

Browsing Wildlife Species - Description, Status, Distribution, Diet and Control Options and Issues



There are a number of native and introduced species which will compete with livestock for pasture and crops in Tasmania. The main problem species being:

1. Bennett's wallabies
2. Tasmanian pademelon (rufous wallaby)
3. Brushtail possum
4. Fallow deer
5. Rabbits
6. Forester kangaroos.

Other species such as hares, sulphur crested cockatoos, feral cats, ravens (crows), wombats, native hens, wild ducks and black swans can all variously cause problems with crop or pasture damage, water quality in dams, predation and damage to farm infrastructure.

Different control options will be more effective for different species.

Species / Control	Fencing	Shooting#	Trapping	1080 Poison	Feratox	Repellents
Bennett's wallabies	✓✓✓	✓✓	✗	✓✓✓	✓✓	✓
Tasmanian pademelon	✓✓✓	✓✓	✓✓	✓✓✓	✓✓	✓
Brushtail possum	✓	✓✓	✓✓✓	✓✓✓	✓✓✓	✗
Fallow deer	✓	✓✓	✗	✗	✗	✓
Rabbits*	✓	✓✓	✗	✓✓✓	✗	✗
Forester kangaroos	✓	✓✓	✗	✗	✗	✗

Table 1. Different control tool effectiveness for browsing species – pasture protection.

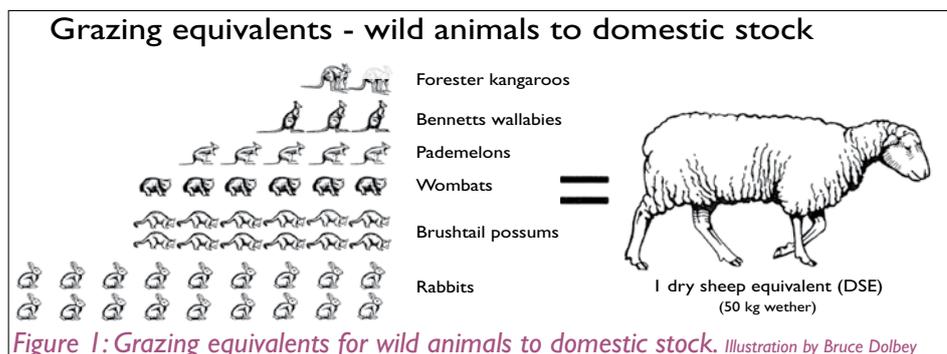
- ✓ Can work
- ✓✓ Effective control
- ✓✓✓ Very effective control
- ✗ impracticable / illegal.

* Rabbits can also be controlled with Pindone, myxo, calicivirus and through burrow fumigation.
There are many different ways to shoot.

Knowing which species are present and causing damage on your property is critical to deciding the correct control strategy (See Table 1).

It's also important to consider the full suite of species on your property as these may affect the effectiveness of control options for other species. For example, trapping is particularly effective on properties where both Tasmanian pademelons (rufous wallaby) and brushtail possums are the main problem species however traps can be destroyed by other species such as wombats so caution should be used.

In terms of different species impacts on farm productivity, Figure 1 shows the relative impacts that different native



species can have, though it must be realised that this is based on their computed metabolic intake, and assumes that an animal is getting all of its dietary intake from pasture in competition with domestic stock, whereas in reality it would be getting at least part of its diet from other sources.

This booklet explains the distribution, diet and control options most applicable to each species, and also where multiple species occur.

Given the current high population levels of most wildlife species in Tasmania, capture and relocation is not a recommended practice for any of these species, as the most likely outcome of any relocation will be the death of the animal through fighting for territory or starvation due to being unable to establish a new territory.

Bennett's Wallaby (Partly Protected)

Macropus rufogriseus. Also called red-necked wallabies, or colloquially kangaroo, grey kangaroos.

Bennett's wallaby are found in most vegetation types at all altitudes, but are most common in drier bush areas with an open understorey, especially at the bush - pasture interface.

Primarily grass eaters, Bennett's wallabies will also eat herbs, fungi, shrubs, seedlings and chew bark. They have adapted well to introduced grasses, legume and some crop species. On the basis of relative energy needs, 2.8 Bennett's wallabies eat the same amount as a 50 kg sheep, although this probably won't all have come from the pasture or crop area.



Bennett's wallabies usually come out to feed at dusk and can travel long distances into crop or pasture, moving over wide areas as they feed throughout the night. This can result in patchy damage across a paddock that is not always obvious. Five Bennett's wallabies radio tracked over a three month period at Kempton, southern Tasmania, had an average home range of 100 ha (range 34 - 164 ha), moving nightly up to 1.7 km through forest to pasture and up to 0.5 km out into pasture.

Control Options and Issues

Fencing is an excellent control option for Bennett's wallabies, although they will repeatedly try and breach fences. Bennett's wallabies will generally try to push through a fence rather than under it but if holes are

present under a fence they will certainly make use of these existing holes. A small portion of the population will just jump the fence, and when pushed or stressed they will more readily leap and jump at fences in their haste to get away.

Because Bennett's wallabies attempt to push and jump through a fence, they readily break the joints in some types of mesh fencing which is why a heavier mesh is recommended in areas where this species is present.

In light or sandy soils they are able to dig under a fence to create an entry or exit point. From inspection it is often found that these holes have been made by wallabies trying to get out, after having come in via a breach point elsewhere. On heavier soils they will exploit slight undulations in the ground surface or use gaps at gullies, creek crossings etc or holes dug by wombats. Anecdotal evidence suggests that Bennett's wallabies will use culverts under roads to access feed sources.

Bennett's wallabies are very trap shy animals, and although smaller individuals have been caught in traps, trapping is not an effective method for Bennett's wallaby control. Shooting can be a very effective control method for Bennett's wallaby when done properly. 1080 poison has been very effective in the past for Bennett's wallabies, but should be seen as a last resort of limited use. Evidence to date from New Zealand and Tasmanian trials suggests that Feratox™ could be an effective tool for wallabies if it is registered for use in Tasmania. Research to date suggests that Feratox™ could potentially be a much more humane poison option than 1080 poison provided it is properly managed. Sen-tree contact repellent, and other various repellent trials, have been shown to have some efficacy on Bennett's wallabies, but none have been shown to have a sustained, or reliable effect. Repellents would be more suitable for small area control, eg. gardens, where alternative nearby food sources are available.



An example of Bennett's wallaby faecal pellets.

Tasmanian pademelon (Partly Protected)

Tasmanian pademelon, rufous wallaby or wallaby (*Thylogale billardieri*)

This species is common on mainland Tasmania and the Bass Strait islands, although only patchily distributed on King Island.

Tasmanian pademelons prefer wetter areas, with thicker undergrowth than do Bennett's wallabies. They mainly feed on herbs and grasses in their natural habitat but have readily adapted to non-native species such as clover,

some crops and introduced grasses. Four and a half to five Tasmanian pademelons (rufous wallaby) will eat as much as a 50 kg sheep.

Tasmanian pademelons (rufous wallaby) shelter under cover by day and emerge to feed at dusk. As a result they are commonly seen feeding close to cover. Four pademelons radio tracked in dry sclerophyll habitat at Kempton, southern Tasmania, over a three month period, had overlapping home ranges of approximately 150 ha (range 149 - 169 ha). Pademelons made nightly movements of up to 2 km through bush to feed on pasture within 200 - 300 m of the bush edge. In more typical habitat where animals are moving between bush with dense undergrowth and improved pasture, they usually stay closer to the bush edge.



Control Options and Issues

Fencing is the most effective control for Tasmanian pademelons (rufous wallaby). Like Bennett's wallabies, they will also breach a fence by going under it. However they can fit through surprisingly small holes, especially the young ones which can move through some mesh fences and through many gate meshes. Recent research has shown that Tasmanian pademelons (rufous wallaby) will readily move through 350 mm pipe to gain access to pasture.

Tasmanian pademelons (rufous wallaby) can be a hard species to effectively control through shooting as they tend to browse in groups, very close to the bush edge and quickly flee if feeling threatened. However, a well implemented shooting strategy can control them. Activities such as laying out grain lines can help shooting of this species. Poisoning is very effective for Tasmanian pademelons (rufous wallaby), as after brushtail possums, they tend to be the next species to eat from poison bait piles. Trapping can be an effective niche tool for this species. Sen-tree contact repellent, and other various repellent trials, have been shown to have some efficacy on this species, but none have been shown to have a sustained, or reliable effect. Repellents would be more suitable for small area control, eg. gardens, where alternative nearby food sources are available.

Pademelon (rufous) Summary

- come out to feed on dusk and throughout the night
- prefer wetter areas and dense undergrowth especially where they abut pastures and crops
- browse within close proximity to bush edge
- use runways under fencing
- generally leave faecal pellets that are compressed together and cigar shaped
- fencing, shooting, trapping and poisoning are all viable control methods for this species



An example of a Tasmanian pademelon (rufous wallaby) faecal pellet.

Brushtail Possum (Partly Protected)

The brushtail possum (possum) (*Trichosurus vulpecula*) is abundant and widespread throughout Tasmania and the Bass Strait islands.

Possums occur in most habitats including rural and urban areas. They are particularly abundant along the edge of native bush and improved agricultural lands and throughout cleared areas with suitable nest sites. Preferred nest sites include tree hollows, timber heaps, buildings or holes in the ground.

In their natural habitat possums eat mainly plant-based material such as leaves, fresh gum tips and flowers, and have been recorded to take half of their diet from ground vegetation. They are opportunistic feeders that have adapted well to agricultural species such as clovers and fruit. Although it takes 12 possums to eat as much as a 50 kg sheep, their effect on pasture can be substantial because they preferentially graze on high quality pasture species such as clover.

Poisoning trials have also clearly demonstrated that possums can be much more numerous than a landowner might realise through spotlighting and hence their impact significantly underestimated.

Control Options and Issues

Possums will travel long distances over the ground.

Possums will preferentially try and go under fences where there is sufficient clearance, and they can fit through remarkably small gaps. Barbed wire at the bottom of the fence will not stop or slow them. They easily fit through some mesh styles and are able to climb over most fences. There are adaptations that can be done to standard wallaby fences such as using electrical outriggers at the base and also near the top of the fence or the use of 'floppy tops', but these adaptations are generally quite expensive to run and maintain, and possums are remarkably adaptive, learning to use nearby trees, stumps or even corner posts to breach fences.

Brushtail possums have not been heavily shot on many properties, as they are not seen as a sporting animal to hunt, and most recreational hunters prefer wallaby



meat to possum meat. Providing recreational hunters with incentives to shoot brushtail possums, such as providing them with fuel or ammunition, can be an extremely effective strategy for getting possum damage under control.

Possums are very curious and bold creatures, and hence are usually very easy to trap and poison. Trapping is a particularly good strategy where a property's main problem species are brushtail possums and Tasmanian pademelons (rufous wallaby).

Brushtail possums appear to have either an extremely strong stomach or very poor taste buds. Even repellents such as bitrex (an extremely bitter product) are largely ineffective against possums, though again, repellents can play a role in niche protection of gardens where other alternative food sources are readily available.

Brushtail possum summary

- come out after dusk and feed throughout the night
- are often more abundant than is realised
- are present wherever there are suitable den sites
- preferentially browse clover
- trapping, shooting and poisoning are best control options. Possums will breach most fences, and are highly resistant to repellents
- leave groups of cylindrical faecal pellets each approx 2.5 cm long and several mm in diameter.



An example of brushtail possum faecal pellets.

Forester Kangaroos (Protected)

The Forester kangaroo (*Macropus giganteus*) is the largest marsupial in Tasmania and the second largest in the world.

Their preferred habitat is open grassy forests and woodlands of northeastern and central Tasmania.

Foresters often feed during the day, but mostly in the early morning and evening. Grasses and forbs comprise the diet. Forester kangaroos are social animals that are usually seen in family groups of three or four, but may occur in loosely associated mobs of more than ten.



Control Options and Issues

Kangaroos can damage crops and pastures where local populations are high. Due to their large size, they can also damage fences. As a result they can come into conflict with landholders. The Forester kangaroo, due to its protected classification have more stringent requirements to be met before permits will be issued. Given their more limited abundance and day time browsing activities,



Electrical outriggers placed near and/or on top of the fence will help deter possums.

shooting is the most logical control for managing local populations causing damage. Landholders are required to justify a culling quota at the time of seeking crop protection permits for this species. Forester kangaroos are a desirable game species in Tasmania, and many recreational hunters are willing to provide crop protection services to landholders in exchange for access to Forester kangaroo tags and this provides opportunities for landholders to increase control effort on their properties.

Like the other macropods, Foresters prefer to go under a fence than over it, but they will leap at or over fences, especially when they feel in danger. Because of this a typical wallaby fence will not generally stop Forester kangaroos, though taller fences may. In considering such a design landholders should consider the welfare impacts of animals becoming entangled in fences.

Trapping and poisoning are not options for this species.



An example of Forester faecal pellets.

Fallow Deer (Partly Protected)

Fallow deer were brought into Tasmania in 1836 and wild populations were established about 20 years later.

Fallow deer are a highly mobile species and don't respect property boundaries. They can also cause swift and severe damage to pasture areas and crops when moving in large numbers.

Fallow deer are herbivores and graze all types of ground vegetation. They can cause a great deal of damage to young plantations by pulling seedlings out of the ground, and they also like to feed in arable fields on root crops such as carrots, sugar beet, parsnips or potatoes. Male deer can also damage vegetation with their antlers during the breeding season when marking territories.

Wild fallow deer are highly valued by sections of the Tasmanian community as a hunting resource. Annual seasons are proclaimed for the taking of male deer and antlerless deer. Outside of the seasons, deer may be taken under Crop Protection Permits by landowners who are suffering browsing damage from deer.

Control Options and Issues

With the desirability of wild deer as a hunting resource, many properties have managed wild deer according to the principles of Quality Deer Management (QDM).



An example of fallow deer faecal pellets.

The aim of QDM, introduced to Tasmania in the 1990s, is to promote a healthy deer population in balance with the habitat in which the deer reside. This usually equates to deer herds being kept at lower densities than under traditional management practices and also increasing the number of trophy animals within these smaller herds. This provides a benefit to the landholder by reducing any potential crop or pasture damage caused by deer, and provides the hunting groups on the property a higher quality herd.

QDM is total herd management involving the management of males, females, and fawns, habitat, hunters and hunting experiences. The reasons for adopting the principles of QDM vary between properties, and from hunter to hunter. Hunters are encouraged to show restraint in the harvest of young male deer combined with an increased harvest of female deer.

Furthermore, hunters and hunting clubs, often enter into agreements with landholders to provide agreed levels of shooting control for other wildlife species, in return for property access rights and deer hunting privileges during the deer season and if crop protection permits are sought. These agreements can save landholders thousands of dollars.

When well implemented, this can be one of the most effective control strategies for a property, especially on properties that undertake principally larger dryland extensive agriculture practices.

There is no requirement for landowners to implement QDM in Tasmania and all landowners inside and outside of the core deer range can apply for crop protection permits.

There are no approved trap designs for deer, and it is illegal to poison them in Tasmania. There are deer fences which can be used to stop deer, and the Forestry Commission of Britain have an excellent "Forest Fencing" technical guide which can be downloaded for free from www.forestry.gov.uk which covers many of the issues with deer fencing.

Rabbits (Vermin)

Rabbits are classified as vermin under the **Vermin Control Act 2000** and may be hunted at any time on Crown land, State Forest and on private land with the permission of the landowner. There is no bag limit and rabbits are normally taken with shotguns and rimfire rifles, although any non-prohibited firearm may be used. Hunters are encouraged to harvest rabbits whenever possible because they have the potential to become a major problem in the future if not properly managed.

There is a much broader range of control options for rabbits than for the other species, including the use of 1080 poison, pindone, myxamotosis, calicivirus and burrow fumigation.



An example of rabbit faecal pellets.

Control Options and Issues

If rabbits are a significant problem on a property, as well as other species, then it is worth considering those control options which might target multiple species.

Rabbits can of course be shot when undertaking control of other species, but the major consideration to think about when looking at combined control options is the use of rabbit wire to exclude both rabbits and wallabies as rabbits will pass through wallaby mesh. The addition of rabbit netting, preferably buried 150 mm into the ground, will not only slow the reinvasion of rabbits, it is also very effective in increasing a fence's effectiveness against possums and wallabies as this is their typical preferred breach point.

Rabbits are very neophobic, that is they fear anything new or strange, therefore cage traps are largely useless for their control, and leg hold traps and snares are illegal to use in Tasmania.

Other species

Hares (Not Protected)

Hares, while not classified as vermin, have no legal status and can be hunted under the same conditions that apply to rabbits.



Wombats (Partly Protected)

Wombats are infrequently a significant problem with pasture losses, though six wombats can eat

as much as a standard sheep.

The main issues landholders generally have with wombats is the burrows they dig in pasture areas, particularly the resulting instability in sandy banks, their ability to dig under wallaby proof fences creating highways for the other species to travel through and undermining building foundations.

An effective wombat gate design has been developed which allow wombats to enter and exit pasture areas, but preclude most wallabies, possums and other smaller species from doing so. A brochure is available to explain how to build such a gate, and how and where best to install it.

Whilst landholders are strongly encouraged to live with wombats, and most are happy to do so, it is recognised that there are situations where small numbers of wombats need to be culled due to the damage or risk they are causing, and in these circumstances the Wildlife Management Branch do issue crop protection permits for the removal of a set number of wombats from a property.

The presence of wombats is a negative when it comes to trapping, as they can easily destroy traps set for wallabies and possums should they enter and get caught.



An example of wombat faecal pellets.



When fencing it is important to understand species you are trying to manage. For example, rabbits can breach even the smallest wallaby meshes.



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