

Foundation for Rabbit-Free Australia

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Foundation Matters

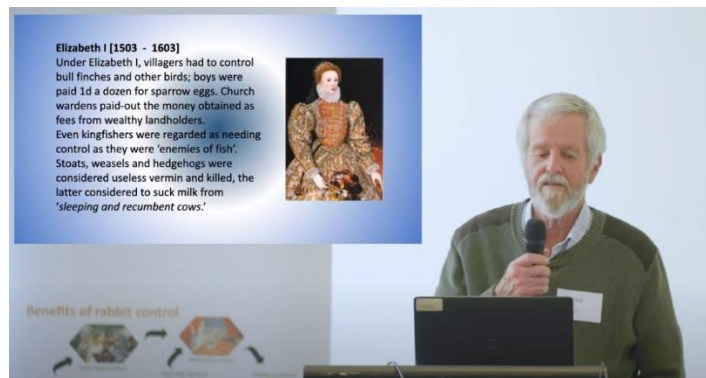
Updates and notices for Foundation members and partners.

AGM Outcomes

The 2023 AGM, hosted by Zoos SA, saw the return of all existing committee members and executive positions, with an insightful Greg Mutze Oration presented by Foundation Patron, Brian Cooke on the 'Illustrious History of Rabbit Control'.

2024 will be the final year in Wayne Meyer's 5 year term as Chair. If you know of a suitable replacement, please get in touch. It is a demanding but very fulfilling role for the right person, providing a chance to 'make a difference' for good..

- Draft AGM Minutes are available [here](#).
- Brian Cooke's presentation is available on YouTube, [here](#).



Banjo Frog's children's book

We are very excited to announce that 'Banjo Frog's Concert Spectacular' will be launched in late February and the book can be ordered now through **Wakefield Press**. It has been a huge effort getting to this stage, thanks to the many people involved.

- **Adelaide book launch**, Sat, Feb 24. Register to attend at the Hamra Centre, [here](#).
- **Rapid Bay book launch**, Mon, Feb 26. Register to attend [here](#).
- **Pre-order** your copy [here](#).



National Rabbit Management Coordinator

Foundation for Rabbit-Free Australia has released a **Discussion Paper** outlining the case for a National Rabbit Management Coordinator, following consultation with members of the National Rabbit Managers Network and countless times seeing first hand the need for such a position.

A National Rabbit Coordinator would be expected to reinvigorate interest in rabbit control, promote relevant training, and stimulate the provision of advice and support for those land holders willing to accept the challenge of managing wild European rabbits.

The Discussion Paper and a Summary are available via the links below:

- The case for a National Rabbit Management Coordinator: [Discussion Paper](#).
- The case for a National Rabbit Management Coordinator: [Summary](#)

We'd love to have your feedback and hear your thoughts.

Please also share the document with others and encourage them to add their voice calling for the appointment of a National Rabbit Management Coordinator.

Bio-prospecting Project

A project by **David Peacock et al** used population modelling of the 25yr Turretfield dataset to assess the likely impacts of a lagomorph **herpesvirus (LHV-4)** on rabbit survival and fertility rates. LHV-4 has infected rabbits in Alaska and Canada. The project, funded by Rabbit-Free Australia, indicated that when operating in conjunction with RHDV2 the herpesvirus could have a drastic impact on wild rabbit populations in Australia.

Information on the impact of LHV-4 from Alaska and Canada was used to construct the model, but there is little hard data available. Sensitivity testing showed the fertility impact data to be very important to the modelled outcome, highlighting a need for research into reported reproductive impacts in order to make the modelling more robust. The team are now exploring options for such studies to be undertaken.

Validating a new bio-control is a long, painstaking process that must be done with great care. Projects such as this contribute to the goal of assessing potential bio-controls and also demonstrate the timelines and commitment required - and the importance of ongoing funding toward such research. The Foundation thanks its members, sponsors and donors for enabling investment in bio-prospecting.

Rabbit R&D Webinar 2024

The annual National Rabbit R&D Webinar is 'coming soon'. Co-hosted by Rabbit-Free Australia and CISS, the webinar will once again feature speakers with the latest information on rabbit control techniques and the environmental impact caused by rabbits. All Foundation members will receive a notification once the event is launched.



AVPC 2024

Rabbit-Free Australia is sponsoring a coffee break during the upcoming **Australian Vertebrate Pests Conference** and hopes to present several papers at the event which draws together key researchers, practitioners and research investors. For more information on the conference, see [here](#).

Rabbit News & Views

Stories about and from Foundation members and partners.

Resistance to myxomavirus

A recent analysis shows that wild rabbits in Australia developed resistance to myxomavirus in a stepped manner, with the second step likely triggered by the introduction of European rabbit fleas. It demonstrates how environmental factors influence the ongoing evolutionary battle between bio-controls and wild rabbits.

It also poses the question of whether further changes in resistance occurred following the advent of RHDV and RHDV2, but no such studies have been undertaken for almost 30 years. The authors (**Cooke, Taggart & Patel**) call for on-going studies of rabbit resistance and virus virulence to enable proactive management of bio-controls in Australia. See their Epidemiology and Infection paper [here](#). Due to the co-evolution of resistance and virulence, myxomatosis still kills around 50% of infected adult rabbits, remaining part of the Australian bio-control armoury against wild rabbits.

Tissue-testing for rabbit-viruses to continue

DAFF have contracted **CSIRO** to continue with the **free-for-public rabbit tissue testing** service for a further two years. The service determines if rabbits have died from calicivirus and 'has been a critical source of data on RHDVs – where they're spreading, whether they're mutating and changing, and how much they're interacting'. The good news and more background information is available [here](#).

A recent paper by **Nias Peng** (CSIRO) et.al. used results from the service and rabbit-SCAN to assess the **status of rabbit-viruses in Australia**, finding a different story in WA compared to other states. For more information see the paper ([here](#)) and Snippets 'RHDV in Australia' below.

Rabbit-Free Australia is working with CISS, CSIRO and other key players to scope a **rabbit census** project that would lock-in ongoing commitment to monitoring rabbit numbers and the effectiveness of bio-controls.

Gene-Drive Breakthrough

The **Centre for Invasive Species Solutions** (CISS) and the **University of Adelaide** have announced a world-first breakthrough in gene drive technology for the control of vertebrate pests. The technique has been used to induce **infertility in female mice** and has potential application in rodents, rabbits and feral cats. For more information, see the CISS announcement [here](#).



Prof Paul Thomas & Andreas Glanznig. Image: CISS

New lab options for virus research

CSIRO has announced the development of new laboratory techniques for research into **rabbit biocontrols**. Scientists have developed ways to grow and study rabbit biocontrols obviating the need to test on live animals.

Organoids, cellular structures that mimic the organ they came from, were derived from wild rabbit liver cells, as well as from hares, cats and mice. The organoids enabled researchers to grow RHDV viruses outside of wild rabbits and test their ability to replicate, finding that the biocontrols replicated successfully in organoids from their host species, but not in those from other species.

The research will facilitate research into biocontrols in countries like Australia where rabbits are a notorious pest and help conserve related species in homelands where their survival is threatened.

For more information see:

- CSIRO News item, '[Bad hare day](#)'.
- [Journal of General Virology paper](#) by Kardi et.al.

Hills Landscape Board - Peri-Urban Rabbit Sessions

The Hills Landscape Board (SA) is a member of the Peri-Urban Rabbit Forum that is facilitated by Rabbit-Free Australia. They have a good package of on-line information available and are promoting their **annual rabbit control campaign** featuring a series of public Information Sessions and opportunities to purchase pindone or K5 treated baits at a reduced price. It's a good example of a **proactive peri-urban rabbit control** program; raising awareness, building commitment and helping with planning and the resources needed. For more info see [here](#).

Image: Hills & Fleurieu Landscape Board



Snippets

Over-reliance on RHDV

A recent paper in the Journal of Pest Science by **Taggart et al** (see [here](#)) concludes that 'land managers view RHDV as a **'silver bullet'** and release it to avoid applying more expensive but more effective control methods'.

The analysis of 7,415 voluntary records of rabbit control also showed that most managers only used one control technique (61%), rather than a combination as is recommended. Of those using more than one technique the combinations were not always biologically appropriate, well sequenced or cost-efficient.

They concluded that 'a **greater level of control** and at a **proportionally lower cost** could result' by 'focusing on **strategic application** of control methods in **sequences** known to be **highly effective and cost-efficient**.'

Standard Operating Procedures- Rabbit Control

NSW DPI have released updated SOP's and a Code of Practice for rabbit controls, available [here](#). They cover baiting, trapping, shooting, and warren destruction. Although tailored to NSW, they are an updated adjunct to existing national guides available via [pestSMART](#).

Backyard bunnies & Bio-controls

ABC News has run a story about rabbits undermining a house and sheds along with commentary from **Andreas Glanznig (CISS)** on the opportunities a dry summer presents for rabbit control using RHDV-K5 in conjunction with chemical control and warren ripping. See the story [here](#).

Canberra targets rabbits

The ACT Government has expanded its **rabbit control program** due to the damage caused by wild rabbits on City Hill, an integral part of the city's design. For more information, listen to ABC News [here](#). Fumigation and warren destruction will be key parts of the program, backed up by shooting using air rifles.

The Economic Cost of Rabbits

A 2023 publication from ABARES on the **average annual cost** of pest animals and weeds to Australian agriculture in the five years to 202-21 reports that:

- Rabbits have a **total cost** of nearly **\$200 million p.a.**, consisting of \$114 million lost production (via competition for pasture) and \$82 million private expenditure on control. Foxes are similar in total cost and wild dogs are close to \$300 million, while feral pigs are about \$150 mill and feral goats \$15 million.
- The **\$114 million of lost production** due to rabbits far exceeded that of the next most costly species, wild dogs at \$73 million lost production.
- For rabbits, the assessment considered costs to **beef, sheep meat and wool** industries. Just over half (57%) the losses came from beef, the remainder from sheep (for meat and wool) production.
- A subset of land managers who experienced major problems from rabbits but deemed their control to be very effective collectively **spent \$5 million, avoiding \$31 million additional losses**. That **6:1 return on investment** was the highest of all vertebrate pest control efforts. However, only a small percentage of managers attempting rabbit control felt their efforts were very effective. An earlier report (see [here](#)) reported that 51% of managers attempting rabbit control did not believe they had been effective.

The economic costs report by Hafi et.al is available [here](#).

Mapping Rabbit Densities

Jansen et.al. (2022) report on a method to assess rabbit abundance based on warren location and the number of burrows, using transect surveys and a predictive model. See the Journal of Applied Ecology, available [here](#).

The model had 96% accuracy from surveying less than 1% of the area. The presence of rabbit warrens was influenced by geology, vegetation cover and a topographic wetness index, whereas the number of holes per warren depended on the ruggedness of the terrain, the vegetation cover and whether it had previously been destroyed.

RHDV in Australia

A recent paper by [Nias Peng](#) (CSIRO) et.al. reports on the changing status of various Lagoviruses, like RHDV, across Australia, thanks to citizen science samples. It shows how publicly submitted tissue samples through rabbit-SCAN can be used for research and how rabbit-viruses are operating, e.g.:

- RHDV-K5 was circulating in WA, whereas in other states it was commonly restricted to release sites,
- RHDV2 was initially reported in WA in 2018 but was not reported again until 2021, whereas it was the dominant form found in other states.
- It seems that domestic rabbits and human-assisted transfer contribute to the spread of rabbit viruses.

Rabbits vs Cats & Foxes

There seems to be plenty of evidence that rabbits help sustain feral cats and rabbit control is a useful first step in cat control, but that might not always be the case for foxes. [Scroggie et.al.](#) report a Victorian study showing that rabbit abundance didn't determine red fox population dynamics. See their Journal of Applied Ecology paper [here](#).

For more insights, [Norbury & Jones](#) ([here](#)) provide a **summary of Australian literature** on rabbit / cat & fox interactions:

- **noting that** many studies indicate 'predation may have a regulatory effect on rabbit populations that are suppressed to low densities by poor environmental conditions (e.g. drought), but that these regulatory effects are weakened when conditions improve', and
- **concluding that** 'Bottom-up effects, therefore, appear to dominate rabbit–predator interactions in Australia, although where rabbit numbers are low following drought or epizootics, predation can limit population recovery.'

And, [Euan Ritchie](#) has a Blog (see [here](#)) on native animals (e.g. quolls) having a taste for feral pests (e.g. rabbits), but their predation is not sufficient to solve the problem of pest animals.

Rabbits inhibit revegetation & regeneration

An older paper, but one recently across the rabbit-free desk, from [Forsyth et.al.](#) shows a clear inverse relationship between rabbit density and survival of revegetation plantings.

A more recent paper by [Bennett et al](#) (see [here](#)) adds further evidence of the harm rabbits cause and how they hold back the regeneration of endangered woodland ecosystems.

Brian Coman recalls- feral rabbits in Australia

In a YouTube story recorded by the National Museum of Australia, renowned former rabbit researcher Brian Coman, recalls his story about rabbits and lays out the basics of '**best practice**' **rabbit control** along the way. See the short video [here](#).