

# Science for Saving Species

## Research findings factsheet

### Project 6.2



National Environmental Science Programme

## Quantifying Indigenous people's contributions to threatened species management

### In brief

Indigenous peoples are engaging formally in conservation in an increasing way around the world. This can lead to numerous benefits for Indigenous communities in terms of income, health, connection to country and general wellbeing. At the same time, such engagement can make an important contribution to national and international goals and obligations for the conservation of threatened species. For a wide range of reasons, there have been calls for increasing the opportunities for Indigenous people to engage in managing country. But until this research, there has been no quantification of the nature and extent of the existing involvement of Indigenous people in threatened species management in Australia.

We collated information from both government agencies and large non-government conservation

organisations from across Australia in an effort to quantify the current engagement of Indigenous people in managing threatened animals and plants. We found that Indigenous Australians are involved in conservation actions towards almost a quarter of threatened animals and 2% of threatened plants. As almost 60% of Australia's threatened species occur on Indigenous people's lands, this points both to the importance of building appropriate and effective conservation alliances with Indigenous Traditional Owners and to opportunities for future engagement. Successful outcomes from engagement will, however, depend on understanding and respecting the priorities, rights, obligations and relationships of Indigenous people with their traditionally owned land and sea.

### Context

For many Indigenous people, in Australia and globally, being able to fulfil cultural responsibilities to country has benefits both for the natural environment and for the people involved. Many Indigenous people consider that there are numerous social benefits from providing environmental services, including biodiversity conservation, and land and sea management is the fastest growing sector for Indigenous employment in Australia. Other social and environmental benefits include better fire management and therefore lower greenhouse gas emissions, improved control of weeds and feral animals, an increase in the survival of native species and improved biosecurity.

The Australian national Threatened Species Strategy emphasises the increasing potential for Indigenous people to be formally involved in the management of threatened species. Given that 74% of vertebrates listed under the *Environmental Protection and Biodiversity Conservation Act 1999* (the EPBC Act) have at least part of their range on lands owned or managed by Indigenous Australians, the potential contribution of Indigenous involvement to threatened species conservation is substantial. However, until now there has been no national understanding of the extent of this current contribution of Indigenous people to conservation efforts on Indigenous-owned or -managed lands.



Kanyirrinpa Jukurpa Jigalong Rangers pointing out an active bilby (mankarr) burrow. Jigalong Rangers have been working to monitor and protect the bilbies on their country. Photo: Anja Skroblin.

## Our aims

We aimed to quantify the extent to which Indigenous people are formally involved in support of threatened species conservation in Australia and what opportunities exist for the future.

That is, we wanted to see which of Australia's threatened species occur on lands owned and/or managed by Indigenous people, and to think about how best to start or increase the formal engagement of Indigenous people in their conservation.

By quantifying these factors, we wanted to assess the relative importance of Indigenous people to threatened species conservation in Australia and help develop an argument, if it was justified by the data, for greater investment in threatened species management by Indigenous people.



## What we did

We put together data from three main sources. First, we went through large Commonwealth government databases of conservation projects funded across Australia by the Department for the Environment and Energy, identifying those that involve threatened species. These included work being undertaken in partnership with state and territory governments, Natural Resource Management boards and Catchment Management Authorities. We checked the project descriptions to see whether some of the work was being undertaken by Indigenous people. We also added some information about this that came from project team members or from online sources.

Second, we also contacted large non-government conservation organisations about their work: BirdLife Australia, the Australian Wildlife Conservancy, Bush Heritage Australia and The Nature Conservancy. We asked them about conservation management they have been doing with Indigenous people for threatened species on lands they have acquired for conservation or through supporting groups undertaking conservation activity on lands of other tenure types or at sea.

Finally, we looked through accounts of work taking place in Indigenous Protected Areas to see if they mentioned work to conserve the threatened species that occur there.

From these sources, we were able to work out what proportion of species listed as threatened under the EPBC Act are currently the subject of projects involving Indigenous people, and where they have been happening around the country. We classified the landscapes as belonging to

either the intensive economic zone, where there has been extensive land clearing for agriculture and levels of Indigenous land ownership are low, or the extensive economic zone, where much land remains under Indigenous control and native vegetation is still relatively intact.

We identified target threatened species, and categorised them as mammals, birds, reptiles, frogs, fish, invertebrates and plants, also noting that not all species that have been the subject of management action by Indigenous people are listed as threatened under the EPBC Act. We also categorised the activities undertaken by Indigenous people as follows: monitoring and surveying, weed control, fire management, feral animal control, habitat protection and restoration, coastal management, cultural mapping and site management, and education, which included active outreach to visitors and local students and raising awareness of Indigenous values for threatened species through signage and publications.

Finally, we categorised the geographical reach of such activity. We did this by looking at maps of Indigenous land across Australia and comparing them with the occurrence of threatened species where Indigenous peoples have land management rights. Our aim was to find out where there might be additional opportunities for threatened species conservation work by Indigenous people, by figuring out which threatened species occurring on Indigenous lands are not yet listed in any of the conservation projects.

*LEFT: Tiwi Land Ranger Colin Kerinauia during early dry season burns, which are very important in managing habitat for threatened species like the brush-tailed rabbit-rat. Photo: Tiwi Land Council*



## Key findings

The most important finding was just how much work Indigenous people are doing for threatened species around the country. We found records of at least 153 Australian-based threatened species projects undertaken by Indigenous people in 2015 and 2016 that were funded by Commonwealth or state governments or large conservation NGOs. The projects were located throughout the country in both the extensive and intensive economic zones, with most taking place in the remoter parts of coastal western and northern Australia. Of the total 153 projects, 123 addressed the management of threatened species, 13 involved threatened ecosystems and 17 involved both. Additionally, many of the projects explicitly mentioned associated social and economic benefits, such as employment, opportunities to establish related commercial enterprises, maintaining cultural links to country,

passing on Indigenous knowledge, and improving health, wellbeing, confidence and self-esteem.

Further, we found that 128 animal species, or almost a quarter of those listed as threatened under Australian law, were the subject of some formal conservation action by Indigenous people. This includes approximately one-third of both mammals and birds listed under the Act, and one-fifth of both frogs and reptiles, although the proportions of fishes (10%), invertebrates (7%) and plants (2%) were much smaller (see Table 1). The projects also mentioned that they were promoting the conservation of an additional 19 mammals, 10 birds, six reptiles, four frogs, one fish and 24 plants that are not listed although listing might be warranted for them, or for the reason that they had local cultural significance and were locally uncommon.

We also identified many opportunities for further involvement should support be made available and should Indigenous people choose to take up those opportunities. Of the more than 1500 threatened species, about 900, or 60%, occur on Indigenous lands. Of these, nearly 90%, mostly plants, are not yet being worked on specifically by Indigenous people, though they may benefit from the land management that is being practised anyway. The gaps and opportunities for management projects are greatest in eastern Australia; it is here where the highest numbers of threatened species are occurring on Indigenous lands, yet very few are currently the subject of conservation action. Opportunities also abound through the prevention of species and ecosystems becoming a conservation concern in the first place.

Table 1. The number of invertebrates, plants, and vertebrate species listed as threatened under Australian law that are currently the subject of formal conservation by indigenous peoples and the percentage this number represents of the total number of species listed in that taxonomic group.

EPBC* status	Birds	Fishes	Frogs	Mammals	Invertebrates	Reptiles	Total animals	Plants
Critically Endangered	9 (56)	1 (13)	0 (0)	1 (20)	0 (0)	0 (0)	11 (15)	3 (2)
Endangered	15 (31)	2 (13)	2 (14)	13 (35)	2 (9)	4 (22)	38 (24)	11 (2)
Vulnerable	17 (25)	2 (8)	4 (40)	25 (38)	2 (18)	7 (21)	57 (27)	8 (1)
Total	41 (31)	5 (10)	6 (21)	39 (36)	4 (7)	11 (18)	106 (24)	22 (2)
No. listed species	132	48	29	108	60	61	438	1271

\* Environment Protection and Biodiversity Conservation Act 1999.



The threatened brush-tailed rabbit-rat is one of 20 mammals that the Australian Government has prioritised for recovery effort. There have been large declines of this species in northern Australia since the 1990s. The Tiwi Land Rangers manage one of the most important remaining populations of the brush-tailed rabbit-rat. Photo: Hugh Davies



Once widespread in arid and semi-arid Australia, the bilby has disappeared from around 80% of its former range due to pressures created since European colonisation. Bilbies are now largely restricted to Indigenous-managed lands. Photo: ????????



ABOVE: The Arakwal People of Byron Bay are actively involved in decisions to care for the Byron Bay orchid and its clay heath habitat. The orchid is listed as Endangered under New South Wales environmental legislation. Photo: Norman Graham

## Recommendations

To improve the prospects of threatened species on Indigenous lands, it is vital to build appropriate and effective Indigenous conservation alliances. While there is overlap between species and ecosystems that have cultural relevance to Indigenous peoples and those considered threatened under Australian law, not all threatened species will necessarily be of interest to Indigenous people, perhaps because they are very rare or they may not have any practical function or spiritual significance to Traditional Owners, or because the strategies needed to reduce threats, such as the elimination of feral animals, may not align with traditional and local knowledge systems or skills. Nonetheless, our results support the view that the interests of Indigenous peoples are consistent with biodiversity conservation.

Further, given the social and economic benefits of conservation actions to Indigenous communities, it is important for those funding

threatened species conservation to consider not only Indigenous knowledge of those species but the active engagement and remuneration of Indigenous peoples in threatened species management.

However, it is also essential to recognise that threatened species are just one part of deep and complex relationships between Indigenous people and the country on which the threatened species live. Threatened species should be considered as part of a complex social, ecological, economic and cultural system, the care of which is central to Indigenous environmental knowledge and governance. Indigenous people have been active in seeking ways for Indigenous rights, Traditional Knowledge and local livelihoods to be supported through conservation activities and partnerships. This means that collaborative management between Indigenous and non-Indigenous partners will only work if plans reflect what Indigenous people want to do with their country.

## Cited material

Leiper, I., Zander, K.K., Robinson, C.J., Carwadine, J., Moggridge, B.J. and Garnett, S.T., 2018. Quantifying current and potential contributions of Australian indigenous peoples to threatened species management. *Conservation Biology*, 32(5), pp.1038–1047. DOI: 10.1111/cobi.13178

## Further information

**Stephen Garnett**

[stephen.garnett@cdu.edu.au](mailto:stephen.garnett@cdu.edu.au)

**Catherine Robinson**

[catherine.robinson@csiro.au](mailto:catherine.robinson@csiro.au)