


# 'Many, many billions' of animals feared to have died in bushfires

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Scientists fear many billions of animals may have been killed by the bushfires that have swept across Australia's south-east.

At least one species is feared extinct as scientists continue to raise their estimates for the animal death toll. Hundreds of billions of insects are also feared dead.



Adelaide wildlife rescuer Simon Adamczyk with a koala near Cape Borda, on Kangaroo Island, on Tuesday.  
*Credit:AAP*

The fires have raged through more than 6 million hectares in Victoria and NSW so far, including rainforest normally considered too wet to burn. Ecologists fear that rainforest may never grow back.

The true death toll will not be known for a long time, with scientists yet to re-enter burnt areas.

For now, all they can do is overlay maps of the area burnt with maps of known species distributions – and fret.

“We are all very, very worried,” says Euan Ritchie, associate professor of wildlife ecology at Deakin University.



Scientists fear the long-footed Potoroo may be extinct in the wild due to the fires ravaging Australia's south-east coast. *Credit: Environment NSW*

"Realistically, the number of animals killed in these fires is many, many, many billions. And we'll never know what that true number is, because for some species we don't know their abundance and what we have lost."

The last remaining habitat of the long-footed potoroo, a critically endangered miniature kangaroo, was right in the path of the blazes.

"Its entire distribution has burnt. Have any survived? We don't know," says Dr Mark Eldridge, the Australian Museum's top animal scientist. "The overall death toll is going to be difficult to comprehend."

Other endangered species likely to have been affected include the spotted-tail quoll, brush-tailed rock-wallaby and corroboree frog.

On Wednesday, Professor Chris Dickman, from the University of Sydney, raised his projected animal death toll for NSW alone from 480 million to 800 million.

His original projection – which has been widely quoted on social media – is based on a 2007 report he and two other leading scientists wrote for the World Wide Fund for Nature on the impacts of land clearing in NSW.

Drawing on surveys published by other scientists, they estimated a rough number of animals – mammals, birds and reptiles – per hectare for coastal NSW.

Professor Dickman then took that number and multiplied it by the number of hectares burnt to give an estimated death toll.



A kangaroo flees a fire in Plenty last month. *Credit: Justin McManus*

He called his findings highly conservative. Bats were not counted because there is no good data on how many of them live in NSW; kangaroos, wallabies and platypus were not counted because they can flee land clearing.

Dr Rebecca Johnson, chief scientist at the Australian Museum, backed the work – but said 800 million was an underestimate.

“The scientists have been conservative. And their estimate is only for a handful of species. It is not an overreach,” she said.

“What I’m hearing from other experts is we have no comparison for this current fire. The scale, the intensity of this, it is difficult to compare it to anything we have on record.”

Professor Dickman’s estimate is based on the assumption every animal caught in the fire perished. There is some evidence this is not the case.

Victorian government surveys after the 2009 Black Saturday bushfires found some burrowing animals and those living in streams, including frogs, were able to survive. Other species such as deer and micro-bats were completely wiped out but soon returned to the burnt areas.

Dr Chris Reid, the Australian Museum’s top insect scientist, estimated the number of insects lost at more than 240 billion, although he said there was little published data to base that on.

The fire burnt through large areas of old-growth rainforest across the east coast, including the Errinundra Plateau in Gippsland.



"If they get burnt, probably they die. And we're not sure they then regenerate," says Dr John Morgan, who leads a plant ecology lab at La Trobe University.

That's unheard of," he said. "This is what people are really worried about".

Victorian Environment Minister Lily D'Ambrosio said on Wednesday the bushfires were expected to have an unparalleled impact on local biodiversity.

"Let's be clear, these are unprecedented fires and we anticipate that we will see an unprecedented impact on our biodiversity," she said.

"Whether that's threatened species, both flora and fauna, we anticipate that there will be a significant impact."

The fires have also wreaked havoc on wildlife in other parts of the nation, including Kangaroo Island in South Australia where more than half of a population of 50,000 koalas are believed to have been killed.