

2021-2022



BURNETT

KOALA

PROGRAM

Field &  
Observation  
Guide

# CONTENTS

01	Burnett Koala Project
02	Importance of Regional Koalas
04	Habitat & Distribution
05	Behaviour
06	Lifecycle
07	Threats
08	Koala Spotting
09	Family Fun
09	Recording Koala Sightings
10	Manual Recording Sheet
11	Become a Member
11	Tax Deductible Donations
12	Contacts



# BURNETT

# KOALA

# PROJECT

The Burnett Koala Program is a citizen scientist-based project aimed at raising awareness regarding the significance of regional koala populations and habitat health, as well as contributing to understanding koala presence, distribution, activity and habitat health in the Burnett Region.



**Kilkivan / Kingaroy Rail Trail July 2020**

South Burnett

*Photo credit: Julie Clifford*

The data gathered by citizen scientists will inform the protection and enhancement of crucial koala habitats, population diversity and recovery efforts in addition to scaffolding on previous state data collection efforts in other regions and value adding to the ground truthing of current population estimates for the Burnett Region.

This Field Guide is designed to support citizen scientists in building their knowledge and awareness regarding regional koala populations and the importance of habitat health, in addition to assisting in the identification and recording of koala presence, activity and habitat health of the Burnett.

**A BCCA project proudly supported by:**



*This project is funded by the Queensland Government: Department of Environment and Science.*

# IMPORTANCE OF REGIONAL KOALAS

The koala is an arboreal herbivorous marsupial and is the only extant representative of the family Phascolarctidae. Its closest living relatives are the wombats, which are members of the family Vombatidae.

Ongoing property developments in South East Queensland, in addition to the pressures placed on the environment by bush fires and climate change, may lead to localised extinction of koalas in many areas.

*"Ultimately, koalas in the Burnett may well be the last  
in the southeast Queensland Bioregion"*

AUSTRALIA KOALA FOUNDATION

Despite this importance, very little information exists to understand wild populations and their habits in this region. Knowing how many koalas remain, where and in what condition, is imperative if state and national recovery efforts are to be successful. This citizen science project aims to assist this process by collecting population and habitat data for the rural Burnett Region.



**Nanango August 2020**

South Burnett

*Photo credit: Charlie Spagalli*





**Abercorn 5th August 2019**

North Burnett

Photo credit: Susan Rayner

*"At least 8 million koalas were killed for the fur trade from 1888 to 1927. There are now only approx. 100,000 in the wild"*

UNIVERSITY OF QUEENSLAND  
& AUSTRALIAN KOALA  
FOUNDATION



**Booie 2016-2020**

South Burnett

Photo credit: Toni Kindleysides

The koala is least threatened by encroaching urbanisation, agriculture and development in rural and regional areas. Even so, the State Government's 'Nature Conservation (Koala) Conservation Plan 2017' is limited to focusing on the highly urbanised and densely populated regions of South-East Queensland and does not cover the rural and regional areas of Qld where the koala most likely has the greatest opportunity for sustainable long-term recovery.

Research suggests that habitat and food source diversity considerably contribute to individual health and breeding capacity. This project will evaluate food source diversity so this correlation can be compared in the rural/regional context.

With more accurate population data - local government, communities and individual land managers can more effectively plan and manage habitat corridors, connectivity and re-vegetation efforts, that are significant contributors to the protection and recovery of this and other species facing similar challenges.

Additionally, the koala helps increase public attention to generic environmental issues of conserving biodiversity and is often used to anchor environmental awareness campaigns with the potential to benefit all wildlife that endure similar challenges of habitat loss, human interference and climate change.

It is also a species that has the most potential to live sustainably with commercial grazing and native forestry operations.

# HABITAT & DISTRIBUTION

Koala habitat ranges include open forest and woodland communities but ultimately are defined by the presence of a select group of suitable food trees. More abundant koala population exist where food trees grow in more fertile soils and along water courses. Habitat and food source diversity contribute considerably to individual health and breeding capacity.

Koalas eat a variety of eucalyptus leaves and a few other related tree species. They consume approx. 1/2kg of leaves each day and obtain most of their water requirements from these leaves. Eucalyptus leaves are very low in energy (approx. 5% sugars and starches) and contain toxic compounds similar to cyanide. This unique diet is shared only with possums and gliders, and provides these species with access to a relatively untapped food resource.

Using a specialised digestive system and bacteria koalas are able to break down the toxic compounds and access the limited nutrients available in eucalyptus leaves. Koalas first use their heavily ridged molars to grind leaves into a paste to allow nutrients to be absorbed in the stomach. Toxins in the leaves are isolated by the liver and excreted as waste in their urine and faeces. The residue is then broken down by specialised bacteria in an elongated, coiled sac (the caecum) that branches off the large intestine before any remaining nutrients are digested.

## **Common food tree species:**

Red Gum or Blue Gum - *Eucalyptus tereticornis*

Tallowwood - *Eucalyptus microcorys*

Small-fruited grey gum - *Eucalyptus propinqua*

Red stringybark - *Eucalyptus resinifera*

## **Other food and habitat trees:**

Spotted gum - *Corymbia citriodora*

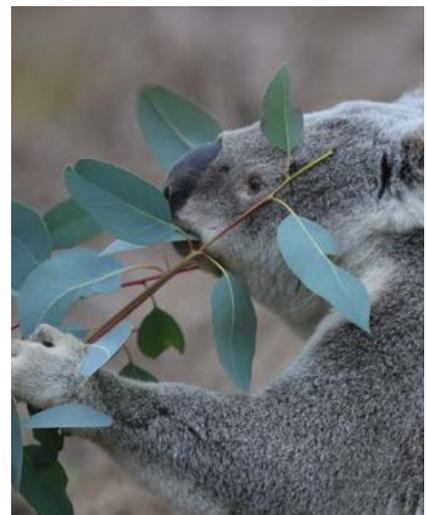
Scribbly gum - *Eucalyptus racemosa*

Qld white stringybark - *Eucalyptus tindaliae*

Qld grey ironbark - *Eucalyptus siderophloia*

Broad-leaved ironbark - *Eucalyptus fibrosa*

Five-veined paperbark - *Melaleuca quinquenervia*



**Nanango August 2020**

South Burnett

*Photo credit: Charlie Spagalli*

Even though koala distributions have remained throughout Queensland, New South Wales, Victoria and a small area in South Australia, their populations have declined considerably with many local extinctions over the past 200 years. Approximately 80% of koala habitat has been destroyed. Most of the remaining 20% occurs on privately-owned land.

Fossil records indicate that koalas once inhabited parts of Western Australia and the Northern Territory, however, there are no fossil records of koalas having ever inhabited Tasmania.

## BEHAVIOUR



**Nanango August 2020**

South Burnett

*Photo credit: Charlie Spagalli*



Koalas can sleep or rest for up to 22 hours a day, due to their low energy diet, and the energy required to digest fibrous eucalyptus leaves and their toxins.

Although, koalas are mostly nocturnal (active at night) as well as at dawn and dusk, they move during the day when disturbed, are too hot or cold, or are relocating to a new tree.

Koalas are solitary, existing within a network of overlapping home ranges. This allows contact between individuals during the mating season. The home ranges of koalas in southern and central Queensland can vary from 1km to 135km in size, and is dependent on the abundance of suitable food trees and the density of the local population.

Males begin calling in spring, to advertise their presence to other koalas nearby. They will seek out females to mate with and compete with rival males to establish their dominance.

# LIFECYCLE



## **Breeding:**

Koalas breed from August to February. They are increasingly mobile during this period as males compete for females. This is also a period where young from the previous year leave their mothers and disperse.

## **Birth:**

Koalas have a 35 day gestation before giving birth to a pink, hairless, blind and earless joey approximately 2cm in length and weighing less than 1 gram. Relying heavily on their well developed sense of smell and touch, joey use their strong forelimbs and claws to crawl unaided from the birth canal to the pouch. Once attached, the teat will swell to fill the joey's mouth to prevent it from being dislodged. The mother also contracts her sphincter muscle at the pouch opening, to further protect the infant from falling out.

Females reach reproductive maturity at 3-4 years of age before producing 1 joey every 1-3 years.

## **Infant**

Infants are milk fed for 6-7 months and feed on pap from 22 weeks. Pap is a specialised faecal substance necessary for joeys to acquire the gut microbes essential for the digestion of eucalyptus leaves. They remain with their mothers for approximately 12 months.

## **Adult**

Koalas live for up to 12 years with females producing 5-6 offspring.

# THREATS

## Clearing

Koalas are now contending with the consequences of previous excessive tree-clearing for development on the back of the hundreds of thousands of koalas that were shot for the fur trade during the 1920's.

Koalas can coexist effectively with grazing and other agricultural industries without decreases to production. This gives rural populations a significant advantage over their urban counterparts.



**Abercorn 5th August 2019**  
North Burnett  
*Photo credit: Susan Rayner*

## Disease

Koalas are susceptible to a range of diseases such as Chlamydia which is a bacterial infection and stress-related disease. Chlamydia weakens the immune system and can cause blindness and female infertility.

## Bushfires

Bushfires are a significant risk to koala populations as seen in recent years.

Decreasing fuel loads and regular cool backburns can decrease the risk and improve pasture and weed management.

## Cars and Dogs

The threat of cars and dogs increases when habitat is cleared for roads and infrastructure. The Australian Koala Foundation reports that over 4000 koalas are killed each year by cars and dogs.

Queensland Department of Environment and Science state that approximately 80 per cent of car impacts are fatal with dog attacks being slightly less with a fatality of 75%.

Wild & unrestrained domestic dog populations in rural and regional areas, not only pose an ongoing threat to koalas but also to livestock, pets and farming communities.

# KOALA SPOTTING

Koalas often go unnoticed as they rest high in gum trees, even though they are among the most easily recognised of all Australian animals, appearing as little more than a bump in a tree.

## Look down not up

While spotting a koala in a tree may be difficult, its droppings on the ground are quite obvious. These appear as small green-brown, fibrous pellets about 20 mm long and as thick as a pencil. It also smells strongly of eucalyptus. The fresher the pellets, and the more abundant, the more likely the koala is to be somewhere in the tree above.

In addition, when koalas climb they leave characteristic scratches on the trunk, which remain visible until the bark is shed. Stringybark trees will also have the outer layer of the older weathered bark scratched away, exposing the fresh layer beneath indicating it is frequently visited.

These signs allow you to gauge how frequently koalas use that particular tree.

## Listen

Male koalas have a distinctive call during the summer breeding season. The call is produced as the male 'snores' as he inhales and then gives a loud, deep roar as he breathes out.

Their call can be heard up to a kilometre away on a still night. A low-pitched bellow can be produced by females, similar to a male, or 'squawk' and 'wail' to indicate they are ready to mate.



Photo Credit: Tracks, Scats & other Traces

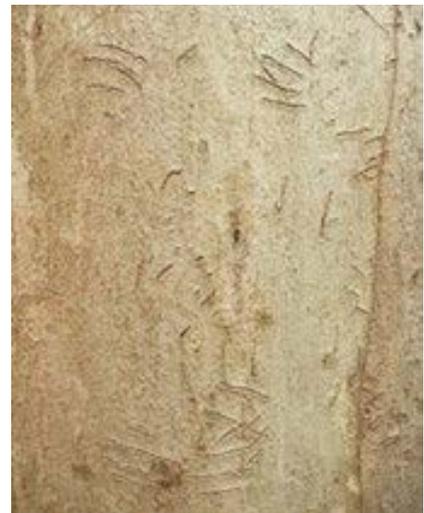


Photo Credit: Dept. Environment & Science



Photo Credit: Getty Images

# FAMILY FUN



**Nanango March 2019**

South Burnett

*Photo credit: Charlie Spagalli*

Koala spotting is a great family activity that is fun and gets children out into natural landscapes, discovering our incredible natural world.

Finding koalas in the wild can be like finding a needle in a haystack, but with the keen eagle eyes of children it might be easier than you think.

Even so, why not make the mission about more than just koalas? Take a walk, bring a picnic, look for insects, seed pods, scratches in the trunks of trees and koala poop. Enjoy the day outdoors!

## RECORDING KOALA SIGHTINGS

Burnett koala sightings can be recorded online:



Complete the survey via [Australian Citizen Science Association](https://biocollect.ala.org.au/acsa/project/index/322fa927-005f-4309-b569-8d2294f77c72) (<https://biocollect.ala.org.au/acsa/project/index/322fa927-005f-4309-b569-8d2294f77c72>)

**OR**



Download iNaturalist app via  or   
Create an account and join the Burnett Koala Program <https://www.inaturalist.org/projects/burnett-koala-program> to record your observations. Be sure to include a photo!

Click [here](#) for video tutorials to get you started

**OR**



Email the attached Manual Recording Sheet and photos to: [admin@burnettcatchment.org](mailto:admin@burnettcatchment.org)

# MANUAL RECORDING SHEET

Date koala sighted:

Time koala sighted:

Number of individuals:

Location:

Where was the koala:

High in tree

Low in tree

Ground

Other

Condition:

Sick

Healthy

Injured

Dead

Orphaned

Unsure

Size of koala:

(tick one)

Adult - bigger than a soccer ball when curled

Juvenile - smaller than a soccer ball when curled

Sex of koala:

(tick one)

Male

Female

unknown

If female, did she have young?:

Yes

No

Any other comments:

Did you capture a photo of this sighting:

Yes

No

(If yes, please email to [admin@burnettcatchment.org](mailto:admin@burnettcatchment.org))

Can we contact you about this sighting:

Yes

No

If yes, please provide your name and best contact (phone or email):

# BECOME A MEMBER

Becoming a member of Burnett Catchment Care Association (BCCA) means that you are the first to know of any workshops, field days, training, projects and/or funding relevant for you and your property.

BCCA is a member-based, not-for-profit, employing professional staff to develop and implement natural resource management projects across the Burnett Catchment.

We work directly with landholders to support sustainable land management practices.

Follow the link below to complete your membership form:

<https://betterburnett.com/members/>



**Nanango March 2019**

South Burnett

*Photo credit: Charlie Spagalli*



*Photo Credit: BCCA*

BCCA is an endorsed **Deductible Gift Recipient** registered with the Australian Taxation Office & the Australian Charities & Not-for-Profit Commission



**Tax Deductible Donations can be made to:**

Burnett Catchment Public Fund

BSB: 084 838

Acc number: 72 530 6779

For receipts please forward payment details to [admin@burnettcatchment.org](mailto:admin@burnettcatchment.org)

*SUPPORTING SUSTAINABLE LAND MANAGEMENT IN THE BURNETT*



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