

Controlling feral animals and plants will save unique species and \$billions

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Feral cat. Credit: Angus Emmott

Controlling feral pigs is the most cost-effective strategy to help save 148 endangered plant and animal species in the Lake Eyre Basin, and is just one of the significant findings of a three-year study led by QUT applied ecologist Associate Professor Jennifer Firn.

Professor Firn, from QUT's Institute for Future Environments, worked with Dr Josie Carwardine and CSIRO's Conservation Decisions team and a research team from the University of Queensland including Dr Ramona Maggini, to identify and prioritise 23 strategies to protect endemic species in the world's largest internally draining lake system.

She said the strategies to control animal and plant pests, if implemented, could also increase food production in the area by up to 10 per cent.

"It's been estimated feral animals and plants cost the Australian economy more than \$5 billion in lost agricultural productivity each year, quite apart from the loss of our rare and unique species," Professor Firm said.

"The Lake Eyre Basin is crucial to Australia's biodiversity - at least 65 [animal species](#) and 13 plant species are found in its iconic and threatened Mound Spring ecosystems, and other threatened species such as the Greater Bilby, Yellow-Footed Rock Wallaby also live there.

"The Basin covers 1.2 million square kilometres and includes large parts of South Australia, parts of Queensland, the Northern Territory and New South Wales.

"The challenge was to make sure we developed strategies that would have the most positive impacts for all the native species and were ones that would be likely to be adopted.

"Time is of the essence as we found that 29 of the 148 species are at risk of becoming extinct in the Lake Eyre Basin within 50 years if invasive plants and animals are not controlled."

Professor Firm said the research team identified and considered which of the 11 feral animal and 12 invasive plant strategies would contribute most to conserving these rare and unique species per dollar spent.



Inhabitant of the Lake Eyre Basin, Australia. Credit: Angus Emmott

"The most cost-effective measure we could take is the control of [feral pigs](#) at a cost of \$2 million per annum in targeted location across the Basin, as they have a negative impact on both native plants and animals," she said.

"Managing the populations of other feral predators such as cats, dogs and foxes follows as the best strategy for threatened mammals.

"We also considered the effectiveness of each strategy under climate projections over the next 50 years.

"This is because plant and animal pest numbers and vigour could increase under changed climatic conditions and at the same time impact on the persistence of native [species](#)."

Professor Firn said the three-year research project had engaged scientists, government, Indigenous landholders and pastoralists to identify current threats and establish management strategies.

"If we implemented our recommended strategies for the feral predators (cats, dogs and foxes) and the goats and rabbits, experts who participated in the study estimated that we could increase agricultural production by 10 per cent or more," she said.

Professor Firn said the process used to develop the priority threat management strategies would be applicable to many landscapes in Australia.

Findings from this research are published today in *Global Change Biology*, *Journal of Applied Ecology*, and in two CSIRO reports.

Provided by Queensland University of Technology

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