

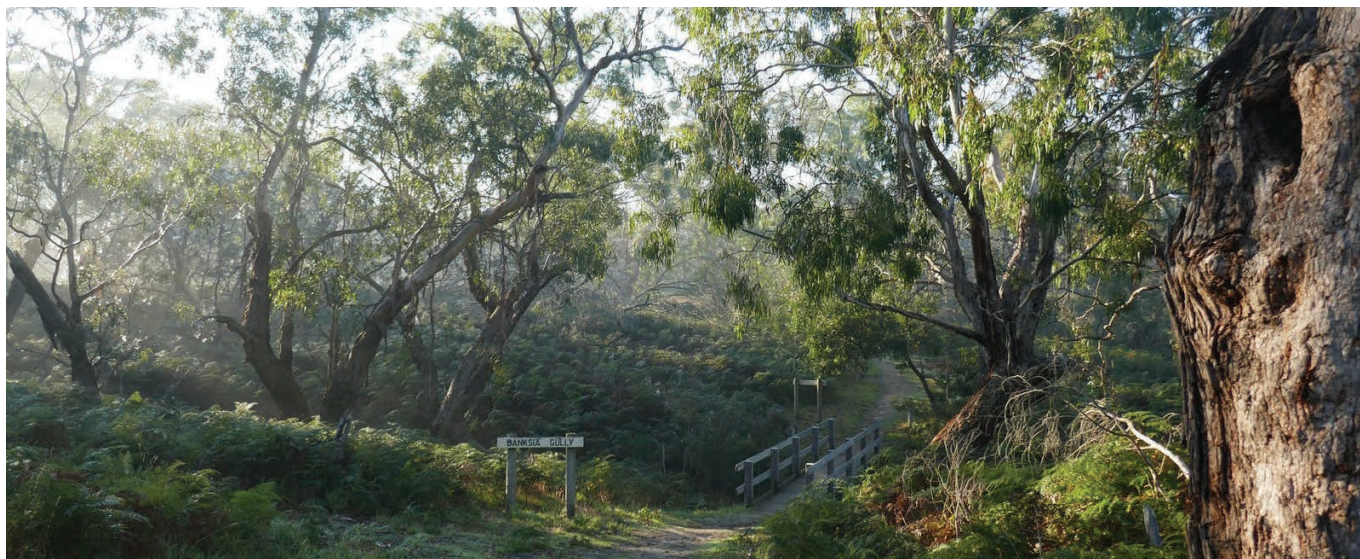
Chasing the last rabbit



Victorian
Rabbit Action
Network

A land manager's perspective on Rabbit
Management at Briars Wildlife Sanctuary





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For many land managers the prospect of being ‘rabbit free’ may seem like an insurmountable task. But for Jonathon Ricciardello and his team at Briars Wildlife Sanctuary, the dream of rewilding the site saw them set this ambitious goal and thanks to a few years of dedicated and considered action, they are well on their way to achieving it. In this case study, Jonathon shares how it is possible to eradicate your property of rabbits by learning from others and implementing an integrated best practice management strategy.



BRIARS WILDLIFE SANCTUARY

The Briars is the largest property owned and run by the Mornington Peninsula Shire Council, with the 8-ha heritage precinct co-owned with the National Trust of Australia (Victoria). Situated at Mount Martha, the entire 230-ha property comprises a wildlife sanctuary, heritage buildings, significant Aboriginal sites, nursery, school camp, a children’s’ workshop space and a restaurant.

Unfortunately, many species of native flora and fauna, well renowned along the peninsula, have been lost. Land managers are working to return species, which include eastern bettongs, long-nosed potoroos and southern brown bandicoots to the Briars where they once lived. The return of these species will contribute to the ecological health of the site and enable visitors to connect with plants and animals they may have never seen and gain a greater appreciation of the natural world.

Eradicating rabbits and other pest plants and animals from the 96-ha wildlife sanctuary is paramount to the rewilding of these species and therefore a key priority for land managers of the property.

RABBITS, RABBITS EVERYWHERE

Prior to the commencement of the sanctuary’s integrated rabbit management program in 2017, the average number of rabbits were 2 per spotlight km.

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Actual numbers are hard to estimate and spotlighting in areas of dense bush like the wildlife sanctuary gives a very different result to spotlighting in open paddocks where there is little cover. But based on scat counts undertaken across a number of sites in the sanctuary during August 2017 densities ranged between 2 to 5 rabbits per hectare.

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LEARNING FROM OTHERS

Like many properties, a considerable amount of historic rabbit work had been undertaken at the wildlife sanctuary, including the construction of a rabbit proof fence in 2012, but with little long-term success.

That was until Jonathon started working on the project in January 2016, with a new aim of eradicating the rabbits for good. He and his team fully reviewed and redesigned their rabbit management program in line with best practice management and started to see significant results.

This included reaching out to the local Catchment Management Authority and in particular to Tim Bloomfield (VRAN Mentor) to discuss the site and how they could best tackle the rabbits. His advice played a key role in the development of an integrated approach to managing rabbits.

One key aspect of the rabbit management strategy was the systematic survey of the site for rabbit warrens. The site was digitally gridded into 50m x 50m cells with the aim of searching each cell for rabbit warrens.

Much of this survey work was undertaken in 2016 by teams from the green army [a hands-on environmental action program that supports local environment and heritage conservation projects across Australia] and proved invaluable in locating rabbit warrens.

AN INTEGRATED APPROACH

The road to eradicating rabbits at Briars Wildlife Sanctuary has been a long and winding one. A number of different techniques have been implemented to ensure maximum impact and these have been modified to suit the unique circumstances of the sanctuary.

The first line of defence after the installation of the rabbit proof fence was the setup of a spotlight monitoring program in January 2017, including transects outside of the sanctuary as a control.

The next step was the commencement of an active baiting program, using 1080 oats deployed in bait stations, during late summer 2017.

Baiting has continued annually in late summer, however we found (via camera monitoring) as rabbit numbers decreased, so did the effectiveness of using bait stations.

To complement baiting, the team then undertook warren modification works and continued monitoring and implementing different methods until they were confident all warrens were destroyed. With appropriate approvals this involved warren implosion, as ripping wasn't appropriate due to the presence of native vegetation and cultural heritage sites. Implosion was then followed up with fumigation, including the use of excavators to remove fallen trees blocking access to warrens and fencing off around some of their bird hides to prevent rabbit access underneath.

Using basic visual assessment, as outlined in the Rabbit Rapid Assessment Guide, they also implemented a scat survey program in August 2017 to supplement their spotlight monitoring, which involved surveying 19, 2-3 ha sites.

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During 2016 we also experimented with bait station designs, using cameras to monitor uptake of free feed. Some minor modifications to the designs were also required to prevent non-target species accessing the baits.

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BEST PRACTICE RABBIT MANAGEMENT (BPRM)

BPRM involves the application of integrated control methods, in the right sequence and right season to ensure all rabbits are exposed to treatment.

The Briars Wildlife Sanctuary implemented all BPRM techniques possible to manage its rabbit problem including:

- installing a rabbit proof fence
- a shooting program
- walking and mapping the site
- scat, camera and spotlight monitoring
- a baiting program with bait stations
- implosion
- fumigation
- biological control
- trained rabbit detector dogs
- repeat monitoring



We continued to search for warrens, revisited old warrens, fumigated when required and then repeated, repeated and repeated.

Jonathon Ricciardello



Image: Steve Austins and one of his detector dogs.

TRIAL AND ERROR

One of the greatest examples of how the team learnt from others and adapted best practice techniques to suit their needs was when they transitioned from a volunteer shooting program, which had been running for a number of years, to a professional shooting program in August 2017, utilising thermal imaging scopes and based on methods used at Mulligans Flat in the ACT.

This gave us a lot more flexibility to undertake shoots (e.g. reschedule if the weather was poor), increase shooting effort when required (e.g. as baiting became less effective), and allowed feedback to be readily exchanged between staff and the contractor (e.g. where rabbit signs had been seen and where the contractor had seen rabbits).

In line with the national biological control release of RHDV1 K-5, they also did a trial of the new calici virus in April 2017, however this release was very localised with limited results. As soon as they had the opportunity, they deployed a second release for much greater impact.

In March 2020 we undertook a much broader release laying 12km treated oats across the sanctuary and broadcasting 40kg of treated carrots in areas where trailing was not possible.

To follow up on their monitoring and solidify their survey results they also engaged a contractor in late May 2020 to use trained detector dogs to locate rabbits and their warrens across the site.

This helped to locate a couple of breeding holes and a single rabbit. However, overall the dogs showed little interest in the majority of the site suggesting that very few rabbits remain within the wildlife sanctuary.

THE RESULTS

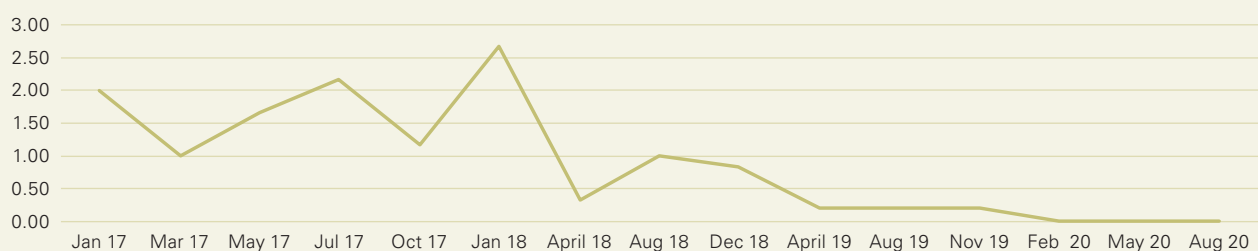
After three years of consistent and committed rabbit management action, their hard work is starting to pay off with recent surveys showing a significant decrease in rabbit populations.

Their last three consecutive seasonal spotlight surveys (summer, autumn and winter) spotted zero rabbits, and this was off the back of three consecutive surveys (the previous autumn, winter and spring) of just 1 rabbit spotted on each occasion.

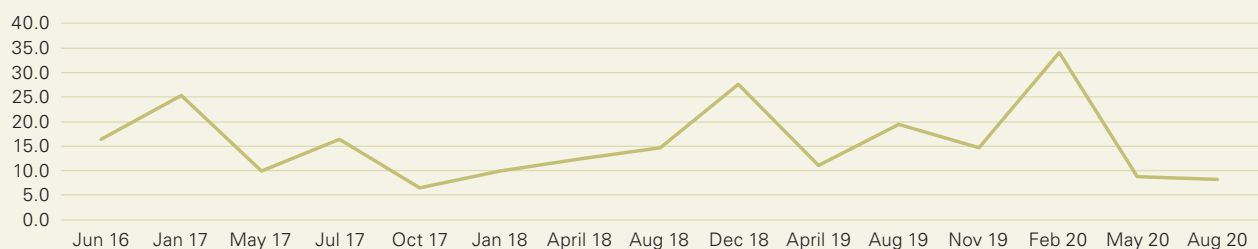
This summer's zero result was especially significant as our counts outside of the sanctuary were at their highest since we started surveying. (see graphs)

Our shooting data is also showing we have made a significant impact on the population when looking at our Catch Per Unit Effort (CPUE) which has declined from 1.7 during the 2017/18 financial year to less than 0.3 for this financial year. (see graph)

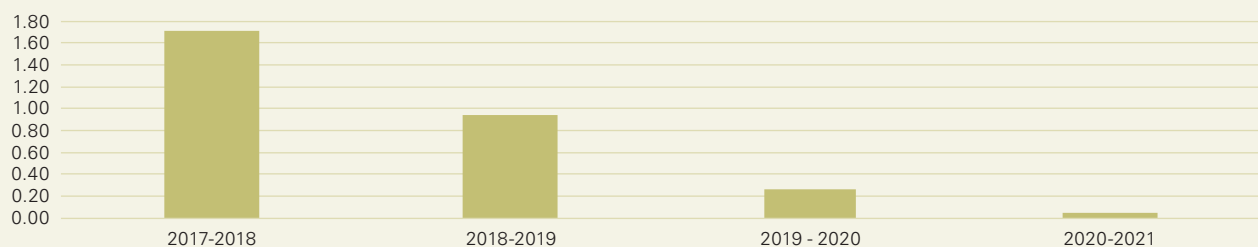
Spotlight Monitoring Data inside the Briars Wildlife Sanctuary, 2017-2020 – Rabbits/Km



Spotlight Monitoring Data outside the Briars Wildlife Sanctuary, 2017-2020 – Rabbits/Km



Catch Per Unit Effort Shooting Monitoring Data, Briars Wildlife Sanctuary, 2017-2020 – Average Annual



REGENERATION OF NATIVE VEGETATION

One of the most exciting results of the rabbit program is the natural regeneration of some of the native vegetation at the site.

While it is difficult to be 100% certain the reduction in rabbits is the principle driver, due to an increase in rain over the past two seasons, the signs are still pointing in the right direction.

It started last spring when sun orchids (various *Thelymitra* species) started coming up across the site. At the time I put it down to the wet winter we

had just had, as I hadn't seen them onsite during previous springs. However, this year we are seeing even more coming up across the site. In one area we have approximately 40 growing in a 30m linear strip hard against the inside of our fence line, while on the outside of the fence over the same area where rabbits are abundant, I managed to count just two.

Image: Sun Orchids, photograph Jonathon Ricciardello



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The Briars is a place where the indigenous flora and fauna which once blanketed the Peninsula is preserved and celebrated.”

Mornington Peninsula Shire

KEY LESSONS

The Briars Wildlife Sanctuary has learnt several lessons over the years. Jonathon shares with us his top three tips:

1. Aim for best practice

One of Jonathon's biggest pieces of advice for other land managers is to always start off with the best practice methods and look at how these can be worked effectively into your site.

He also urged land managers to be aware that as they move away from best practice techniques, the results are likely to be less optimal, and it may take a longer timeframe to reach the desired result so it is necessary to prepare for that in any rabbit management strategy.

For example, it wasn't possible to lay bait trails across their site due to the presence of non-target animals. This meant they had to adjust baiting procedures by using bait stations, and monitor using sand pads and cameras to ensure they were effectively targeting rabbits.

While this increased the effort required to undertake baiting, it also provided us with some valuable insights, like the discovery of bait shy rabbits, that purple swamp hens have a voracious appetite for oats, and that once rabbit densities were low, the likelihood of rabbits entering a bait station greatly reduced, all of which allowed us to adjust our program accordingly.

2. Monitor, monitor and monitor again

For Jonathon and the team regular monitoring has also been the key to their success and a critical step to help inform what has been working and what hasn't throughout the program.



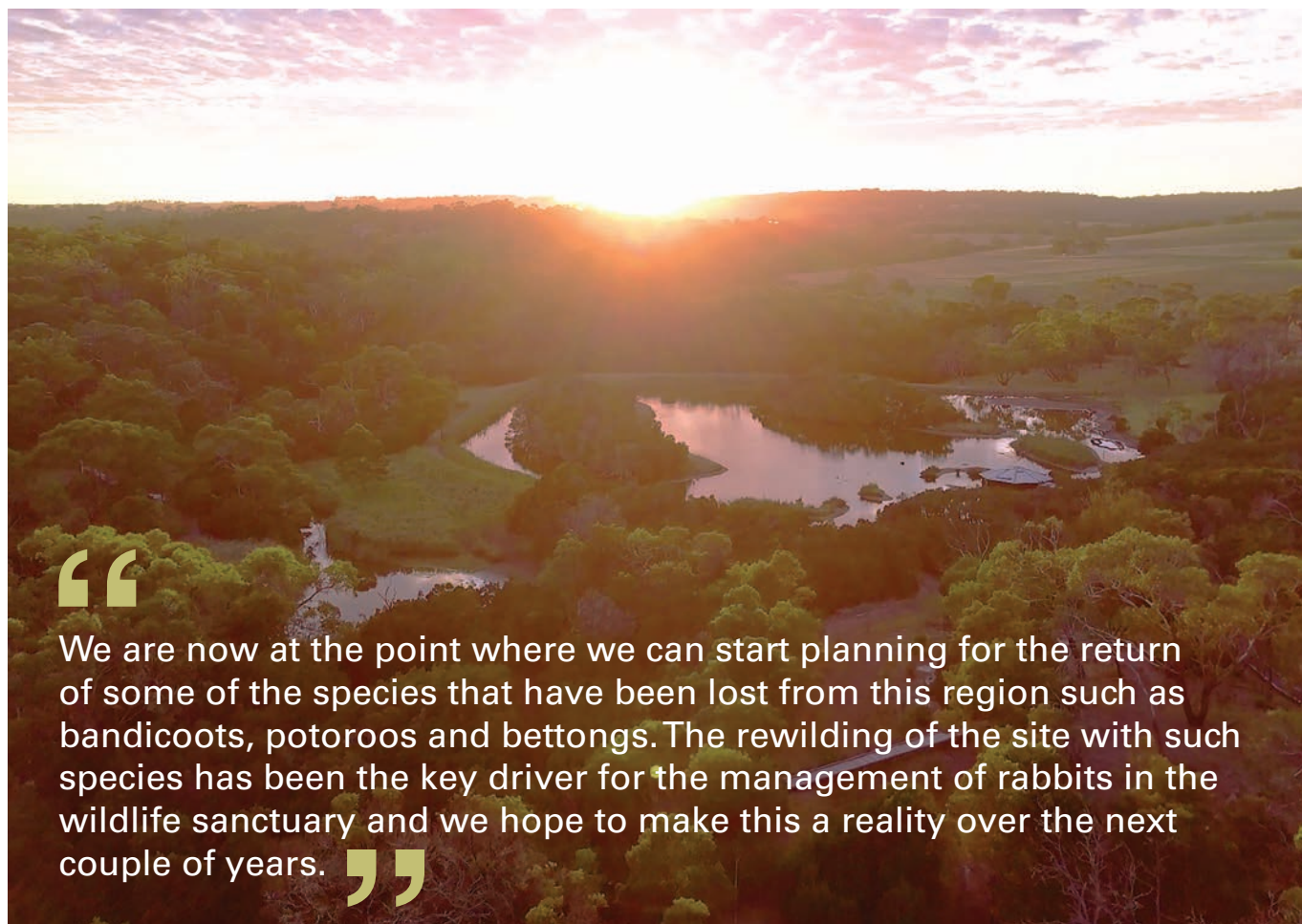
After the first year of the program we realised that we needed to significantly increase our efforts to impact the population as the data was telling us we were making little impact. So, off the back of this we intensified our program which has led to the current low densities.



3. Set clear goals

While Jonathon is hesitant to declare they have officially achieved that illusive 'rabbit free' status, that has and always will be, their goal. Setting a clear vision to eradicate the rabbits in order to rewild the property has enabled them to stay motivated throughout the program and is what drives them to keep making adjustments until that dream becomes a reality.

Ensuring the integrity of the fence is critical to the long-term success of the program and they are also increasing rabbit management works outside the fence to reduce the risk of incursion. They will continue to monitor, search and record rabbit signs (scats and digs), using remote cameras and undertaking night searches, as well as continuing the shooting and spotlighting as they plan what a rabbit free future could look like.



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We are now at the point where we can start planning for the return of some of the species that have been lost from this region such as bandicoots, potoroos and bettongs. The rewilding of the site with such species has been the key driver for the management of rabbits in the wildlife sanctuary and we hope to make this a reality over the next couple of years. ”

MORE INFORMATION

- To learn more about the project and how we all can make difference with rabbit control visit vran.com.au and mornpen.vic.gov.au



Australian Government
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