrate groups have not yet been considered, but such analysis is proposed.

The animal species included are initial priorities - many others will also need management intervention to support recovery. Fires are continuing to burn which may cause other species to become priorities for emergency intervention. This assessment will need to be updated as data for new fires become available.

The pattern and intensity of fire will vary within the fire grounds. The fires will not have impacted all areas within the mapped extent equally. Some areas will have burnt at very high intensity whilst other areas may not have burnt at all. Future analyses will incorporate information about fire severity and impacts as it becomes available.

Our understanding of the fire impacts on animal species will improve after information from on-ground surveys is gathered (once the burnt areas are safe to enter). On-ground surveys may tell us that the fire impacts have been more severe, or less severe, than previously thought.

Potential fire impacts for some species, particularly those with small or poorly documented distributions like freshwater crayfish, are estimates only. The distributions of many freshwater fish had already changed before the 2019-20 wildfires due to drought, so ash and sediment in waterways may impact a larger proportion of their populations than this analysis indicates. These species require on ground surveys to confirm the impacts, and have been included as priorities for emergency intervention as a precaution.

Information on other natural assets (including threatened ecological communities, heritage places and Ramsar wetlands) potentially impacted by the 2019-20 wildfires will be published in the future.

WHAT ACTIONS ARE NEEDED FOR HIGH PRIORITY SPECIES?

Two priority actions should be carried out for all high priority species: 1) Rapid on-ground surveys to establish extent of population loss and provide a baseline for ongoing monitoring. 2) Protecting unburnt areas within or adjacent to recently burnt ground that provide refuge, as well as unburnt areas that are not adjacent to burnt areas, especially from extensive, intense fire.

Other interventions required for each species are best informed by species experts, and a detailed suite of actions at local and regional scales should be developed – in many cases, planning and action by state agencies and other land managers is already underway.

However, the trait information collated for each species provides indications of the type of actions likely to be required for any species. For example, if a species is highly susceptible to introduced predators in the post-fire period, then some form of predator control or exclusion is indicated. If a species has a specialised diet, then supplementary feeding may be considered.

FURTHER INFORMATION

Bushfire recovery package for wildlife and their habitat:

<http://www.environment.gov.au/biodiversity/bushfire-recovery>

Species Profile and Threats (SPRAT) Database: <https://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>

GIS data on Species of National Environmental Significance:

<https://www.environment.gov.au/science/erin/databases-maps/snes>

Common name	Scientific name	EPBC Act listed status	States & Territories
Birds (13 species)			
Western Ground Parrot	<i>Pezoporus wallicus flaviventris</i>	Critically Endangered	WA
Kangaroo Island Glossy Black-Cockatoo	<i>Calyptorhynchus lathamii halmaturinus</i>	Endangered	SA
Rufous Scrub-bird	<i>Atrichornis rufescens</i>	Endangered	NSW Qld
Regent Honeyeater	<i>Anthochaera phrygia</i>	Critically Endangered	ACT NSW Qld SA Vic
Eastern Bristlebird	<i>Dasyornis brachypterus</i>	Endangered	NSW Qld Vic
Albert's Lyrebird	<i>Menura alberti</i>	-	NSW Qld
Mainland Ground Parrot	<i>Pezoporus wallicus wallicus</i>	-	NSW Qld Vic
Bassian Thrush (South Australian), Western Bassian Thrush	<i>Zoothera lunulata halmaturina</i>	Vulnerable	SA
Black-faced Monarch	<i>Monarcha melanopsis</i>	Migratory	NSW Qld Vic
Species that are provisionally included as high priority whilst more information is gathered			
Rockwarbler	<i>Origma solitaria</i>	-	NSW
Pilotbird	<i>Pycnoptilus floccosus</i>	-	ACT NSW Vic
Superb Lyrebird	<i>Menura novaehollandiae</i>	-	ACT NSW Qld Vic
Red-browed Treecreeper	<i>Climacteris erythrops</i>	-	ACT NSW Qld Vic
Mammals (19 species)			
Kangaroo Island Dunnart	<i>Sminthopsis griseoventer aitkeni</i>	Endangered	SA
Hastings River Mouse, Koontoo	<i>Pseudomys oralis</i>	Endangered	NSW Qld
Long-footed Potoroo	<i>Potorous longipes</i>	Endangered	NSW Vic
Kangaroo Island Echidna	<i>Tachyglossus aculeatus multiaculeatus</i>	Endangered	SA
Mountain Pygmy-possum	<i>Burramys parvus</i>	Endangered	NSW Vic
Silver-headed Antechinus	<i>Antechinus argentus</i>	Endangered	Qld
Broad-toothed Rat (mainland), Tooarrana	<i>Mastacomys fuscus mordicus</i>	Vulnerable	ACT NSW Vic
Smoky Mouse, Konoom	<i>Pseudomys fumeus</i>	Endangered	ACT NSW Vic
Koala (combined populations of Qld, NSW, ACT)	<i>Phascolarctos cinereus</i> (combined populations of Qld, NSW, ACT)	Vulnerable	ACT NSW Qld
Parma Wallaby	<i>Notomacropus parma</i>	-	NSW Qld
Yellow-bellied Glider	<i>Petaurus australis</i>	-	NSW Qld SA Vic

This document superseded by revised provisional list released on 24 March 2020.

Common name	Scientific name	EPBC Act listed status	States & Territories
Greater Glider	<i>Petauroides volans</i>	Vulnerable	ACT NSW Qld Vic
Brush-tailed Rock-wallaby	<i>Petrogale penicillata</i>	Vulnerable	NSW Qld Vic
Long-nosed Potoroo (SE Mainland)	<i>Potorous tridactylus tridactylus</i>	Vulnerable	NSW Qld SA Vic
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll	<i>Dasyurus maculatus maculatus</i> (South-east mainland population)	Endangered	ACT NSW Qld Vic
New Holland Mouse, Pookila	<i>Pseudomys novaehollandiae</i>	Vulnerable	NSW Qld Tas Vic
Species that are provisionally included as high priority whilst more information is gathered			
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	Vulnerable	ACT NSW Qld SA Vic
Golden-tipped Bat	<i>Phoniscus papuensis</i>	-	NSW
Platypus	<i>Ornithorhynchus anatinus</i>	-	ACT NSW Qld SA Tas Vic
Reptiles (20 species)			
Blue Mountains Water Skink	<i>Eulamprus leuraensis</i>	Endangered	NSW
Georges' Snapping Turtle	<i>Wollumbinia georgesi</i>	Critically Endangered	NSW
Long Sunskink	<i>Lampropholis elongata</i>	-	NSW
Nangur Spiny Skink	<i>Nangura spinosa</i>	Critically Endangered	Qld
Bell's Turtle	<i>Wollumbinia belli</i>	Vulnerable	NSW Qld
Manning River Helmeted Turtle	<i>Myuchelys purvisi</i>	-	NSW
Broad-headed Snake	<i>Hoplocephalus bungaroides</i>	Vulnerable	NSW
Kaputar Rock Skink	<i>Egernia roomi</i>	-	NSW
Guthega Skink	<i>Liopholis guthega</i>	Endangered	NSW Vic
Alpine She-oak Skink	<i>Cyclodomorphus praealtus</i>	Endangered	NSW Vic
Three-toed Snake-tooth Skink	<i>Coeranoscincus reticulatus</i>	Vulnerable	NSW Qld
Alpine Bog Skink	<i>Pseudemoia cryodroma</i>	-	Vic
Species that are provisionally included as high priority whilst more information is gathered			
Southern Water-skink	<i>Eulamprus tympanum</i>	-	NSW SA Vic
Glossy Grass Skink	<i>Pseudemoia rawlinsoni</i>	-	ACT NSW SA Tas Vic
Rainforest Cool-skink	<i>Harrisoniascincus zia</i>	-	NSW Qld
Moritz's Leaf-tailed Gecko	<i>Saltuarius moritzi</i>	-	NSW

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Mustard-bellied Snake	<i>Drysdalia rhodogaster</i>	-	NSW
Red-tailed Calyptotis	<i>Calyptotis ruficauda</i>	-	NSW
Granite Leaf-tailed Gecko	<i>Saltaurius wyberba</i>	-	NSW Qld
Broad-tailed Gecko	<i>Phyllurus platurus</i>	-	NSW
Frogs (17 species)			
Northern Corroboree Frog	<i>Pseudophryne pengilleyi</i>	Critically Endangered	ACT NSW
Mountain Frog	<i>Philoria kundagungan</i>	-	NSW Qld
Pugh's Frog	<i>Philoria pughi</i>	-	NSW
Sphagnum Frog	<i>Philoria sphagnicola</i>	-	NSW
Peppered Tree Frog	<i>Litoria piperata</i>	Vulnerable	NSW
Southern Corroboree Frog	<i>Pseudophryne corroboree</i>	Critically Endangered	NSW
Spotted Tree Frog	<i>Litoria spenceri</i>	Endangered	NSW Vic
Kroombit Tinker Frog	<i>Taudactylus pleione</i>	Critically Endangered	Qld
Giant Burrowing Frog	<i>Heleioporus australiacus</i>	Vulnerable	NSW Vic
New England treefrog, Glandular Frog	<i>Litoria subglandulosa</i>	-	NSW Qld
Tyler's Toadlet	<i>Uperoleia tyleri</i>	-	NSW Vic
Littlejohn's Tree Frog, Heath Frog	<i>Litoria littlejohni</i>	Vulnerable	NSW Vic
Richmond Range Sphagnum Frog	<i>Philoria richmondensis</i>	-	NSW
Davies' Tree Frog	<i>Litoria daviesae</i>	-	NSW
Stuttering Frog, Southern Barred Frog	<i>Mixophyes balbus</i>	Vulnerable	NSW Qld Vic
Giant Barred Frog	<i>Mixophyes iteratus</i>	Endangered	NSW Qld
Fleay's Frog	<i>Mixophyes fleayi</i>	Endangered	NSW Qld
EPBC Act-listed Invertebrates (5 species)			
Banksia Montana Mealybug	<i>Pseudococcus markharveyi</i>	Critically Endangered	WA
Eastern Stirling Range Pygmy Trapdoor Spider	<i>Bertmainius colonus</i>	Vulnerable	WA
Banksia brownii Plant Louse	<i>Trioza barrettiae</i>	Endangered	WA
Bathurst Copper Butterfly	<i>Paralucia spinifera</i>	Vulnerable	NSW
Alpine Stonefly	<i>Thaumatoperla alpina</i>	Endangered	Vic
Spiny Crayfish (22 species)			
Arte Spiny Crayfish	<i>Euastacus sp. 1</i>	-	Vic
Cann Spiny Crayfish	<i>Euastacus sp. 2</i>	-	Vic

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West Snowy Spiny Crayfish	<i>Euastacus sp. 3</i>	-	Vic
Tianjara Crayfish	<i>Euastacus guwinus</i>	-	NSW
Small Crayfish	<i>Euastacus spinichelatus</i>	-	NSW
Smooth Crayfish	<i>Euastacus girurmulayn</i>	-	NSW
Ellen Clark's Crayfish	<i>Euastacus clarkae</i>	-	NSW
Orbost Spiny Crayfish	<i>Euastacus diversus</i>	-	Vic
Hairy Cataract Crayfish	<i>Euastacus pilosus</i>	-	NSW
East Gippsland Spiny Crayfish	<i>Euastacus bidawalus</i>	-	Vic
Alpine Crayfish	<i>Euastacus crassus</i>	-	ACT NSW Vic
Gamilaroi Spiny Crayfish	<i>Euastacus gamilaroi</i>	-	NSW
Morgan's Crayfish	<i>Euastacus morgani</i>	-	NSW
Blue-Black Crayfish	<i>Euastacus jagabar</i>	-	NSW
Sutton's Crayfish	<i>Euastacus suttoni</i>	-	NSW Qld
Clayton's Spiny Crayfish	<i>Euastacus claytoni</i>	-	NSW Vic
Bloodclaw Crayfish	<i>Euastacus gumar</i>	-	NSW
Species that are provisionally included as high priority whilst more information is gathered			
Mud Gully Crayfish	<i>Euastacus dalagarbe</i>	-	NSW
Jagara Hairy Crayfish	<i>Euastacus jagara</i>	-	NSW
Many-bristled Crayfish	<i>Euastacus polysetosus</i>	-	NSW
Riek's Spiny Crayfish	<i>Euastacus reiki</i>	-	NSW
Small Mountain Crayfish	<i>Euastacus simplex</i>	-	NSW
Fish (17 species)			
Yalmy Galaxias	<i>Galaxias sp. nov. 'yalmy'</i>	-	Vic
McDowall's Galaxias	<i>Galaxias mcdowalli</i>	-	Vic
East Gippsland Galaxias	<i>Galaxias aequipinnis</i>	-	Vic
Stocky Galaxias	<i>Galaxias tantangara</i>	-	NSW
Dargo Galaxias	<i>Galaxias mungadhan</i>	-	Vic
Short-tail Galaxias	<i>Galaxias brevissimus</i>	-	NSW
Flathead Galaxias	<i>Galaxias rostratus</i>	Critically Endangered	NSW SA Vic
Honey Blue-eye	<i>Pseudomugil mellis</i>	Vulnerable	Qld
Roundsnout Galaxias	<i>Galaxias terenasus</i>	-	NSW Vic
River Blackfish (south western Victoria)	<i>Gadopsis sp. nov. 'Western Victoria'</i>	-	Vic
Swan Galaxias	<i>Galaxias fontanus</i>	Endangered	Tas

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Oxleyan Pygmy Perch	<i>Nannoperca oxleyana</i>	Endangered	NSW Qld
Non-parasitic Lamprey	<i>Mordacia praecox</i>	-	NSW Qld Vic
Clarence River Cod, Eastern Freshwater Cod	<i>Maccullochella ikei</i>	Endangered	NSW
Macquarie Perch 'MDB taxa'	<i>Macquaria australasica</i> 'MDB taxa'	Endangered at the species level	ACT NSW Vic
Cann Galaxias	<i>Galaxias</i> sp. 17 'Cann'	-	Vic
Blue Mountains Perch, Hawkesbury Perch	<i>Macquaria</i> sp. nov. 'hawkesbury taxon'	Endangered at the species level	NSW

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