

Koalas

Koala

Scientific name: *Phascolarctos cinereus*

Genus: *Phascolarcto* – phaskolos meaning pouched; arktos meaning bear (derived from Greek)

Species: *cinereus* meaning ashy-grey (derived from Latin)

Conservation status

Under Queensland's *Nature Conservation Act 1992*, koalas are listed as 'regionally vulnerable' in the South East Queensland bioregion (New South Wales border to Gladstone, and west to Toowoomba). Outside of this bioregion, the koala is 'of least concern' (common) in Queensland, but are still totally protected.

in the national context, in 2012, the Commonwealth Government listed the koala as 'vulnerable' in Queensland under the *Environmental Protection and Biodiversity Conservation Act 1999* (Commonwealth).

Description

Koalas have a large round head with big furry ears and a stout body.

They are covered in grey-brown fur with white fur on the chest, inner arms, ears and bottom. Their nose and the palms of their paws have no fur.

Koalas have poor vision and rely heavily on their other senses. Koalas have good hearing which helps them detect predators and other koalas. Their large black nose gives them an acute sense of smell and helps them detect other koalas and find their favourite food trees. The male uses a scent gland on his chest to mark trees by rubbing the gland up and down the trunk. The gland oozes a clear, oily, and strong smelling liquid.

Koalas are marsupials, a subclass of mammals. They belong to a unique family called Phascolarctidae. They are different from any other living marsupial and are the only animal in this family. Their closest living relatives are wombats.



Koalas

Habitat and distribution

Koalas live in a range of open forest and woodland communities but their range is defined by the presence of a select group of food trees, chiefly eucalypts. Koalas are found in higher densities where food trees are growing on more fertile soils and along watercourses. They do, however, remain in areas where their habitat has been partially cleared and in urban areas.

The distribution of koalas covers much of Queensland, New South Wales and Victoria, and a small area in South Australia. Over the past 200 years, koala distribution does not appear to have reduced, however, individual koala populations have declined. Local extinctions have occurred due to clearing and fragmentation of eucalypt woodlands and forests for agriculture and human settlement. Fossil records indicate that many years ago, the koala inhabited parts of Western Australia and the Northern Territory. There are no fossil records of koalas ever living in Tasmania.

In Queensland, the greatest concentration of koalas is in South East Queensland where they now compete for space with a rapidly growing population and high demand for development.



Estimated distribution of the koala in Queensland.

A matter of size

Fur colour depends on the geographical location of the koala. Koalas in Queensland are smaller, less furry and lighter in colour than koalas in southern Australian states. Queensland's female koalas on average weigh between 5 to 6 kg and males weigh between 6 to 8 kg. In Victoria, the average weight of a female is 8.5 kg and a male is 12 kg.

Diet

Koalas only eat certain eucalypt leaves and a few other related species such as melaleuca, callistemon and lophostemon. They need to consume about 500 grams (approximately two shopping bags) of leaves each day. Most other animals (excluding a range of insects) avoid eucalypt leaves due to the toxic oils they contain.

Koalas are able to break down the toxins using a specialised digestive system. They grind the leaves with their teeth into a paste by using their heavily ridged molars. Nutrients are absorbed in the stomach, while the toxins are isolated by the liver and excreted as waste in the urine and faeces. Any residue is then broken down by bacteria in an elongated, coiled sac (the caecum) that branches off the large intestine, allowing any remaining nutrients to be digested.

As their specialised diet of eucalypt leaves is low in nutrients and energy, koalas are fairly sedentary, sleeping up to 20 hours a day. Koalas are mostly active at night (nocturnal) and around dawn and dusk (crepuscular). However, they can be seen moving during the day if they are disturbed, become too hot or cold or need to find a new tree.

Male and female koalas

A male koala's head is about 1.5 times bigger than a female's. Males have larger noses and their chins protrude further. Males also have a large scent gland which shows as a dirty patch on their white chest. This gives them a strong musky odour.

Compared to male koalas, females have a clean white chest and a pouch. The backward facing pouch protects the young while its mother climbs and travels from tree to tree. It also gives the joey easy access to feed on pap. Pap is special runny faeces produced by the mother koala which is full of the bacteria that a joey will need to properly digest leaves when it is older.



Female koala (top) a male koala (bottom).

Koalas

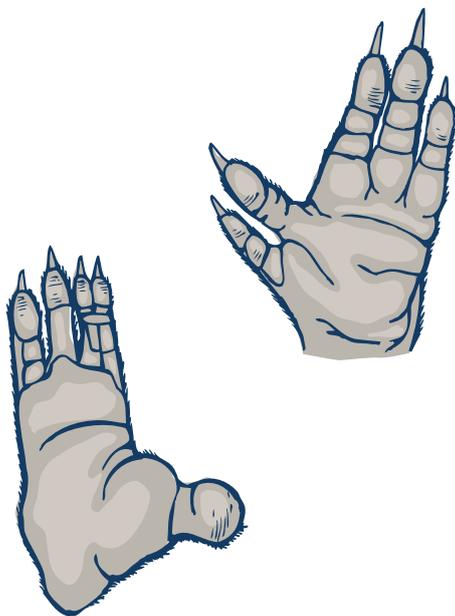
Claws for climbing

Koalas are considered arboreal (tree dwelling) mammals; however, they usually walk on the ground to get to another tree.

When koalas are on the ground, they amble awkwardly but can break into a quick gallop when disturbed. Koalas have strong arms and legs and large feet with sharp claws for climbing.

They have two opposable thumbs on their fore paws which gives them a better grip. This is essential for climbing tall trees.

When climbing, koalas grip the trunk of a tree with both arms and pull upwards while pushing with their legs. This leaves behind characteristic scratches in the bark of gum trees—clearly seen on smooth-barked gums (pictured bottom right). Stringybarks regularly climbed by koalas, will have the outer layer of weathered bark scratched away, exposing the fresh layer beneath.



Koala front paws (top) and hind paws (bottom).

Behaviour

Koalas are solitary animals that live within a network of overlapping home ranges, which allows contact between individuals for mating. Males will try to establish dominance over the home ranges of a number of females during the mating season. These home ranges vary in size depending on the density of the population and the abundance of suitable food trees.

In spring, adult males begin to call to advertise their presence to surrounding koalas. Males will seek out a mate and fight with rival males to establish their dominance.

Reproduction and lifecycle

Males begin to breed at three to four years of age. Females breed when they are two years old, generally giving birth each year.

Following a pregnancy of 35 days, a koala will give birth to a single young (rarely twins). Births usually take place between November and February. The young koala will stay in the pouch for the next six months. Between the age of six and 12 months the joey will spend time riding on its mother's back.

By 12 months of age, the young is weaned and takes up a home range, which overlaps with its mother, for much of the next year. Between the age of two and three years, these young disperse beyond their original home range to establish their own range, usually during the breeding season. Females can breed through their entire life span.

On average, koalas live to 10 to 12 years of age in the wild. Although females can live as long as 18 years, males are thought to have a slightly shorter lifespan.



Koala scratches on a grey gum (*Eucalyptus major*)

Koalas

Koala threats

In developed areas, koalas have to overcome many threats to survive.

Habitat clearing

Loss of habitat includes loss of food and shelter. It is also a major cause of stress in koalas which can lead to disease.

Cars

After habitat clearing, the most serious threat to koalas is death due to vehicle hits. In South East Queensland, about 300 koalas are killed each year by motor vehicles; although many more deaths would have been unrecorded*.

Disease

In South East Queensland, disease kills an average of 240 koalas each year; however many more deaths would have been unrecorded. For example, during times of stress, koalas are prone to outbreaks of the disease *Chlamydia**. *Chlamydia* is a bacterial infection which affects almost all koalas in South East Queensland. The disease weakens the immune system, so that any additional stress can lead to further health problems, including blindness and female infertility. In severe cases, it can cause death. Infertility from *Chlamydia* is a contributing factor to the decline in koala numbers.

Dogs

An average of 80 koalas are killed each year in South East Queensland after being attacked by dogs, with approximately 70 per cent of koalas admitted to a hospital dying from their injuries*. Many dog attacks go unreported so the number of deaths due to dog attacks is likely to be even higher.

* This information is sourced from the Koala Hospital and carer records kept by the Department of Environment and Heritage Protection.

Pools

Koalas drown in swimming pools when they are looking for water to drink. Although koalas can swim, if there are no assisted ways for a koala to climb out they will eventually drown.

What you can do to help koalas

- Keep dogs inside or tethered in your backyard.
- Plant and retain koala food trees.
- Drive slowly in koala areas.
- Install:
 - ▶ a tethered rope with a float (or a used milk bottle) to help the koala climb out of a pool, see photo below)
 - ▶ a tight pool cover
 - ▶ a koala proof pool fence, or
 - ▶ a pool with a beach access.



Tethered rope with a float to assist koalas climb out of pool

Koalas are under threat in many areas across Australia. The situation in South East Queensland is particularly concerning.

As Australia's fastest growing region—attracting 55 000 new residents each year—South East Queensland's urban growth is putting even more pressure on koalas. Every day they are under increasing threat from habitat loss, cars, dogs and diseases.