

# Feral rusa deer

*Cervus timorensis*



## Declaration details

The feral or wild rusa deer is a declared Class 2 pest animal under the *Land Protection (Pest and Stock Route Management) Act 2002* and landholders are required to control numbers on their land. It is an offence under the Act to introduce, feed, keep, supply or release Class 2 pest animals without a permit.

Rusa deer that are contained within a deer-proof fence; for example, farmed rusa or rusa held by a game park are not declared. Any rusa deer not contained within a deer-proof fence are considered feral or wild and subject to control under the *Land Protection (Pest and Stock Route Management) Act 2002*. The natural disposition of deer means that farmed animals escaping captivity quickly revert to the wild state.

It is important to manage wild rusa deer to protect our agricultural industries for native flora and fauna conservation, and to avoid social impacts.

Wild deer damage crops, pastures and forestry plantations and compete with livestock for pasture. Wild deer can alter the structure and composition of endangered ecological communities.

## Habitat and distribution

Rusa deer are native to Asia. Indonesian Rusa deer were introduced to Friday Island in the Torres Strait in 1912. The deer later swam or were transported to other islands including Prince of Wales Island which now supports the major population. The original Torres Strait population is estimated to be at least 500 animals but may be substantially higher.





Digital data supplied by: Queensland Primary Industries and Fisheries (QPIF).

Map produced by: Pest Information Management, Biosecurity Queensland, QPIF

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In recent years, at least six other rusa populations established by translocations have been identified. Three of these are in areas around Townsville and Rockhampton, and three are in southern Queensland, including a population located near Stanthorpe. The Rockhampton and Stanthorpe populations are estimated at between 100 and 500 animals. The remaining populations are estimated to number fewer than 100 animals. However, populations in more remote areas may exceed these estimates.

Rusa have been translocated to the traditional chital deer range around Charters Towers. There are also anecdotal reports of 600 rusa being released into a flood plain environment in the Gulf. Given the suitability of the environment, observed reproduction rates suggest that such a herd could number 3000 within five years.

Because rusa is a tropical species, much of coastal Queensland and adjacent areas would be suitable rusa habitat.

## Commercial use of wild rusa deer

### Commercial harvesting

Rusa deer can be trapped for the wild venison trade. Trapping deer to use as foundation stock for a farmed herd is less viable due to the animal welfare and human safety aspects of handling wild deer.

### Recreational deer hunting

The cost of deer control may be minimised by enlisting or utilising commercial or recreational hunters to assist in the control. Landholders wishing to engage a third party to assist in deer control on their property should carefully consider a number of points before allowing access to their property, including conditions of access, public liability insurance, and references.

## Description and general information

Rusa deer have a greyish to yellowish or reddish-brown coat, which is darker brown on their hindquarters and thighs. Their body hair is coarse and stags develop a mane during winter.

Stags stand up to 110 cm, hinds up to 95 cm. Stags weigh about 120 kg, hinds up to 80 kg.

Stags have three tined antlers with the beams forming a characteristic lyre shape. During the rut, rusa stags 'plough' vegetation and amass bundles of greenery on their antlers.

Rusa are gregarious and form herds. They are semi-nocturnal, preferring to remain under cover during the day. However, they also spend time sunning themselves on ridge clearings. They have been reported to occasionally swim in the sea, and to eat certain seaweeds.

Rusa are a tropical or subtropical species. They prefer grassy plains bordered by dense brush or woodlands to which they can retire during daylight hours. They are preferential grazers of grass, but also browse depending on season and availability of food.

Rutting may take place at any time but the tendency is for breeding from June to October. Most fawns are born in March and April. In good seasonal conditions hinds may display post-partum oestrus and produce three calves in two years.

The gestation period is about 252 days and females usually give birth to a single calf, occasionally twins. Rusa calves do not have spots and are reddish-tan in colour with white underparts

## Potential damage

### Production losses

Wild deer are opportunistic and highly adaptable feeders that both graze and browse. Their diet is largely determined by what is locally available, but because they require a diet twice as high in protein content as cattle—and with significantly higher quantities of digestible vegetable matter—they will normally feed selectively on the highest quality plants in a pasture. Because of this, deer can impose substantial costs on primary producers.

Wild deer have been reported to cause damage to a wide variety of agricultural crops, pastures and forestry plantations. Wild deer also directly compete with cattle and other livestock for pasture.

Other impacts on rural enterprises include damage to fences, spreading of weeds and fouling of water holes.

### Parasites and diseases

Wild deer are susceptible to exotic livestock diseases including foot-and-mouth disease, rinderpest, vesicular stomatitis, rabies and blue tongue. Unchecked, wild herds could play a major role in the spread of infection and act as a reservoir if these diseases are introduced to Australia.

Of particular concern is the potential for rusa deer in the Torres Strait to spread the exotic blood parasite *Trypanosoma evansi* that causes surra—a disease causing acute, often fatal, illness in livestock. Surra occurs widely in South-East Asia and has probably already reached Irian Jaya as a result of livestock movements within Indonesia. There is a significant risk of surra reaching Australia in the same way as screw-worm fly—through the Torres Strait, assisted by rusa (and pigs) on the Torres Strait islands and in the Gulf.

Wild deer are also susceptible to a number of diseases and parasites currently in Australia including cattle tick, leptospirosis and ovine and bovine Johne's disease.

The main concern is the cost in lost livestock production or the spread of disease to free areas (e.g. bovine Johne's disease). However, some of the diseases and parasites also have significant human health issues.

### Environmental impacts

Deer are comparatively large animals capable of damaging native vegetation by browsing and trampling understorey and seedling plants, and ring-barking young trees.

Deer are also selective feeders. Over time, their browsing will influence the variety and abundance of native plant species. A significantly lower diversity and abundance of plant species is evident in environments where deer densities are high.

Wild deer can significantly impact ecologically fragile areas and have the potential to eliminate threatened plant species from an area.

Other environmental damage attributable to wild deer is the fouling of waterholes, the spreading of weeds, overgrazing causing erosion (and the subsequent degradation of water quality in creek and river systems).

### Social impacts

Rusa deer are established in both rural and peri-urban areas of Queensland. Grazing deer may damage parks, residential gardens and fences in outer urban areas. Where close to major roads, wandering deer represent a serious traffic hazard and may cause motor vehicle accidents.

There is also the potential threat to human health of rutting stags, particularly in peri-urban areas where deer may become habituated to people.

### Control

Prevention and early detection is the best cure.

The first and most effective step to managing the impacts of deer in Queensland must be to prevent more deer entering the wild.

Thirty-five per cent of all current wild deer populations have resulted from deer farm escapes or releases, with a significant percentage of the remaining populations resulting from the deliberate translocation of deer.

Under the *Land Protection (Pest and Stock Route Management) Act 2002*, the release or translocation of wild rusa deer is prohibited. Farmed deer and deer in game parks must be contained in deer-proof fences and it is the responsibility of the owner to ensure that deer are contained. Failure to do so is a breach of the Act.

### Early detection

The historic range of rusa deer is limited to a few islands in the Torres Strait. If you see rusa in other areas of Queensland, please report them immediately to Queensland Primary Industry and Fisheries on 13 25 23. Early detection of new populations will allow more effective control.

### Coordinating control

In many cases, deer control is best done as a joint exercise, involving all land managers in the district. Local governments and landcare groups can assist in coordinating efforts.

## Shooting

Shooting must be carried out by trained personnel with appropriated firearms licenses. Shooters must possess the necessary skill and judgment to kill deer with a single shot. Lactating females should not be shot, but if they are inadvertently shot, efforts should be made to find the young and euthanase them.

### Ground shooting

Although time consuming and labour intensive, ground shooting is considered to be the most effective and humane technique currently available for reducing wild deer populations. Such shooting is usually done at night from a vehicle, with the aid of spotlights.

Hunting with trained dogs may be necessary in difficult conditions such as tropical rainforest and pandanus swamp. Trained dogs should bring deer to bay allowing them to be shot rather than attacking them. Hunting with dogs has been shown to be more stressful than stalking and shooting, and should only be used when required by the terrain.

### Helicopter shooting

Helicopter shooting is effective in inaccessible areas such as broadacre crops, swamps and marshes. However, most new deer populations in Queensland are at low densities and in areas of thick cover and therefore helicopter shooting is unlikely to be an economic option. This form of control also risks disturbing and dispersing the deer population.

## Recreational hunting

Hunting is a means of reducing deer populations. Traditional landholders in the Torres Strait may offer limited access for recreational hunting.

### Trapping

Trapping may be an option for deer control in some circumstances. The simplest form of trapping for deer involves a self-mustering trap.

Traps must be monitored closely and deer should be promptly tranquilised or euthanased after trapping. Deer mortalities of 3–7% post-trapping have been recorded in US studies and animal welfare issues must be considered in using this method.

## Further information

Further information is available from your local government office, or from your local primary industries and fisheries biosecurity officer: contact details are available through 13 25 23.

Fact sheets are available from Queensland Primary Industries and Fisheries service centres and the Queensland Primary Industries and Fisheries Business Information Centre (telephone 13 25 23). Check our website at [www.dpi.qld.gov.au](http://www.dpi.qld.gov.au) to ensure you have the latest version of this fact sheet. The control methods referred to in this pest fact should be used in accordance with the restrictions (federal and state legislation, and local government laws) directly or indirectly related to each control method. These restrictions may prevent the use of one or more of the methods referred to, depending on individual circumstances. While every care is taken to ensure the accuracy of this information, Queensland Primary Industries and Fisheries does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.

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