Rabbits

Oryctolagus cuniculus

Limestone Coast Landscape Board

DECLARED

European rabbits (*Oryctolagus cuniculus*) are a serious invasive pest in Australia. Rabbits cause millions of dollars in damage to crops annually and cause considerable impact to the natural environment.

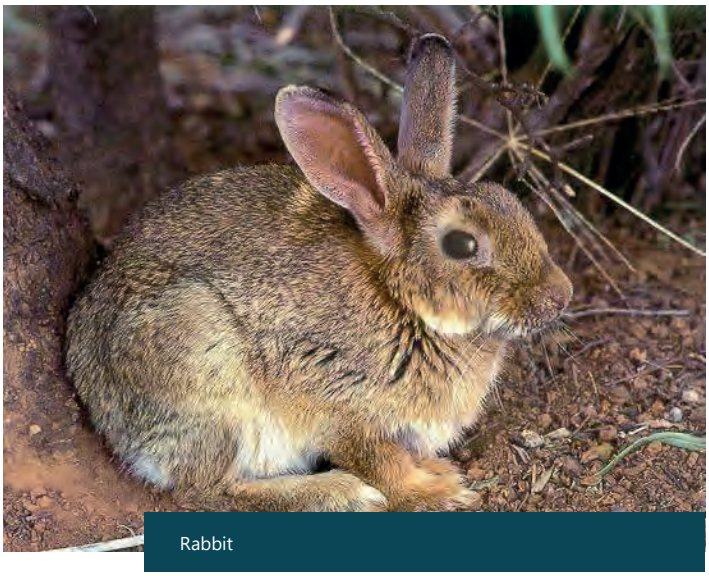
Once established in rural areas rabbits can cause extensive damage to crops, pastures and native vegetation and are difficult to control, requiring constant landholder action to manage.

Maintaining pressure on rabbit populations each year with a variety of control methods can improve farm productivity.

Across the Limestone Coast rabbit populations have increased due to the abundance of food and good breeding conditions. In addition to damage on agricultural land, rabbits cause extensive damage to native vegetation in the Limestone Coast.

Deep burrows enable rabbits to survive most environmental conditions. Rabbits adapt to a wide range of food types and their ability to graze plants to ground level prevents seedlings from regenerating, contributing to the decline in native plant recruitment across the landscape.

Rabbits compete with native animals for food and shelter, including over 300 Australian threatened species that may be adversely impacted by the competition and land degradation.



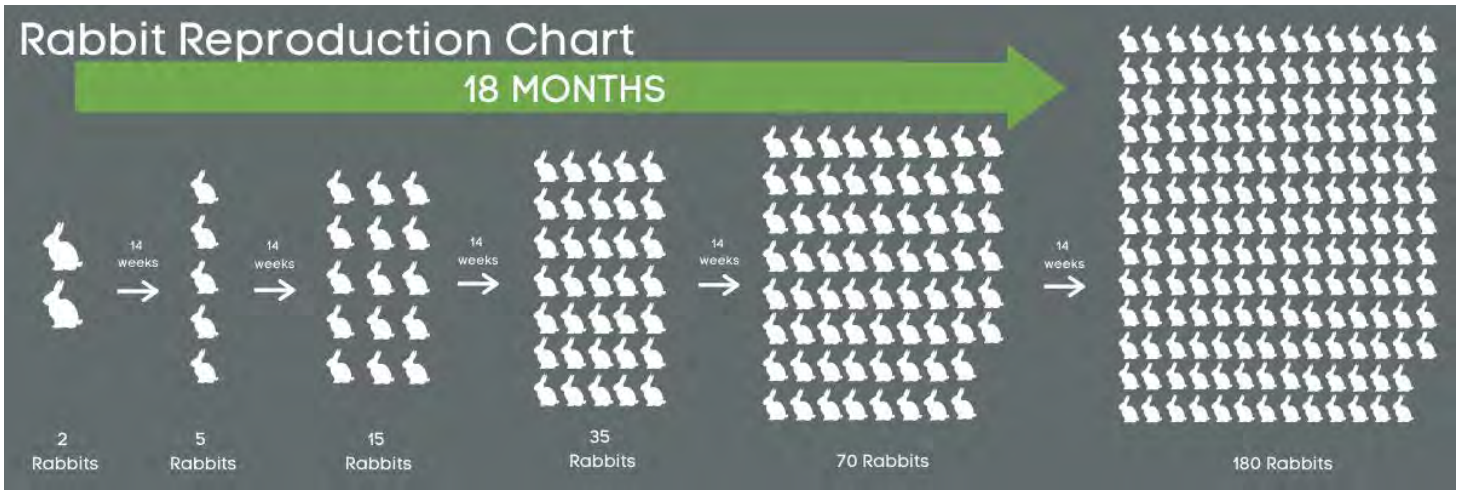
Rabbit

Managing rabbits on your property

Landscape Officers with the Limestone Coast Landscape Board work with landholders to help them achieve their legal responsibility to control rabbits on their property.

Landscape Officers can provide information, advice and integrated control services including bait supply and equipment to assist with their rabbit control program.

Rabbit control is best implemented as a coordinated program carried out in conjunction with neighbours.



In 18 months 2 rabbits can reproduce to up to 180 rabbits. *Source Wheatbelt Natural Resource Management Board.*

Preparationand planning for control

To achieve the best results, a control plan should be prepared in advance so the chosen control methods can be carried out at the appropriate time and in the appropriate sequence. Always select the most appropriate methods of control that are suited to your situation.

Identify the location of any warrens or cover above ground that may harbour rabbits. This could be plant beds or wood heaps that provide rabbits with some refuge. Rabbits are territorial and generally don't travel more than 200 m from their home, feeding mostly within 25 to 50 m.

Look for signs of where rabbits have been active, such as burrows, fresh scratches in the soil, scattered or piled dung and damage to vegetation.

Locate the warrens/shelter being used and make an estimate of the total area within which the rabbits move. This is the area that your control program will need to concentrate on.

Authorised Landscape Officers with the Limestone Coast Landscape Board are able to assist in planning your program.

There are a number of methods that can be used to control rabbits. To achieve good results it is best to use a number of approaches in a regular manner. Late summer or autumn is the best time to do rabbit control work because food sources are low, rabbits are not breeding and dry soils make it easier to collapse burrows.

Rabbits do not respect property boundaries and will quickly re-invade. Using a range of methods and coordinating with your neighbours to control rabbits produces great results and restricts rapid recovery of the rabbit population.

Rabbits are pests but they must still be controlled in a humane manner. If in doubt seek further advice from the Pest Smart website at www.pestsmart.org.au/animal-welfare/.

Control methods

Removal of refuge

Rabbits look for a sheltered place that provides protection from predators and is a safe environment to breed. They will either build warrens or shelter under thick vegetation or other materials such as wood piles.

Any materials, such as wood, bricks and hard rubbish, should be removed or stacked at 50 cm above the ground and in such a way that there are no cavities for rabbits to enter.

Baiting

Baiting is the main control method for rabbits. It is best undertaken in late summer or autumn when rabbits are at their most vulnerable as food is scarce so they can be more easily trained to take bait. There are two main chemicals that are used for rabbit control, being Sodium Fluoroacetate (1080) and Pindone. Landholders can only access the regulated chemical 1080 through local landscape boards as strict conditions of use apply.

Pindone is the only poison bait that can be used in urban situations for rabbit control but its use is restricted to properties larger than 1,000 m^2 and must be used in accordance with label instructions. Pindone treated oats can be obtained from landscape boards or farm suppliers.

For all baiting programs, 'free feeds' are laid a few days apart followed by the 'poison feed/s', which is laid only where the free feeds were eaten. The amount of free feed needed depends on the type of bait used.

Baits can be laid as a trail through the feeding area or in bait stations within the feeding area. Rabbits are very territorial and like to investigate freshly disturbed soil to identify who or what has entered their area.

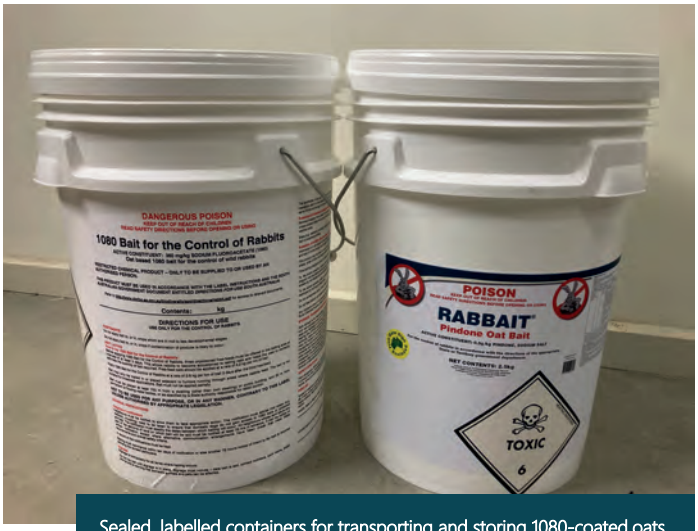
For best results it helps to make a trail by scraping a shallow furrow using a bait laying machine, plough, grader blade or simply by dragging a hoe or mattock across the ground.

The trail should be made throughout the area where the rabbits are actively scratching and feeding. Do not place around warren entrances, rabbits are wary of changes close to their burrows.

As a guide for a large-scale program, establish about 220 km of trail per 1,100 ha of rabbit infestation. Read and follow instructions on the product label and accompanying information for full directions of use and safety information. For effective long-term control, baiting should be followed by ongoing warren/refuge destruction and fumigation.

Bait Type	Supplier	No. of free feeds prior to poison feeds	Free feed interval	No. of poison feeds required	Poison feed interval
1080 coated oats	Available from landscape boards	3*	3 days*	1*	-
Pindone coated oats	Available from selected agriculture suppliers and landscape boards	1-2	3-5 days	3*	3-5 days

*Note. * Mandatory*



Sealed, labelled containers for transporting and storing 1080-coated oats.

Laying baits.
Image courtesy of the Murraylands & Riverland Landscape Board.

Warren ripping

Warren destruction is the most important part of effective and long lasting rabbit control. Thorough ripping is the best way to destroy warrens, burrows and holes.

This advice does not authorise the clearance or damage of any native vegetation.

Your situation may require approval for native vegetation clearance or you may wish to notify the Department for Environment & Water on your intention to undertake a ripping program. This can be done at www.environment.sa.gov.au/topics/native-vegetation/clearing/clearance-applications. You may also wish to notify your local council and landscape board of your intentions.

Ripping is best undertaken following a baiting program. Begin ripping 3 m outside the furthermost hole with ripping tines that are at least 90 cm long. Rip a series of parallel lines 40 cm apart, across the warren. If you are not using winged boots on your ripping tines, or in heavier soil, rip another series of parallel lines (at 90 degrees) across the first rip line (cross ripping).

A warren or burrow can be destroyed by collapsing it in on itself with earthmoving machinery or hand tools, and then filling and leveling the area. Rubbish, stumps, and other cover needs to be pushed off warrens and disposed of.

If this is not possible (such as if the burrow is located under a concrete slab) then block the entrance to the warren with material that will prevent rabbits from reopening it, and consider fumigating the warren as well.

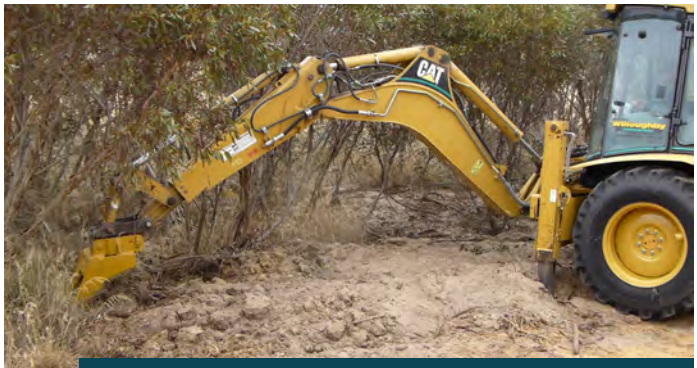
Contact Dial Before You Dig to check for underground cables, pipes and other services before carrying out ripping on roadsides or property.

Check warrens on a monthly basis and treat any reopened holes. Reopened warrens can be re-ripped or treated with a fumigant to keep them closed.

Fumigation

If a rabbit warren has been located and it can be easily accessed, fumigation may be an option. Fumigation will only control rabbits present in the burrow at the time of fumigation and so is less effective than baiting. It can be useful in situations where baiting is not an option. Fumigation is best done in late summer or autumn.

Fumigants can also be used to treat small rabbit infestations where poisoning cannot be used or where ripping is not practical. Steep banks, fence lines and warrens under trees are best treated by fumigation.



Ripping deep and wide of the warren is important to destroy all the warren structure.

Exclusion fencing

Wire exclusion fences can be used to keep rabbits out and prevent damage in certain areas, but will not reduce rabbit numbers. The fence should be 60 cm high, fixed securely to posts and buried into the ground to a depth of 30 cm. The wire mesh netting must have holes with a maximum diameter of 30 mm. Rabbit exclusion fencing may also trap native wildlife and so should be checked regularly for unintended impacts.

Repellents

Substances that repel or discourage rabbits may be useful in reducing damage, but they do not offer long-term control. There are commercially available products as well as various home-based preparations containing substances such as pepper, chilli, blood and bone, lime and sulphur.

Ferreting

The use of ferrets may be an option to remove rabbits from warrens in some circumstances. Check with ferret clubs or organisations. Ferrets cannot be used to kill rabbits, and all animals should be humanely euthanised.

Biological control

There are two types of biological control agents present in Australia: Myxomatosis and Rabbit Haemorrhagic Disease. Their effectiveness varies considerably from year to year as they are dependent upon a range of environmental factors.

There are no consistently reliable methods which can be used to accurately predict the timing or impact of Myxomatosis or Rabbit Haemorrhagic Disease on rabbit populations. However, if they do occur in an area it is important to implement additional control measures to capitalise on their effects.

Shooting

Ground shooting can be used to remove rabbits especially when it is used in conjunction with additional control methods. Although shooting may be useful when rabbit numbers are already low, it is labour intensive and is not effective as a general rabbit control method.

Shooting is usually done at night with the aid of a spotlight, but can also be conducted during the day.

Shooting can be a humane method of destroying rabbits when it is carried out by experienced, skilled and responsible shooters; the animal can be clearly seen and is within range; and, the correct firearm, ammunition and shot placement is used.

Trapping

Trapping is not an effective way to reduce high numbers of rabbits quickly as it requires a significant amount of time and effort. Jawed traps must have rubber jaws, and cage traps may be suitable to trap rabbits if they have a base plate or peddle type trigger. All traps must be checked regularly and rabbits contained must be destroyed humanely. Once trapped, it is an offence to release the rabbit alive.

Landholder responsibility

It is the legal responsibility for landholders to control rabbits on their property as rabbits are declared for control under the *Landscape South Australia Act 2019*.

Acknowledgements

The Limestone Coast Landscape Board would like to acknowledge that the information in this fact sheet includes content sourced from the Northern & Yorke Landscape Board, Murraylands and Riverland Landscape Board and the Wheatbelt Natural resource Board.

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