Rabbits

Impacts

The impacts of rabbits on the environment have been so severe that grazing and competition by them has been listed as a key threatening process. A key threatening process is defined as something that "threatens or may threaten the survival, abundance or evolutionary development of a native species or ecological community" (DECC).

Rabbit grazing will slow or stop natural and planned revegetation, remove food sources for both native and domestic animals, damage crops and reduce biodiversity and ecosystem resilience. Their grazing habits are known to reduce the survival and recruitment of several threatened flora species in the Molonglo catchment and impact on the structure and composition of several endangered ecological communities.

Through their grazing habits rabbits remove vital ground cover and thus increase the risks of soil erosion by wind and water. Furthermore, this disturbance of groundcover vegetation provides an opportunity for weed recruitment. They are a particular nuisance to Landcare groups, as they will often graze on saplings that have been planted as part of revegetation projects.

The average daily intake of one rabbit is 100g to 150g of feed per day; however, they can consume as much as 500g. This makes just 9 rabbits approximately equivalent to one sheep! Considering how prolifically the species breeds, the extent of the problem becomes apparent.

The negative impact of rabbits comes at a considerable cost to the environment and the Australian economy. The costs associated with rabbits include management and control programs, rehabilitation of degraded sites and increased costs to food production. The following table highlights the annual costs of managing rabbits in Australia.

Table 1: Cost of rabbits (Pest Animal Control CRC, 2004)

Cost Component	Control	Loss
Sheep Production Loss	-	$35.4 million
Cattle Production Loss	-	$34.39 million
Cropping Industries	-	$18.33 million
Management Cost	$20 million	-
Research Cost	$5 million	-
Total Cost	**$25 million**	**$88.11 million**

Distribution

Rabbits occur throughout most of Australia and are found in large numbers in the majority of NSW. The Molonglo catchment is no exception with extensive rabbit populations present, although less so in higher timbered areas.

Case Study

The extent of the rabbit problem for environmental groups in the Molonglo catchment is typified by the struggle of the Friends of Mount Majura ParkCare group against an extensive rabbit population. In a concerted effort to revegetate and assist the natural regeneration of Mount Majura, a nature reserve on the fringe of north-east Canberra, the group has undertaken a number of regeneration projects. Some of these projects have turned out to be disappointingly futile due to the destructive appetite of the local population of rabbits. The group convener said "the impact of rabbits on the native ground cover of Mount Majura has been immense. At present we are fighting a losing battle on weeds and erosion since we are unable to re-establish grasses due to the sheer extent of the rabbit population. The rabbits prevent the recruitment of many palatable native tree and shrub species such as the Drooping She-oak. They find a way through our tree guards to eat our plantings and their burrowing creates a haven for weeds. Rabbits are truly a menace."

Description

Rabbits are commonly observed animals that prefer open ground, they are especially active in the late afternoon to early morning. However, they can be active anytime of the day if they are undisturbed and in high numbers.

They are herbivorous, eating a wide range of plants including crops, roots, pastures and young trees, the latter making them a particular nuisance when undertaking revegetation projects. Their presence can be identified by heavily grazed areas (rabbit lawns), tracks, droppings, scrapes, burrows, warrens and damage to seedlings. The small round pelleted droppings are often deposited at dung sites. These can be recognised by small mounds or elevated areas to mark territory that are fibrous, smelling of grasses or herbs.

They prefer a habitat of short grass areas, especially grazing land, with adjacent shelter such as logs, warrens and bushes including blackberries. Generally they move within 200m of their warren and are territorial during breeding, after which the young disperse to less densely populated or vacant warrens.

Female rabbits, or does, will breed from 3 to 4 months old, gestate for 28 to 30 days, will mate again within hours of giving birth and can have up to eight litters a year of up to eight kittens. Hence one doe can be responsible for the production of over 100 rabbits in a year!

A fox preying on rabbits is an example of how the abundance of one pest species can benefit another, with the overall result being a decline in biodiversity. In areas densely populated by rabbits, predation by a range of native and introduced fauna has little effect.

Waltraud Pix from Friends of Mount Majura

Rabbit burrows in disturbed soils created by overgrazing

What can be done?

There are a number of options for rabbit control on your property. A good place to start is to contact your local Livestock Health and Pest Authority (LHPA) or Parks, Conservation and Lands (PCL) branch. Wild rabbits are a declared pest species under the *Rural Lands Protection Act 1998* in NSW. This means that all land managers, be it on private or public land, are obligated to control them. It is important to undertake pest animal control in a humane manner, minimising pain and suffering to the animals involved whilst being aware of your legal obligations. When planning a control strategy, be sure to engage your neighbours as their assistance will be essential for success of any control program.

In areas where wombats, or other mammals that utilise burrows, are present the following techniques may not be appropriate; you should consult your local LHPA or PCL branch for more information before conducting work. These methods also have the potential to disturb soil, impact vegetation, introduce weeds or cause erosion, hence sowing grasses over disturbed areas can be appropriate to minimise these negative impacts.

Control Methods:

- Ripping – used to destroy warrens, its success will vary with local conditions such as soil, weather and obstacles.
- Blasting – usually used for initial knockdown where ripping is impractical. Requires special licensing for the use, storage and transport of explosives.
- Fumigation – a good technique in more inaccessible areas, such as creeks, fence lines and rocky outcrops or sensitive areas where soil and vegetation disturbance is not appropriate. Requires sealing of all burrows. Requires trained operator, or via static application of tablet or liquid to burrow. For use and information on controlled pesticides you must contact your local LHPA or PCL branch.
- Poisoning – Significant legal restrictions apply relating to signage requirements, number of baits, clearance distances, use on small properties and in urban or closely settled rural areas. There is a risk of non target species impact. For use and information on controlled pesticides you must contact your local LHPA or PCL branch.
- LPG Ignition – usually a follow up technique or used in more inaccessible areas for initial knockdown. Requires a specialist operator due to potential risks, including fire. Rabbits die from concussion, hypoxia or suffocation. Requires sealing of all burrows after ignition.
- Flooding – applicable when water is readily available and requires sealing of all burrows after flooding.
- Disease – limited largely to the introduced diseases of Myxomatosis and RHDV (Calicivirus), requiring mosquitoes, fleas or a similar vector to transmit. Outbreaks are variable in effectiveness and difficult to instigate. An easy to use freeze-dried RHDV should be available in 2010, contact your local LHPA or PCL branch.
- Shooting – effective in the removal of small numbers of rabbits, especially at night with a spotlight. Under the Game and Feral Animal Control Act 2002 a licence (R-Licence) issued by the Game Council of NSW is required to hunt rabbits on public land.
- Trapping – can be effective in dealing with a small numbers of rabbits, but may have non-target species impact. Requires experienced and competent person to be effective and humane. Traps must be cleared and deactivated as soon as possible after dawn to avoid excess suffering and capture of non-target animals. Steel-jawed traps are illegal and significant restrictions apply to the use of soft-jawed traps. See the relevant code of practice for more information.

Consider a control program that tackles all your pest animal issues as the reduction in one species may lead to an increase presence of another. Pest animal control is also a part of controlling your weeds as these species often create the opportunity for weed establishment or act as a vector for the weeds. It may be useful to consult the Molonglo Catchment Group's weed information pack to identify the weeds pest species are bringing on to your land.

What YOU can do

The Molonglo Catchment Group is always interested to hear from you regarding any pest animal activity in your area. If possible, record the GPS coordinates of the location of a sighting. If this is not possible, a description of the location will suffice.

Furthermore you can contribute to programs such as, RabbitScan (www.rabbitscan.net.au) or contribute stories to 'Rabbiting On' (www.abc.net.au/rural/features/rabbitingon/) to help out in the fight against rabbits.

If you would like to become involved in projects such as RabbitScan contact the MCG and we will help to find ways you can assist.

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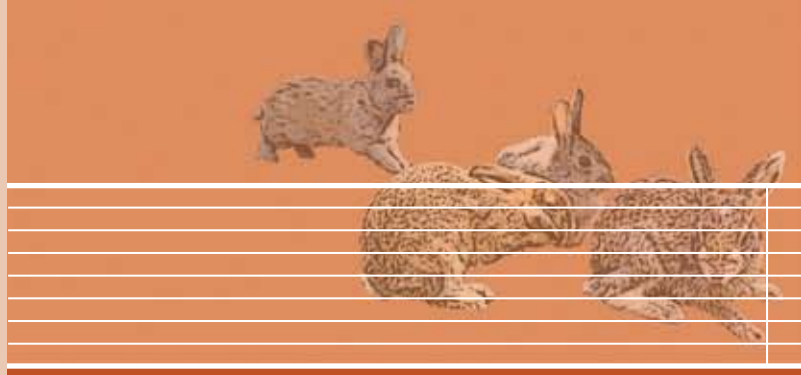

Waltraud Pix from Friends of Mount Majura

Rabbit emerging from burrow
Note the weed invasion associated with burrows

Waltraud Pix from Friends of Mount Majura

Loss of groundcover due to rabbit and kangaroo grazing

Waltraud Pix from Friends of Mount Majura

Damage to tree roots from burrowing