

## **Rabbits**

### **Background**

Twenty four rabbits (*Oryctolagus cuniculus*) were introduced into Australia with the first fleet in 1788 for food and game. Since then they have colonised approximately two thirds of the continent, becoming one of the worst pest animals in Australia. In Port Stephens rabbits are well established in urban, agricultural and natural areas.

### **Breeding cycle**

Starting from 3-4 months of age rabbits will breed year round if adequate nutritional food is available and conditions are suitable. The main breeding season is generally late winter to early spring. Females can produce between 20-30 young each year. Gestation is around 30 days with the mothers able to mate again within hours of giving birth. Rabbits are highly mobile and disperse from areas of high density to areas with fewer rabbits. A control rate of 96% or higher is required or the rabbits can repopulate an area in 18 months.

### **Habits**

Rabbits are generally shy, a characteristic to note if introducing unfamiliar foods for baiting. They are most active at dawn and dusk, if rabbits are seen during the day it may indicate a high density is present in the area. Rabbits eat between 50-500 grams per day (night). Rabbits prefer feeding in short grassy areas that are within a few hundred metres of dense undergrowth.

### **Some problems caused by rabbits**

Rabbits cause agricultural, environmental and urban problems. They can cause damage by feeding, burrowing or defecating to parks, gardens, sporting areas and cemeteries. Burrowing can create trip hazards and undermine buildings and structures. Rabbits may take over shrubs, tussocks and other shelter displacing native animals. The presence of rabbits may also detract from the amenity of an area.

### **Responsibility for rabbit control**

Responsibility for rabbit control rests with landowners who are obliged by the Rural Lands Protection Act 1998 to eradicate rabbits on land they own, occupy or manage. Responsibility for ensuring landowners comply with this requirement rests with Livestock Health and Pest Authorities rangers (formerly known as Rural Lands Protection Boards). The Council or Livestock Health and Pest Authorities (LHPA) can offer landowners advice about controlling rabbits on private land.

### **Establishing the need for control**

Before deciding that rabbits must be eliminated, think about what is being affected by them, the effort required to control them and the impacts of controlling them. While most people can accept some degree of impact, the threshold that prompts action varies according to the situation. Rabbit numbers and their impact should be recorded to justify the need for control measures.

### **Evaluating the effectiveness of control**

Do you want to measure a reduction in rabbits or a reduction in the impact of rabbits? For a true indication of how successful control measures are measure the impact of rabbits and compare it to the impact remaining after control measures.

### **Monitoring rabbits**

Rabbits are active at dusk and dawn, which is the time to conduct counts for animals. During other times, it is possible to estimate the rabbit population by counting the number and size of dung piles, warrens and diggings. Results should be recorded to allow for comparison with future seasons.

### **Control techniques**

Any one technique is unlikely to achieve adequate control over the long term. Rather, a sequence of control methods is required so that any rabbits missed by the first technique are then targeted by the second and subsequent methods.

### **Pindone baits**

Pindone is an anti-coagulant, causing death by haemorrhaging (bleeding) in 10-14 days. Pindone can only be justified in areas that 1080 bait is not permitted as it does cause pain and distress to affected rabbits before they die. Several doses over a few days (or nights) are usually required to achieve a lethal effect. The risk to other animals must be considered and addressed before pindone is used.

Pindone baits should NOT be laid in the following instances:

- in the vicinity of macropod, bandicoot and native rodent refuge areas
- when rain is expected in the next 24 hours
- in urban areas on residential blocks less than 1000m<sup>2</sup> in size
- in areas that are accessible to livestock or domestic animals
- where streams, waterways or rivers may become contaminated
- where foodstuff or feed intended for human or animal consumption may become contaminated
- where children may have access

Detailed directions for use on the label must be carefully followed.

### **1080 baits**

Known as 1080, sodium monofluoroacetate is an inorganic chemical derived from Australian native plants. There is no evidence that 1080 poisoning causes rabbits severe pain and affected rabbits die within 3-4 hours of ingesting the bait. However, it is toxic to humans and other desirable animals including cats, dogs, livestock and native species. Secondary poisoning caused by eating affected rabbits is also possible. Baiting of rabbits with 1080 can only be conducted under conditions set down in a specific permit issued by the Australian Pesticides & Veterinary Medicines Authority and must also be used in accordance with relevant State, Territory and other Commonwealth legislation.

1080 baits should NOT be laid in the following instances:

- areas where there is an unacceptably high risk to humans and/or companion animals
- in urban/residential environments
- when rain is expected in the next 24 hours
- where children may have access

Detailed directions for use on the label must be carefully followed.

### **Trapping**

The old leg hold traps are banned, although cage traps are permitted if used in accordance with specific guidelines. A lawful method of dealing with trapped rabbits must be determined before commencing any trapping. Cage traps are best suited to rabbits that have been recently released from domestication and again these can only be used in accordance with guidelines. Traps should only be set out in the evening and most importantly checked early in the morning.

### **Calici Virus or Rabbit haemorrhagic disease (RHD)**

RHD can be introduced to rabbits by feeding on carrots laced with the virus but it is less effective in higher rainfall areas, such as Port Stephens, than in drier inland regions. Infected rabbits usually die within 36 hours from heart and respiratory failure. Young rabbits (under 9 weeks) are not highly susceptible and can survive to pass on tolerance to future generations. RHD must be used in conjunction with other methods to “finish off” the young rabbits and prevent re-infestation. RHD is only available from Livestock Health and Pest Authorities.

### **Myxomatosis**

Myxomatosis is a viral disease specific to rabbits that was released in Australia in 1950. It now persists naturally in rabbit populations, fluctuating with seasonal conditions. Mortality is around 50% as rabbits have become somewhat tolerant of the virus.

### **Warren destruction**

After other control measures have been used to decrease rabbit numbers the destruction of warrens is required to slow re infestation. Warrens can usually be dug in with shovels and hand tools in urban areas. Use of machinery would likely be detrimental to native vegetation (if present) and possibly contribute to soil erosion so consideration of environmental factors and consultation with authorities is required.

### **Harbourage clean up**

Removing the areas rabbits' shelter in is essential to reducing their impact. Weeds such as Blackberry, Lantana and Bitou Bush are great for rabbits to live in, as are piles of timber and other materials. The removal of native vegetation for rabbit control is generally not permitted and may require a permit or authorisation, contact council for advice.

### **Fumigation**

Fumigation uses toxic gas and must be conducted by licensed operators under strict conditions. Fumigation cannot be conducted in urban areas due to occupational health and safety and animal welfare issues.

### **Shooting**

Shooting can be effective to remove rabbits remaining after the majority have been controlled by other methods but it is very difficult to conduct rabbit shooting operations in built up areas.

### **Exclusion barriers**

When a small area needs to be protected from rabbits some form of barrier may be the best option. Wire mesh can be used to prevent rabbits accessing under house areas, vegetable gardens and around tree seedlings. Barriers need to be carefully installed and then inspected and maintained. In addition to the vertical mesh, additional mesh can be buried to around 18cm deep or laid horizontally along the ground towards the direction rabbits approach.

### **Disclaimer**

This document provides a very brief summary of some issues regarding rabbit control. Readers should obtain more information before commencing any rabbit control program. While reasonable efforts have been made to ensure that the contents of this publication are factually correct, Port Stephens Council does not accept responsibility for the accuracy or completeness of the contents, and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the contents of this publication.

### **Further reading**

Livestock Health and Pest Animal Authority

<http://www.lhpa.org.au/>

code of practice for the humane control of rabbits

[http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0010/57286/rab-cop.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0010/57286/rab-cop.pdf)