

Media Release

Rabbit control: Critical ingredient for landscape recovery

Rabbits are a risk to over 300 threatened plants and animals – more than twice the number of species threatened by cats or foxes – and have been a significant factor in the demise of many species that became extinct following European settlement. Some native mammals, like the greater bilby that once inhabited much of Australia, now only survive in areas where rabbits are rarely seen.

Following a recent assessment of the ecological benefits from decades of rabbit bio-control across Australia, researchers are pointing to the many documented cases of species recovery as evidence that rabbit control is fundamental to the sustained recovery of threatened species. The researchers, Dr. Graeme Finlayson (Bush Heritage), Dr. Pat Taggart (NSW DPI) and Assoc. Prof. Brian Cooke (University of Canberra), have published their findings in the international journal 'Restoration Ecology' (Journal of the Society for Ecological Restoration).

'Rabbit control is undeniably essential to the restoration of many Australian ecosystems,' said Graeme Finlayson.

'It, and feral predator control, are prerequisites for the sustained protection of many threatened species and the ecosystems in which they live.'

The researchers scoured the literature for published accounts of environmental recovery following the successive introduction of three biological controls – myxomatosis in 1950, European rabbit fleas that helped spread 'myxo' in 1968, and rabbit haemorrhagic disease (RHDV; calicivirus) in 1995. They noted that the initial bio-controls were aimed at halting widespread land degradation and losses to agricultural production, with less attention to ecosystems. The balance has now shifted, partly due to the effectiveness of bio-controls, with increased emphasis on environmental benefits.

Key conclusions from the review include:

- Following the release of myxomatosis there was widespread recruitment of some plant species that had previously been selectively overgrazed by rabbits (e.g. sheoaks). For some plant communities it was the first big regeneration event since rabbits arrived over a hundred and thirty years earlier, and the recovery continued until rabbit numbers built up again. Rabbits, even at densities as low as one per two hectares, can prevent the survival of all seedlings of preferred feed species. The widespread regeneration in vegetation led to a subsequent revival of many native fauna, including red kangaroos.
- European rabbit fleas meant that myxomatosis could spread in winter when mosquitoes (which also spread the virus) were inactive, changing the seasonality of 'myxo' outbreaks. Native grasses became more prolific with fauna, including southern hairy-nosed wombats and swamp wallabies, expanding their ranges.
- Another wave of regeneration in native vegetation followed the introduction of RHDV – so much so that it was observed from space in the Simpson and Strzelecki Deserts. Native pines, needle bush, umbrella wattle, witchetty bush and twin-leaved emu bush were amongst the plants to respond, while several native rodents and small carnivorous marsupials (dusky hopping mice, spinifex hopping mice, plains rats and crest-tailed mulgara) increased in number and greatly expanded their ranges.

'If you see a rabbit in bushland they are already at a density sufficient to stop the recruitment of some plant species,' said Brian Cooke.

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‘Thanks to biological controls we now see a lot fewer rabbits and we are becoming accustomed to healthier environments.’

Introduced feral cats and foxes are often considered the major threat to native fauna, but the researchers conclude that rabbits accentuate the harm caused by predators. Rabbits reduce the amount of vegetative cover and food available leaving small animals exposed to predation. They also provide a steady meal for the predators meaning that cats and foxes are maintained in higher numbers where rabbits are present compared to rabbit-free situations. The elevated predator numbers exert additional pressure on small native prey.

Concerns are sometimes raised that culling rabbits will cause cats and foxes to target more native fauna. That can happen in the immediate short-term, but the evidence shows that in the long-term reduced rabbit numbers lead to reduced predator numbers and the prospering of native plants and animals. ‘It’s well documented that reductions in rabbits ultimately lead to a reduction in cat and fox numbers, and consequently to widespread, long-term benefits for native fauna,’ said Pat Taggart.

Adjunct Professor Wayne Meyer, Chair of Rabbit-Free Australia, has called the review a major milestone in the history of rabbit control in Australia.

‘Australia can be rightly proud of the immense success of the rabbit biocontrol programs that have been rolled out since the 1950s. They have transformed primary production in many areas and triggered and maintained widespread ecological recovery,’ he said.

‘This review, involving over one hundred research papers, has been extremely thorough and brought together reams of information that will be a ‘go to’ reference for years to come. The information and conclusions presented cannot be ignored. The regeneration of palatable and productive vegetation following rabbit control sets in train a chain of recovery elements leading to improved landscape health, typified by healthy ecosystems and productive landscapes.’

‘It takes decades of diligent research to introduce a new bio-control and we know that, over time, each one is likely to attenuate as rabbits develop resistance or immunity and viruses become less virulent, so research must always be ongoing to ensure new controls are in the pipeline.’

‘We also know that bio-controls will not be the entire answer for rabbit control. They are not going to eliminate rabbits and if we are to get densities below one per two hectares to ensure vegetation regenerates, then physical controls will also be needed.’

Foundation for Rabbit-Free Australia is an environmental charity raising awareness of the harm caused by rabbits, promoting research into rabbit control, and encouraging integrated rabbit control. The Foundation encouraged the research and jointly funded its open access publication ensuring it is readily accessible to readers. The paper ‘Recovering Australia’s arid-zone ecosystems: learning from continental-scale rabbit control experiments’ is available at the [Wiley Online Library](#).

For more information see:

- [The Conversation](#)
- The [Restoration Ecology journal article](#)

To arrange interviews, please contact:

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