

The feral camel (*Camelus dromedarius*)



Camels were imported to provide transport through inland Australia and they have since made it their domain. While they do not appear to be as destructive as other introduced herbivores, their increasing numbers may affect native vegetation, and they are also minor agricultural pests.

History

Thousands of camels were imported into Australia between 1840 and 1907 to open up the arid areas of central and western Australia. They were used for riding, and as draught and pack animals for exploration and construction of rail and telegraph lines; they were also used to supply goods to remote mines and settlements.

In the 1920s there were an estimated 20 000 domesticated camels, but by 1930, with the advent of rail and motor transport, they were no longer needed and many were abandoned. Well suited to the Australian deserts, these feral camels bred prolifically, spreading across arid and semiarid areas of the Northern Territory, Western Australia and South Australia, and into parts of Queensland.

Many different types and breeds of camels were brought into Australia, but most were from India. They included the large, fleece-bearing, two-humped Bactrian camel

of China and Mongolia, the elite Bishari and Bikaneri riding camels of Arabia, and the powerful, freight-carrying lowland Indian camels, capable of moving huge loads of up to 800 kilograms. The feral camels found in Australia are a meld of these breeds but can be split into two types: a slender riding form and a heavier pack animal.

Ecology

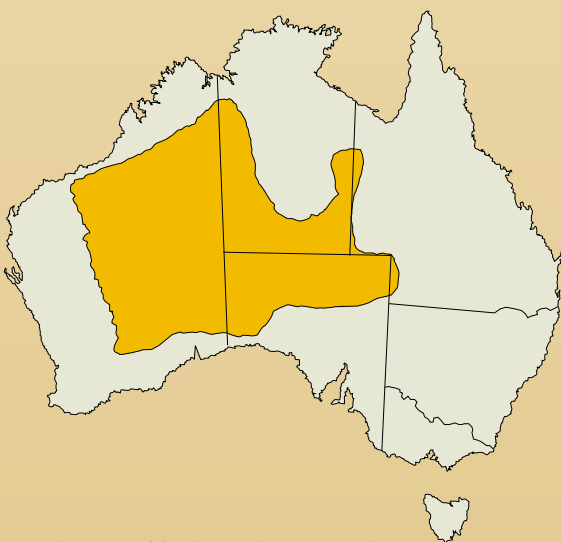
Feral camel numbers in Australia today are estimated at more than 500 000, with approximately half of them in Western Australia, and they continue to increase. Some estimates place the population at closer to one million.

Feral camels wander widely according to conditions, sometimes covering 70 kilometres in a day. In summer, they are usually found in bushland and sandplain country that offers food and shelter from the sun, but in winter they move to salt lakes and salt marshes.

As well as grazing on grass, feral camels browse on vegetation as high as 3.5 metres above the ground. They eat most plant material, including fresh grasses and shrubs, preferring roughage to pasture that has introduced grasses or has been fertilised. Camels have a high need for salt and they eat salty plants, even devouring thorny, bitter or toxic species that are avoided by other herbivores.

At times when forage is green and moist, feral camels gain all the water they need from their food and do not require drinking water. If water is available in summer, camels will drink regularly and at dawn. In extreme drought they need access to waterholes — a dehydrated camel can drink 200 litres in three minutes. Contrary to legend, the hump is mostly fat, a store of energy rather than water.

The feral camel lives in non-territorial groups of three main kinds: year-round groups of bulls (males); summer groups of cows (females) and calves; and



Distribution of feral camels in Australia

After McKnight TL (1976) in Siebert BD & Newman DMR (1989). *Camelidae*. In: *Fauna of Australia. Mammalia* Vol 1B, Walton DW & Richardson BJ (eds), Australian Government Publishing Service, Canberra, 1050-1053.



The camel has a split upper lip suited for pulling leaves from the prickliest trees and shrubs. Its height lets it reach foliage up to 3.5 m above the ground. Photo: Denis O'Byrne/ ANTphoto.com.au

winter breeding groups that include a mature bull and several cows and their calves. Only old bulls tend to be solitary. Herds average 11 individuals but larger herds may form in summer when groups congregate.

During the breeding season, from May to October, males have a herd of 20 or more cows, which they defend against advances from other bulls. Pregnancy lasts about 13 months and a cow gives birth to a single young, which is weaned at about 18 months. Feral camels can live for as long as 50 years and breed actively for 30 years.

Impact

The effect of feral camels on arid and semiarid habitats is not known, but because they are the only large browser in Australia, their increasing numbers are a cause for concern. Feral camels are capable of severely damaging native trees such as quandong and native peach, particularly during drought, when they gather in large numbers. However, at their normal low density, feral camels do not appear to have a major impact — their padded leathery feet do much less damage than hoofs of livestock and other feral animals such as horses, donkeys and goats, and their habit of browsing on the move means that they do not generally feed intensively in any one area.



*The ampurta *Dasyercus hillieri* is an endangered mammal that in recent years has been sighted in only a few places in South Australia. Reducing camel numbers in these areas may help to conserve the ampurta's habitat and increase its chances of survival. Photo: T Robinson (NPWSA).*

The impact of feral camels on native plants and drinkable water is most pronounced during drought, when areas close to remote waterholes become refuges that are critical to the survival of a range of native animals and plants. Feral camels can quickly degrade these areas during a drought to the point where they may no longer provide any refuge for native plants and animals, perhaps leading to the local extinction of these species. The *Action Plan for Australian Marsupials and Monotremes* recommends that feral camel numbers be reduced at specific areas to help protect the habitat of threatened animals such as the ampurta (*Dasyercus hillieri*).

The main agricultural damage caused by feral camels is to fences, which they lean on and knock down. In addition, camels are susceptible to tuberculosis and brucellosis, which are serious diseases of livestock, and feral camels may act as a reservoir for reinfection.

Control

Feral camels can be shot, trapped, or excluded from areas of high conservation value by strong fences. More research is needed to learn more about the biology of feral camels, determine the impact that they have on native plants and animals and their habitats, and the management programs required to control them.

Feral camels have some value as a resource. Captured wild camels are easily domesticated and can be used as riding camels by private owners or in tourist ventures. Camel racing has become increasingly popular. Some meat is produced from feral camels in the Northern Territory, but there is no major market for camel products.

Illustration of camel by Sharyn Wragg

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