

GUM TIPS

WINTER 2022



**BREEDING
PROGRAM**
takes shape

PLANT NURSERY
- from little things
big things grow

Start packing
for the 2023
KOALA CONFERENCE

COOPERNOOK STATE FOREST PAT: A KOALA CASE STUDY



Pat enjoying his leaf

Despite Pat’s serious injuries, rehabilitation is going well and we’re hopeful for his release.

On 30 April this year, a koala named Pat was brought into care at the Koala Hospital. He had been rescued after he was spotted on the ground and limping in Coopernook State Forest, approximately ¾ hour drive south of Port Macquarie. On admission, Pat was bright, of adequate body weight for his age (about 1 1/2 years old), and eating well - all of which are good signs. This suggested that his injury was acute (ie it had happened recently), which generally carries a better prognosis than a chronic condition of long duration.

After being given pain relief, Pat underwent a physical exam. This showed he had significant pain and weakness associated with his pelvis and left hind leg. Discomfort and abnormal function of limbs in otherwise young, healthy koalas is most often due to trauma. To assess for fractures, Pat was taken to Port Macquarie Veterinary Hospital for radiographs (X-rays). Unfortunately, these X-rays revealed Pat had sacral and pubic fractures. The sacrum is the fused part of the vertebrae in the lower back, whilst the pubis is the front part of the pelvis. The anatomy of koalas, especially young ones, means that these bones are incredibly small and fragile and therefore surgical repair was not the best option for Pat; a conservative approach was indicated.



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Cover image: Coopernook State Forest Pat



Pat's sacral and pubic fractures can be seen in this X-ray. The asymmetry of his pelvis is a good indicator a fracture is present.

Fortunately for us, koalas tend to be quite compliant when we prescribe 'rest', as they sleep for 18+ hours a day! A special room in our koala intensive care unit (ICU) was set up for Pat, where he had comfortable, easily accessible forks to rest in, and his daily leaf was positioned in easy reach. We had to take care that Pat was able to toilet normally and had good pain sensation in his leg- as his injuries meant sciatic nerve damage was potentially collateral damage. After 24 hours of questionable pain sensation in his left hind leg, this returned to normal, which was a great prognostic indicator for his ability to one day climb again. Low-level laser therapy, which is administered non-invasively through a special light device, was used to help accelerate the healing process and assist in pain relief.

After a few weeks in ICU, an intermediate rehabilitation enclosure then became Pat's new home. This meant he had a little more room to move, and we could assess his mobility better. We have seen improvements so far in his ability to climb and groom, so are feeling positive for his future.

The next steps for Pat will be to have repeat radiographs, to ensure his bones have healed and aligned adequately. This will happen in the next few weeks. Following this, we hope we can graduate Pat into a large rehabilitation yard, fully equipped with a tall tree. At this stage of his recovery, we are hopeful Coopernook State Forest Pat will demonstrate to us just how well he can climb again, letting us know he is ready for his release back to his wild home!

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3RD NATIONAL KOALA CONFERENCE - MAY 2023

Our third Koala Conference is shaping up to be a spectacular event with feedback already indicating excitement and anticipation.

This national event will be held in Port Macquarie, New South Wales, and is a must for wildlife carers, researchers, veterinarians and ecologists. Environmental and conservation organisations may also find the conference program relevant to their work and spheres of influence.

The theme for the conference will be 'Their future is in our hands', which is a longstanding slogan of the Koala Hospital, and now truer than ever following the Australian government's listing of the koala as endangered earlier this year.

The full program of speakers and events is yet to be announced but will include a wide range of topics relevant to the current status of the koala and the future of the species. We can confirm that the latest research on chlamydia and treatment outcomes will feature, as well as projects on the effects of climate change on koala populations, updates about assessment and treatment of burns injuries and changes to important legislation. More will be announced about the full program over the next few months.

Presenters will hail from varied fields including university

researchers, government agencies, frontline wildlife carers, wildlife veterinarians and koala ecologists, the majority from within Australia along with some international speakers too. There will be an ongoing display of work by undergraduate and postgraduate research students. Opportunities for sharing and positive collaboration typically characterise conference days.

Next year's event will be the third National Koala Conference hosted by Koala Conservation Australia, and we are delighted that it is finally going ahead because unprecedented bushfires followed by the pandemic caused us to cancel the original date in 2020 and postpone re-scheduling until now.

The conference dinner on the Saturday night will be popular, with our fascinating, mystery guest speaker at this point still 'under wraps'. Look out for more details coming soon!

Koala Conservation Australia will once again host and present the 'Golden Leaf Awards of Excellence', in effect the 'Academy awards of wild koala conservation'. It is a

great opportunity for some outstanding people to be acknowledged by colleagues and peers for their contribution to the conservation of the koala.

Categories include:

- Excellence - Individual wildlife carer
- Excellence - Young researcher
- Excellence - Koala Rehabilitation Group
- Excellence - University
- Excellence - Community outreach

The event will be held at a venue with excellent conference facilities on the Hastings River in Port Macquarie.

On the Saturday afternoon, there will be an opportunity for conference attendees to visit Guulabaa, 'place of koala', a short drive away in Cowarra State Forest. Here the new, world-first Wild Koala Breeding Centre will have just been completed!

Booking details for the conference will be released soon.



2017 Golden Leaf Awards



FIGHTING CHLAMYDIA



Koala with conjunctivitis

Chlamydia is a horrible disease for koalas, it causes extreme suffering and pain and is often fatal.

At Port Macquarie Koala Hospital chlamydia is the most common reason for koalas to be admitted for care.

Overt signs of chlamydia present in two forms, and can be found separately or together - proliferative conjunctivitis affecting the eyes, and 'wet bottom' caused by infection of the urogenital tract. If left untreated, both forms of the disease kill koalas.

The strain which is affecting our koalas is called *Chlamydia pecorum*. It was introduced into Australia by cattle and sheep imported by European settlers. The bacteria 'spilled over' from

farm animals to koalas. There are a few theories (not yet proven) about how this happened, including transmission by flying insects or ticks.

To date our knowledge about chlamydia in koalas has been based largely on our knowledge of the disease in humans. A different strain, *Chlamydia trachomatis*, infects humans, and as in koalas, it can cause conjunctivitis and a urogenital form of the disease. For humans, antibiotic treatment is generally successful, but for wild koalas it's a very different story. Firstly, cases in wild koalas are often detected at a chronic stage, where advanced disease has caused irreversible structural damage. Secondly, koalas are highly sensitive to antibiotics and the medication alone can kill them. This is because koalas rely very heavily on their microbiomes (healthy gut bacteria) to detoxify the tannins in eucalypt leaves, and to extract the nutrients they need. Unfortunately antibiotics do

not specifically target chlamydia alone and can cause dysbiosis, the destruction of vital, healthy gut bacteria. It is not unusual for koalas to die from dysbiosis.

Tragically, chlamydia is highly prevalent in some areas and a big contributor to the decline in koala populations. To save the species, it's vital we understand much more about chlamydia specifically in koalas. Currently Koala Conservation Australia (KCA) is involved in several exciting research projects, all of which should increase understanding across the country and our ability to treat and prevent chlamydia more effectively. This research will explore the biology of the bacteria (its characteristics and behaviour), disease transmission and effective detection strategies for wild populations. KCA will also participate in vaccine trials.

Look out for updates about the research projects in future Gum Tips.



Koala with 'wet bottom'

WILD KOALA BREEDING: PROGRESS UPDATE



Two healthy joeys

Rebuilding koala numbers and reversing local extinctions will be key to the survival of the species.

Koala Conservation Australia (KCA) is leading an ambitious endeavour to halt the koala's path to extinction. KCA has developed a conservation breed-to-release program, that is the first of its kind in the world.

Together with our founding partners, Taronga Conservation Society and the Australian Museum, we have developed a world-first conservation breeding program to release koalas to strategically important sites along the NSW North Coast.

Breeding koalas for release to reverse local extinctions takes a huge investment of time, resources and expertise in conservation breeding. Our team has taken over 18 months to establish the breeding program and will be sourcing 'founders', the initial koala breeding population, ahead of the 2023 breeding season. The team will also be searching the NSW coast to identify long-term monitoring sites that may support future releases.

The goal of this initiative is to breed healthy, genetically-diverse koalas for release in strategic sites on the NSW North Coast. The region is home to Australia's largest wild koala populations, but was one of the worst affected by the Black Summer bushfires. Rebuilding koala numbers and reversing local extinctions will be key to giving the species hope of survival in the future.

FIVE-YEAR MILESTONES



Genetic modelling and site research - scientists from KCA, Taronga Conservation and the Australian Museum are hard at work 'match making' koalas who will have genetically-strong offspring. At the same time, our conservationists are hunting for sites along the NSW North Coast where an injection of new koalas will make the biggest difference for their species.



Breeding begins - the action starts! Staff and volunteers from Koala Conservation Australia will manage the new population in their natural enclosures. That means caring for their health, creating optimum conditions for breeding and ensuring joeys develop the behaviours to survive in the wild.



First group of koalas released - the project aims to release the first 30 koalas when the conservation-bred joeys are at least 12+ months old and independent of their mothers. GPS collars and cameras will be used to track how koalas are adapting to their new environments, and work with a range of partners to monitor and improve their habitats.



Second group of koalas released - rewilding project underway. By year four, the hope is to have released another 30 koalas to strategic sites along the North Coast.



Third group of koalas released - the aim is to have introduced 90 new koalas across the North Coast, bolstering struggling populations and reversing local extinctions in this region. As the first phase of the project nears completion, we hope it will provide a blueprint for koala conservation breeding across Australia.



Mum and joey



Too big for the pouch!

PLANTATION NEWS



Our first koala tree and plant nursery is now established. More than 5,000 new koala food trees have been planted at Maria River.

We've been busy the last few months at our Maria River Plantation (MRP) on the north shore of Port Macquarie. Despite prolonged periods of very wet weather causing rescheduling and delays, we are delighted to report that our new tree and plant nursery has now been established at Maria River. In addition, an incredible 5,300 new koala food trees have been planted, enabling future care of patients and residents at the Koala Hospital.

New tree and plant nursery

A grant received through the WIRES National Grant Program (2021/2022), has enabled the Port Macquarie Koala Hospital to establish our first tree and plant nursery at Maria River Plantation. WIRES is Australia's largest wildlife rescue organisation with a mission to actively rehabilitate and preserve Australian wildlife and to inspire others to do the same.

Plantation Manager, Rory Thoms, built and created the nursery along with a team of volunteers. The weather has definitely got in the way of progress sometimes, with ongoing heavy rain causing flooding and awkward delays. So we congratulate and thank Rory and the volunteers for their dedication to the project. They have been collecting seeds from local eucalypts and other koala food species, plus other endemic trees and plants in order to encourage biodiversity throughout the plantation. In July this year, once the plant nursery is in full operation, we will be propagating seedlings for planting at MRP and also



Maria Rive Plantation nursery takes shape



New plantings at Maria River Plantation

at our Moripo Plantation, west of Wauchope. With the careful attention of Koala Hospital volunteers over forthcoming years, these trees will support the rehabilitation of sick and injured koalas into the future.

Looking ahead, we hope to increase propagation to levels where we can support other wildlife rehabilitation organisations and environmental organisations by making our seedlings available to them for their own plantations and programs.

New plantings

Seven species of eucalyptus tree seedlings were planted by All Above Reforestation Australia (AARA), funded by Transport for NSW. This extensive planting is a Biodiversity Offset* and an ideal solution to offset the roadside habitat removed for the improvement work at the intersection of Houston Mitchell Drive and Pacific Highway, near Port Macquarie.

Late last year AARA planted 1,000 trees, donated by Forestry Corporation of NSW. The trees are all koala food trees and the varieties comprised tallowwood, swamp mahogany, grey gum and forest red gum. In



Aerial view of Maria River Plantation

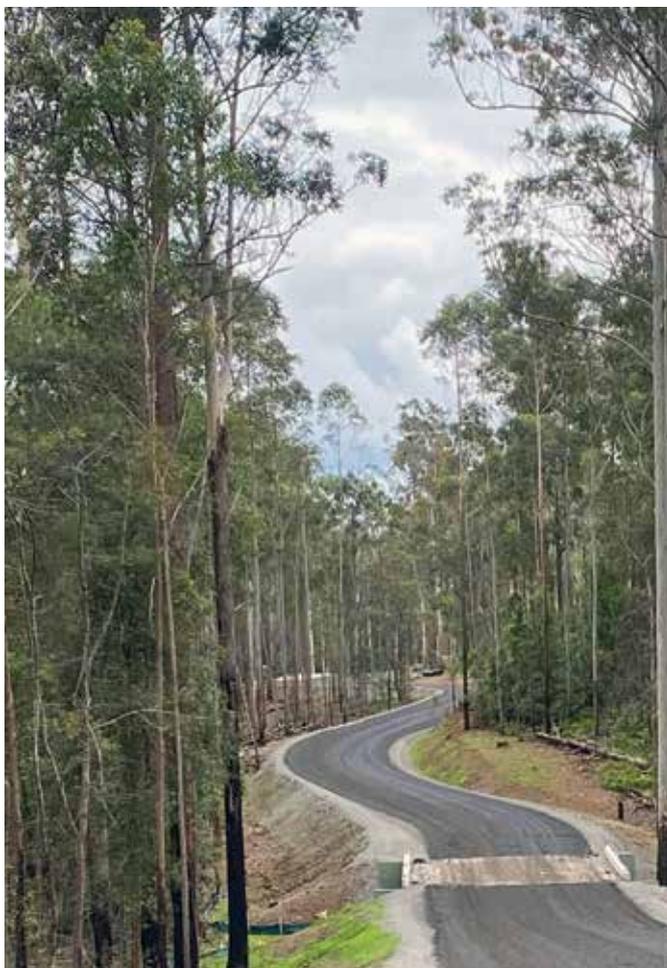
early May this year AARA planted an additional 4,300 trees. Species included the aforementioned, and also Sydney blue gum, grey box, white mahogany and red mahogany.

With the upcoming wet winter, we are confident these beautiful seedlings will grow well, with the best possible start to their long lives.

***New South Wales Government Biodiversity Offsets**

Biodiversity offsets are designed to environmentally compensate for adverse, unavoidable impacts of an action, and are intended to provide benefits to conservation of biodiversity in the long term. For example, if a proponent requires an area of native woodland to be cleared for a development to proceed, another area of similar woodland can be protected and managed for conservation in perpetuity. Over time, the gain in biodiversity achieved by improving the similar area of woodland will counterbalance the biodiversity lost due to the clearing.

GUULABAA TAKES SHAPE



Public road 2021

Guulabaa means 'place of koala' in the local Gathang language, and the Guulabaa Tourism Precinct is now taking shape with the recent completion of a sealed road, timber bridge, car park and perimeter fencing. Situated in Cowarra State Forest between Port Macquarie and Wauchope, Guulabaa is just a five minute drive off the Pacific Highway.

Guulabaa will become a unique visitor attraction and education precinct for the Mid North Coast region of New South Wales, Australia. Showcasing wild koalas and the local Biripi culture through a Bunyah Local Aboriginal Land Council run cafe and gallery, the precinct will become a nature-based rest stop for travellers on the Pacific Coast Drive.

The world-first wild koala breeding facility, funded through the kind donations by people from around the world during the 2019/2020 Black Summer Fires, will become a major facility for the rehabilitation and breeding of wild koalas. Eighteen months has been invested by partners, Koala Conservation Australia, (aka the Port Macquarie Koala Hospital), Taronga Conservation Society and the Australian Museum, working on developing the breeding program. Detailed papers for the breeding of wild koalas includes ethics, translocation, husbandry, field work, biosecurity and many other components.

Other attractions at Guulabaa will include a WildNets Adventure tree canopy experience, information about the world-leading forest management techniques employed in Cowarra State Forest and a 'Big Koala' commissioned by arts group, Hello Koalas.

All Guulabaa facilities and partners will focus on the unique and iconic koala and the importance of sustainability - including sustainable forest management and timber grown and produced in the local region.

NSW KOALA STRATEGY: UPDATE

Koala Conservation Australia (KCA) welcomes the release earlier this year of the New South Wales (NSW) Koala Strategy. The strategy is supported by a commitment by the state government of \$192.3 million, in order to achieve their objective of doubling koala numbers by 2050.

The strategy is broken down into four pillars for spending in the next five years, and identifies key targets.

1. Habitat conservation: \$107.1 million
 - a. 22,000 ha of koala habitat to be protected
 - b. 25,000 ha of koala habitat to be restored
 - c. One area of Outstanding Biodiversity Value and 20 Assets of Intergenerational Significance for koalas to be secured
2. Supporting local communities to conserve koalas: \$19.6 million
 - a. Up to eight regional partnerships to be set up with local councils and conservation groups
 - b. 10 koala stronghold areas to be better secured
 - c. At least 10 councils will be supported to develop koala habitat maps
3. Improve the health and safety of koalas: \$23.2 million
 - a. At least 10 vehicle strike hotspots to be addressed
 - b. Up to eight translocation projects to be implemented
 - c. More than 500 vets and vet nurses to receive wildlife care training

4. Build our knowledge of koalas: \$43.4 million
 - a. Baseline surveys of up to 50 populations
 - b. Ongoing monitoring at a minimum of 20 sites
 - c. Koala genetic diversity mapping
 - d. Priority research to be continued

KCA is keen to play a significant part in this vital conservation strategy and will be working with the government to identify and participate in projects to help stop the decline in wild koalas.

Further Information can be found at - <https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/programs-legislation-and-framework/nsw-koala-strategy>

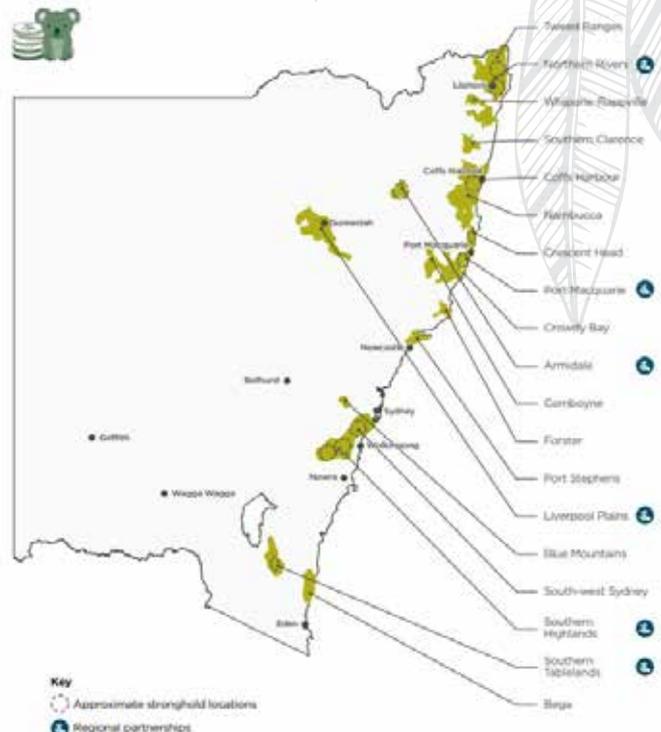


Figure 3. Locations of 18 populations for immediate investment and 6 regional partnerships, and indicative locations of koala strongholds. Two more partnerships will be identified as the strategy progresses.

Koala Emergency Rescue Line - Phone (02) 6584 1522

If you sight a koala in distress - call our
Rescue Line 24 hours a day / 7 days a week

E: info@koalahospital.org.au    

General Enquiries: 02 6584 1522

www.koalahospital.org.au

HELP WILD KOALAS TODAY!

Support our life-saving work by adopting a koala now –
for friends, family or just for yourself

Ocean Summer

Summer is a beautiful permanent resident at the Hospital, with quite a back story. Although her eyes look normal, she has been blind for 10 years since she came into care. She and her mother had been hit by a car in Port Macquarie and although Mum sadly did not survive, Summer was found nearby, traumatised and sitting by the busy road crying for her mum. In home care, her foster Mum realised quickly that Summer could not see. It's likely the little koala sustained permanent brain damage in the car accident. Summer is a relaxed, gentle character, always ready for her fresh breakfast at the start of the day. She's a canny koala and takes full advantage of the sunny spots in winter, and the shade in the summer!



Wauchope Jade

Jade is a koala shrouded in mystery and another of our permanent residents. Two years ago this adult female was found in the middle of the town of Wauchope. Where is Jade's all-important home range? Koalas have not been seen in the region around Wauchope for at least 80 years! Local searches and enquiries did not yield any answers and issues surrounding releasing an adult koala anywhere other than back to her home range, mean that for the time being Jade will stay in our care. Jade is lively and healthy, and like Summer, another stunning koala. If only Jade could talk, and tell us the full story of where she is from and how she popped up at a busy road junction in Wauchope!



eAdoption

Certificate sent by email as a printable file - \$50

Adoption Package

Sent by post, includes a certificate, your chosen koala story, a koala reference book, Koala Hospital bookmark and the latest edition of Gum Tips - \$70 within Australia or \$80 for international
Each adoption is a one-off payment valid for 12 months

**To view more koalas for adoption go to 'Adopt' on our website
www.koalahospital.org.au and follow the links.**

The majority of koalas admitted to the Koala Hospital are released once they have undergone checks, and treatment for injury or illness. Wherever humanely possible, animals are returned to the wild.