



If you see a sick, injured or dead koala, call the rescue hotline:
6622 1233

Treetops

The Newsletter of Friends of the Koala Inc.

June 2015

Patron: Margot Sweeney (CEO, Summerland Credit Union)



Saving Ballina's Koalas

It's a year since the previous NSW government approved the 155 kilometre Woolgoolga to Ballina section of the Pacific Highway upgrade – the final stretch in the duplication of the highway from Hexham to the Queensland border.

A couple of months later, in August 2014, the Federal Environment Minister, Greg Hunt, announced his approval, imposing additional conditions on the section between Broadwater to Coolgardie (Section 10). These included the need to better consider the potential impact of the upgrade on the koala population. The Minister's acknowledgement of the 50,000 public submissions he had received heartened campaigners. The job ahead of us is to ensure the processes associated with meeting his conditions are robust and transparent.

Over these past months campaigners have been very, very busy, easily exceeding our petition target of 10,000 signatures so that the new NSW parliament

will hear what's at stake for Ballina's koalas should the route for Section 10 be allowed to proceed. The petition of 17,149 signatures is expected to be presented and discussed in the Legislative Assembly in August following the winter recess.

You may ask why we are bothering with the NSW government given the election outcome and that the Federal minister will ultimately determine whether or not the impacts from the proposed highway route are acceptable for the koalas' survival.

In the first place, the Federal conditions build on those imposed by the NSW government utilising many of their elements. For example, the Koala Expert Advisory Committee which is providing advice to the Project Team on the population viability analysis modelling, mitigation measures, etc., will report to the NSW Minister for Roads and Freight, Duncan Gay, MLC. It'll be the NSW government's report that will be considered by Greg Hunt.

The new parliament should understand the extent of community concern for the koalas. It also needs to know that the Roads and Maritime Service (RMS) has not identified an alternative route in the event of mitigation being insufficient to prevent extinction. There's no question about the upgrade needing to be completed. Timeliness however may depend on parliament instructing RMS to identify an alternative route for Section 10 which does not impact on the koala population.

Finally, the NSW government must commit to reassuring stakeholders and the broader community on the process. RMS has a huge investment in steaming ahead with the proposed route. Properties were acquired years before the ap-

provals of either the NSW or Federal governments were in place. We are urging the NSW government to make public background information, informing reports, meeting minutes etc, Although RMS is providing some information on its website and proposes to make available the report to the Federal Government, once it is forwarded, our view is



Delivering the petition at Parliament House, (l-r) Shadow Minister for Roads and Freight, Jodie McKay, Shadow Minister for the Environment, Penny Sharpe, Member for Ballina, Tamara Smith, FOK President, Lorraine Vass, IFAW Campaigns Manager, Matt Collis

that there should be opportunity to comment before it is submitted.

NSW Labor's commitment to protecting the region's koalas remains strong. IFAW's Josey Sharrad and I briefed the new Shadow Minister for Planning and the Environment, Penny Sharpe, MLC in late May. She visited the Koala Care Centre on 12 June and inspected parts of the proposed route to see first-hand its potential impacts.

The fabulous concert held on 23 May at the Missingham Amphitheatre in Ballina was a credit to Simon Chate and his team. Thank you! Bringing together such great musicians and performers as Luke Vassella, Sara Tindley, Kazya Karski, Dale Gilmour, Timothy Rupert, Horace & his Harem and Tommy Franklin, not to mention Simon himself was a marvellous achievement, enjoyed by everyone who braved the showers and wind to attend.

Continued p6

What's Inside

»President's Message	2,8
»Care Coordinator's Report.....	3,4
»KIDReG News.....	4
»Koala Health Hub	4
»Care Centre Coordinator's Report.....	5
»FOK's Vaccine Trial	5
»Save Ballina's Koalas (cont)	6
»Genetic Analysis of Wardell Koalas Underway.....	6
»The Great Koala National Park	7
»Jiggi Valley Koalas.....	7
»Upper Mooki Landcare Inc v Shenhua Watermark Coal Pty Ltd	8
»Helping Hillcrest's Koalas.....	8
»Investing in the Koala Conservationists of the Future.....	9
»Restoring Koala Habitat – 3: Planting Techniques	10
»National Koala Alliance	10
»Koala Gardens at Tuckurimba.....	11
»Dates for your Diary	11
»Advocacy and Policy Reform Report	12
»Bulletin Board.....	13
»In Praise of Leaf Cutters.....	14
»Member Profile – Lyn Olive	14
»Application/Renewal Form	15
»Contact Details	15

President's Message

The winter solstice has come and gone. The days are short, mornings cold. I smelt a koala yesterday but couldn't find it. Returning to my computer and its endless emails, I wondered at these aloof animals hidden away in the canopy and the network of incredible people doing their best in various ways to protect them and their future.



Lorraine Vass

Are we winning? It doesn't feel like it. Indeed, behind the spin governments have all but abandoned nature and the koala with it - a direct correlation, some would argue, of people's disconnect from nature. It appears to be up to the committed few to swell the ranks of the nature-supporters if the environment (including koala survival) is to become a ballot box game-changer.

All licensed wildlife rehabilitations groups are expected to foster an understanding of native animals and the natural environment within the wider community. Understanding is hard enough but Friends of the Koala's sight is set higher; we aspire to broader participation in our koala conservation mission.

Earlier in the year we lodged a grant application to develop and implement a koala communications plan, the aim being to create a network of koala champions across the Northern Rivers who will use social media to reach out to the general public to increase knowledge of and interest in thinking, caring and taking action on the conservation and care of koalas in their neighbourhood. You might remember reading about this in the last issue of *Treetops* (*New look LECG Program*, p.14)

The application has been successful but only to the extent of 60% of the funding required. We'll proceed, but with a significantly lesser project than planned.

People often ask me how Friends of the Koala's work is funded. My response seems to surprise most enquirers who apparently ask the question with the expectation that funds for conserving the iconic koala would be easily come by.

While it's true that well over half our income is from grant programs, almost entirely funded by government, what people generally don't understand is that they are highly competitive and their application and acquittal processes are complex and time-consuming. What's

more in recent times there has been a marked shift away from assistance in meeting administration and overhead costs to project-specific programs.

Even an entirely voluntary organisation incurs administrative and running costs. Because of our central care and nursery facility, Friends of the Koala's overheads are relatively significant. Until recently there were competitive grant programs available to environmental organisations to assist in meeting these costs.

The Federal Government offered the Grants to Voluntary Environment, Sustainability and Heritage Organisations (GVESHO) but that was axed in the 2014 Budget. The State Government offered the Environmental Trust Lead Environmental Community Groups Administration Assistance Program (LECG) but this year the program focus has been changed to assisting community education and capacity building activities. Even Lismore City Council's revamped Annual Community Grants Scheme has become project-based, projects being defined as activities beyond the organisation's "normal business".

All levels of government are vigorously promoting volunteering and increased community participation but they are certainly not thinking through how to maximise the voluntary effort into improved services and their delivery. In the 2015-16 financial year we are down by approximately \$18,000 in admin funding which has been made up by re-directing general fundraising and donations. My gripe is why should volunteers have to spend their precious time fundraising to meet overhead costs?

As you will have gathered from the lead story, the Save Ballina's Koalas Campaign remains a huge undertaking, stretching our limited resources. It's important to realise that as well as being the Campaign's co-sponsor, Friends of the Koala is a critical partner, along with Ecosure, Biolink, Southern Cross University and numerous landholders in the Pacific Highway upgrade study area, in the development of the population viability analysis modelling required in the Federal Environment Minister's consent conditions on Section 10. For example, the mortality analysis is based on our 26 year dataset, and tissue samples collected by us are informing the population's genetic profile and relationships. Sick animals captured in the course of the fieldwork are in care with us and we have facilitated collection for sampling of deceased animals reported from the study area.

No doubt some amazing stories will come out of the close scientific scrutiny that Ballina's koalas are receiving. The tragedy is, as always, that so many of the most interesting studies are triggered by development proposals that ultimately lead to the demise of the koalas under investigation.

I don't have to tell you that too many koalas in our region persist in a very fragmented landscape of remnant and planted native vegetation. In Ballina Shire for example, the third of the koala population which isn't living in the relatively intact southern reaches, depend for their existence on windbreaks planted around macadamia orchards. Lismore's windbreaks haven't been mapped but if they were, I'd expect a similar proportion of the koala population to be dependent on them.

Windbreaks not only support small permanent koala colonies they also provide the means for transient animals to cross the landscape. Over the years we have tried to mitigate their removal by raising awareness of their importance to koalas and negotiation, with mixed success. To some extent the cost of removal and disposal has worked for the koalas, at least those using the windbreaks on smaller holdings. Recently however, it's come to our attention that planted eucalypts are being used as woodchips or timber for fuelling the co-generation plant at the Broadwater Sugar Mill.

Two incidents have been reported. One involved removal of a windbreak of mostly Flooded Gums on a macadamia orchard at Rous Mill and the other thinning of a 15ha joint-venture plantation of Dunn's White Gum at Wyrallah. In both cases the vegetation was known to be used by koalas. Indeed a female koala, Flossie, was brought into care from the orchard. She had become trapped in the felled trees. While she sustained only superficial wounds, her ordeal was extremely stressful and she is still in care. We believe she had a joey because she was lactating. The joey's fate is unknown.

We wrote to Cape Byron Management which operates the co-generation plants at Broadwater and Condong expressing our grave concern for the region's koalas should planted native timber continue to be used for fuel. The CEO has met with us, confirming that sawmill waste, planted windbreaks, plantations (in both cases whole trees, some chipped on-site) and a little bit of camphor is essential for complementing the amount of bagasse available. He also gave his assurance that a single, reputable contractor is being

Continued p8

Care Coordinator's Report

With winter well and truly here, koala activity is almost minimal. It's always the same at this time of the year and every year I can't help but think our koalas populations really are shrinking.



Pat Barnidge

Relying on memory can be tricky so for this report I checked the number of calls received for the same period in

2014, (excluding koalas already in care) for comparison. The number of calls logged last year was 90 and for this report, 97 calls. So, it's slow but not abnormally slow. No doubt the annual stats at 30 June will look pretty much as they always do.

While most of our koalas simply "hide" from the public's view during the colder months, sporadic rescues occur. Mostly the animals are in very poor condition and beyond our help. Having said that, a couple of juveniles in care with mild chlamydial symptoms (conjunctivitis and cystitis), are a challenge for treatment. These youngsters are very feisty. Administering their daily antibiotic injections is not fun.

A young female, Flossie was brought into care when a windbreak of 159 Flooded Gums was removed in the Rous area. This small 4-year old was found wedged under the felled trees and it took



Flossie

some time to extract her. We don't know if she was in the tree when it was felled or whether she came out overnight to feed and became trapped. What we do know is she was lactating but we could find no sign of her joey. Not surprisingly we had one very frightened, stressed girl to care for.

She lost 700gr in weight within the first week and also developed candida or thrush and we feared for her survival. Thanks to Lola Whitney our Care Centre Coordinator, who took over Flossie's sole care, she calmed down sufficiently for her medications to be administered.

Amelia was a sad loss over this period.

She was getting close to soft release but suddenly became sick and was diagnosed with leukaemia. There was no choice but to euthanase.



Dot, Lila (above, right), Leah (right)



Caramello, who was only released during the last quarter, was again rescued not far from his release site. On this occasion he was not so fortunate. After



Home-carers, Sue (l) and Susannah with Dot in soft release

only three months of freedom the cystitis had returned doing irreparable damage to his bladder. His body score condition had dropped from six at release to two and he had lost 2kg. in body weight. Sadly he too was euthanased. Caramello was 4 years old.

Another tagged koala reported deceased was Buddy, a 9 year old male, who had been released two months prior. We were unable to assess his body, so the cause of death is unknown.

Our lovely boy Jack, who had been in care twice was also found deceased at the base of a tree. Post-mortem revealed peritonitis and an enlarged spleen. We are still awaiting findings of tissue samples. Jack, a real "ladies man/koala" was released two years ago so we expect his genes live on.

Lastly koala Alice was reported deceased seven years after being released as a 2 year old. To receive feedback of an animal, especially a female surviving for so long gives us some encouragement that our work does make a difference.

In early June three female joeys were moved into a soft release site for the final stage of their rehabilitation. This is always a nervous phase for their home carers who invest so much time and effort in getting these little ones to their optimum weight and condition. Depending on their personality, release into a "big tree" without a Mum to teach them how to climb backwards down a tree once they have raced up can be quite a challenge. Usually instinct kicks in after the first few days and they become more adept and confident. Contingent on their tree climbing skills we will expect to release these joeys in two or three weeks' time. Hopefully they will all enjoy healthy, productive lives.

While only three animals were released during this quiet spell we still have eight joeys in care, six of which are due for release over the next couple of months: the three girls in soft release plus three others still in home care.

There are seven koalas at the Care Centre so our workload is starting to climb again.



Pat's outdoor run being installed

In finishing off I'd like you to know that the enclosure installed in my backyard is now operational. Finally my house is back to some semblance of order.

Bill Sheaffe did a wonderful job of building the perches. Lauren and Kim love being outside, exploring this next stage of their release. Thank you so much Bill. Prior to their departure Rick Stewart had made a second indoor tree at short notice as they no longer wanted to share the same structure. Thanks Rick, the resumption of some sleep was very welcome.

My thanks as always to Keen St Veterinary Clinic, Currumbin Wildlife Hospital and Australia Zoo Wildlife Hospital for their on-going veterinary care and support.

—Pat Barnidge

Koala Care Statistics 28 February 2015 – 26 May 2015
Friends of the Koala attended to or provided advice on a total of 112 koalas

	In Care	Released	Died	Dead on Arrival	Euth.	Unable to find/capt.	Transfer	Advice
Injured (2)			1		1			
HBC– Road strike (6)	1	1		3	1			
Dog attack (1)					1			
Diseased/Sick (43)	6	2	4	4	20	1		6
Health status un- known / unrecorded (12)				8		2		2
Healthy/Assumed Healthy (37)	2							35
Orphans/joey (10)	8				2			
Permanent Care (1)	1							
Totals (112)	18	3	5	15	25	3		43

KIDReG News

The Koala Infectious Diseases Research Group has another new student to announce. He is Timothy (Tim) Bennet.

Tim is a 4th year Bachelor of Animal and Veterinary Biosciences Honours student. His project is a collaboration with Damien Higgins and Andrea Casteriano at the University of Sydney and Bill Ellis and his team at the University of Queensland. It is funded by the Queensland Government.

Ellis determined that a population of koalas on St Bees Island has a low prevalence of chlamydial infection, of around 30%. The population appears less affected by the disease with a 65% fecundity rate. There is a marked decrease in clinical signs compared to mainland populations. It therefore serves to act as a model to determine why there is such a low virulence in remote populations such as these.

To fully understand the low prevalence of disease in this population it is important to know whether these animals have been infected and overcome the infection, or if there has merely always been a low rate of infection.

PCR (Polymerase chain reaction), a molecular diagnostic testing method for detecting parts of chlamydia bacteria, is a common method used to determine whether an animal is currently infected and has been a vital tool for many studies in the past, in order to better understand chlamydia disease.

However, this method is limited in that it cannot determine if those that are negative have been infected in the past and recovered (animals are resistant or the *Chlamydia* is less virulent), or have

never been infected (i.e. transmission rates are low).

The development of an Indirect ELISA, (an ELISA test being a popular format of "wet-lab" type analytic biochemistry assay that uses a solid-phase enzyme immunoassay to detect the presence of a substance, usually an antigen in a liquid or wet sample) which Tim is aiming for, would allow us to look at chlamydial antibody levels that had been built up after a previous infection of the animal and to see any evidence of previous infection that might exist, to answer this question.

To find out more about KIDReG's work visit: <http://sydney.edu.au/vetscience/research/koala/index.shtml>,



searchers, koala carers and koala managers to establish key needs in three areas: koala care and rehabilitation; disease prevention and management in free-ranging koalas in NSW and, effective collection, reporting and storage of data. Then, establishing working groups to develop collaborative externally funded projects addressing the key needs, establishing an online presence to facilitate communication among groups.

The first Koala Health Hub quarterly email bulletin was published in June. It included a round-up of the Regional Stakeholders' Workshop, information about the Hub's diagnostics services (and forms), plus fact sheets on Chlamydia Swab collection, Koalas and genetic diversity and Koala Retrovirus.

The e-bulletin can be accessed at: <http://wordvine.sydney.edu.au/files/1417/8361/>

—Lorraine Vass

Koala Health Hub

The Hub is now in to its second year of funded operation. Following the successful stakeholder workshop held in February, the advisory committee has met twice, in April and in June.

Committee members are Damian Higgins (Director, Koala Health Hub, Chair), David Phalen (Wildlife Health Clinic, Camden), Tiggy Grillo (Wildlife Health Australia), Mark Krockenberger (Director, Veterinary Pathology Diagnostic Services), Lorraine Vass (Koala Care Groups), Andrea Casteriano (Technical Officer, Koala Health Hub) and Caroline Marschner (Researcher, Faculty of Vet, Science USYD) also attend meetings.

This year the Hub is focussing on consultation and collaboration by first, facilitating deeper consultation with re-

2015-2016 Subscriptions Due 1st July

It's time to renew your membership with Friends of the Koala. Even if you are not an active member of the group, your annual membership fees go a long way to support the organisation.

You can make a small (or large!) donation at the time of your membership renewal (see form on page 15).

Add your chosen amount in the donation field on the form and we will send you a separate tax deductible receipt (for amounts over \$2.00).

Care Centre Co-ordinator's Report

Either *Treetops* deadlines are coming round faster or we're all dragging the chain. Then again, perhaps there's simply not much to report at this time of the year.



Lola Whitney

The past couple of months have been quiet with not many koalas to look after. It was good to have a break from the Centre's heavy workload. By rotating our hard-working volunteers, most could

have a day off now and then. Not for long though. Now I'm calling people in to work extra shifts because we've lost the single semester overseas students from Southern Cross University as well as one or two others who have found jobs or who have relocated. Such are the travails of managing a volunteer workforce.

On any given week around 50 volunteers are rostered to work at the Care Centre. Most will be engaged in tasks associated with koala care, but a few work in the plant nursery and keep the grounds tidy. Tours and educational visits are conducted and some administration. For those who do most of their work from home, the Centre is where they catch up with each other, meet visitors, convene small meetings, collect their mail or hold media events.

The redevelopment plans mentioned in the last issue of *Treetops* are progressing. The Committee has agreed to obtain construction and associated costings, however the sad fact is that without significant external grant or other financial assistance there is no guarantee that a new building will proceed. Benefactors are in short supply. If you know of one, we'd like to hear from you.

In the meantime I am very grateful to Bill Sheaffe and Steve Wood who both put in so much time to do the ongoing repair jobs that crop up. I'd also like to mention Michael Chapus who is doing such a fantastic job maintaining the garden and grounds.

Thanks to Ros Irwin and her team of leafers who travel the district every day harvesting fresh leaf for our koalas. Even with the development of additional food tree plantations in recent years the

job is not always easy.

We are so indebted to those landholders who are providing space on their properties that we are now offering an attractive sign for them to display. The first was presented to Wyrallah farmer, Lucy Kinsley in May. Over the past three years she and her partner, Scott McKinnon have planted about 2,000 food trees which, although not yet harvestable are already being used by their local colony of some 18 koalas.



Lucy Kinsley receiving her sign from Rick Stewart, FOK's Plantation Co-ordinator

To finish off I would like to reiterate my sincere gratitude to all our volunteers, some of whom travel long distances to help at the Care Centre. Collectively you are a fantastic bunch to work with - the koalas' welfare foremost in your hearts.

The two hardest working women I know are our President, Lorraine Vass and our Care Co-ordinator, Pat Barnidge. A big thank you to both for the long hours you put in for the welfare and future of our amazing koalas.

—Lola Whitney

FOK's Vaccine Trial

Friends of the Koala (FOK) and the Keen Street Veterinary Clinic in Lismore recently worked with us here at the University of the Sunshine Coast (USC) to undertake a vaccine study on animals in care at the Koala Care Centre. The study wrapped up early this year.

With success in captive studies in inducing a significant immune response, we aimed to determine if the vaccine was to have any 'treatment' effect in animals already infected. That is, if it would be able to decrease chlamydial infections and outward clinical signs of disease, as well as provide protections against new infections. This is important

as the current antibiotic treatment regime for koalas is not a long-term solution; it can adversely affect their gut microflora, does not treat severe cases, nor prevent recurrence.

In this small project we aimed to vaccinate koalas with active infections and clinical signs of disease at the ocular site to determine if the vaccine could 'treat' the infection (i.e. the amount of *Chlamydia* in the body) and the disease (i.e. the clinical signs of disease, e.g. conjunctivitis, wet bottom). Thus, as a preliminary trial we vaccinated four male koalas that came in to care at FOK late last year (Cato, Elmo, Perry and Knox). All koalas were presenting with severe ocular chlamydial disease at inclusion into the trial.

Impressively, all four of the vaccinated animals cleared their chlamydial infections (i.e. the amount of *Chlamydia* in their body) between 30 and 90 days post-vaccination. Further, two of the four animals (Perry and Knox) also showed improvements in their disease symptoms by 60 days post-vaccination (i.e. improvement in ocular disease).

The two koalas (Cato and Knox) who, despite clearing their chlamydial infections, did not see an improvement in their eye disease were both showing higher levels of antibodies against Koala Retrovirus (KoRV) than Perry and Knox. KoRV has been implicated in immunosuppression of its host, and may be linked to lymphoma, leukaemia and *Chlamydia*. In fact Cato was unfortunately euthanased due to KoRV shortly after the trial ended.

To conclude, this preliminary study at FOK has shown very positive results. It has shown that the vaccine has the potential to eliminate *Chlamydia* levels in the koalas, and has a positive effect on decreasing disease in at least 50% of animals. This is a very promising result



Courtney (l) visited the Koala Care Centre to debrief the Veterinary Team and FOK members

considering that the severity of the disease in these four animals was extreme, and even antibiotics would struggle to decrease symptoms of this nature.

Further studies will help us to quantify the effectiveness of the vaccine as a treatment, as well as a protective, tool for our koala populations.

—Courtney Waugh
Postdoctoral Research Fellow
University of the Sunshine Coast

From p1 Our thanks also to Numbahjing Elder and Native Title claimant, Susan Anderson, who delivered the welcome to country, Mel Yakas and helpers who painted plenty of kids' faces, Boorabee (aka as Anthony Galway) who hugged kids of all ages, Amanda Bromfield, Aliison Kelly and Lola Whitney who sold lots of raffle tickets, the snag-sellers, the T-shirt organisers and all those other volunteers who letter-boxed concert flyers throughout Ballina – the afternoon was an extremely successful fundraiser and networking opportunity as well as a much-needed relaxing social gathering.

So, where to next? Well, we need to continue promoting the Campaign in the media and to keep our supporters well-informed. With the extensive database of email addresses now at our disposal, partner IFAW, (International Fund for Animal Welfare) is providing updates and issuing action alerts, currently, leading up to petition's tabling, the new NSW Environment Minister, Mark Speakman and copying to the Federal Minister, Greg Hunt. We need to continue extending our support-base and to actively engage supporters where possible.



Sedated koala undergoing sampling...

We also need to be keeping a careful eye on the science. Now that the field work to construct demographic and genetic profiles of the koala population has been completed, the historical mortality data analysed and the koala density/population estimates refined, the population viability modelling process and the broader genetic study are commencing (see following story).

We have already written to the Chair of the Koala Expert Advisory Committee, NSW Chief Scientist and Engineer, Mary O'Kane to request regular communication on the matters



... then released by Maria Matthes

covered in the Committee's meetings and any other business of mutual interest. Disappointingly, it has been made clear that the Committee's role is limited to advising the Project Team and to informing the Minister for Roads and Freight.

While writing this piece I have taken a phone-call from a sugar-cane grower whose family property lies in the path of the preferred route. This grower has previously denied surveyor access to his land but today he has been served notice that in 24 hours surveyors will delineate that part of it to be requisitioned.

Little wonder that many in the community view the Federal koala protection conditions a sham and the route of Section 10 a done deal.

Be that as it may, the Federal Minister has a legal obligation to ensure the long-term viability of the Ballina koala population and we support the intent of the conditions he imposed. Community advocacy has always been the driver for good environmental decisions in this country. At the end of the day it will be the community that keeps him up to the mark.

—Lorraine Vass

Genetic Analysis of Wardell Koalas Underway

Assisted by Southern Cross University (SCU), Friends of the Koala have for some time now been engaged in collecting tissue samples from the koalas that come into care, the intent being to assist in furthering knowledge about koala populations in far north-eastern NSW.

As at May this year, nearly 200 samples had been collected. Additional work has been underway in the Wardell area over the last few months as part of investigations regarding the proposed upgrade of the Pacific Highway to the west of Wardell which has resulted in additional samples being collected.

Facilitated by some part-funding from the Roads and Maritime Service, work is now in progress by SCU's Prof. Les Christidis, Dr. Janette Norman and Dr. Caroline Blackmore, to take a closer look at the genetics of the Wardell koalas in the context of other local and regional populations, while also looking at the movement of genes within the boundaries of that area identified by the Ballina Koala Study as supporting the important population for purposes of the Environ-

ment Protection and Biodiversity Conservation Act.

To answer the first question regarding the relationship of the Wardell koalas to other regional populations, genetic information from the Wardell koalas will be compared to (i) a western population extending from East Coraki to Wyrallah, (ii) a northern population extending from south Lismore to Alstonville and, (iii) the population located to the north of Lismore and extending to Nightcap National Park. The latter two koala populations (north and south of Lismore) are known to be genetically distinct and provide an important reference for the extent of genetic divergence amongst regional koala populations.



Steve Phillips receiving tissue samples collected by Friends of the Koala from President Lorraine

To look at what is going on within the Wardell koala population an analysis of relatedness will be undertaken using weighted gene frequencies for the population with pairwise comparisons amongst individuals used to determine if genetic relatedness declines with geographic distance. This approach will provide insights into patterns of familial dispersal and local population dynamics. Particular attention will be paid to estimating patterns of relatedness, dispersal and population structuring in the southernmost sector of the Wardell metapopulation; an area of contiguous habitat to be bisected by the proposed Section 10 Pacific Highway realignment.

The results of the study are expected to be completed over the next couple of months.

—Steve Phillips

Treetops is printed on recycled paper.



The Great Koala National Park – Protecting our National Icon

The North Coast Environment Council has long nurtured the concept of a reserve system for koalas on the North Coast. The man who has done most of the work on the Great Koala National Park is Ashley Love, President of the National Parks Association, Coffs Harbour Branch. Backed by the Council, the National Parks Association developed a comprehensive proposal that was introduced into the public arena by "Our Environment, Our Future", NSW's lead environment groups' policies for the 2015 elections. Campaigning for establishing a Great Koala National Park is now well underway. – ed.

As you are probably aware, our koalas are in serious trouble. Numbers in NSW have plummeted by a third in just twenty years, and habitat loss and fragmentation have already resulted in koalas disappearing from 75% of their former range.

Most of the remaining high quality koala habitat lies in state forests and on private land, where clearing of native vegetation and logging is leading to the removal of vital food and habitat trees. In the future, the changing climate will serve to further exacerbate these threats.

Yet, despite over 80% of NSW's koalas living outside of protected areas, no national conservation reserve has been set aside to ensure their survival. By contrast, China has established a national park covering one million hectares of bamboo forest to protect their Giant Pandas. Large and well-managed protected areas such as these remain the single most effective tool of conserving biodiversity.

The Great Koala National Park is a grand vision to secure the future of NSW's koalas before it is too late. Part of a strategic koala reserve plan, the proposed park will include two interna-

tionally significant koala metapopulations, estimated to contain almost 20% of the state's remaining wild koalas.

The comprehensive proposal was developed by the National Parks Association of NSW (NPA) in association with individuals and community conservation groups on the NSW north coast after extensive research.

Spanning 315,000ha, the new national park can be created by combining 175,000 ha of state forest, with 140,000 ha of existing protected area in the Coffs Harbour region.

This spectacular landscape hosts lush World Heritage rainforests, some of the world's most diverse towering eucalypt forests, and an array of threatened species, such as the Hastings River Mouse, Spotted-tailed Quoll and Powerful Owl. This means that Great Koala Park would have biodiversity and environmental benefits far beyond protecting our national icon.

The new park would also provide long-term, sustainable economic and cultural benefits to surrounding communities such as Bellingen, Coffs Harbour and Dorrigo. Less visible but vital benefits include the safeguarding of water supplies and carbon storage.

NSW Labor and the Greens have already committed to developing the new park, now NPA is working hard to persuade the NSW Government to do the same. To find out more about the Great Koala National Park and to pledge your support visit www.koalapark.org.au

—Tandi Spencer-Smith
Communications Manager
National Parks Association of NSW

Jiggi Valley Koalas

As the population and social dynamic of the Jiggi Valley is constantly changing the need to inform, especially on environmental matters, becomes necessary.

Jiggi Catchment Landcare has a series of educational signs, funded by Richmond Landcare Inc. to assist the community to better understand their natural environment. These are displayed on the roadside at the gateway to the valley.

Koalas have been reported throughout the length and breadth of the valley but few people have had the pleasure of seeing one, many residents were not aware they were found in the area.



Jiggi Valley koalas are relatively safe in comparison to their urban Lismore relatives. The main movement corridor is along well timbered ridges with little need to cross roads on the valley floor.

However no native animal is safe until everyone takes responsibility for their domestic pets and the feral animals on their land.

—Julie Reid



Upper Mooki Landcare Inc v Shenhua Watermark Coal Pty Ltd and NSW Minister for Planning

EDO NSW is representing Upper Mooki Landcare in its legal challenge in the NSW Land and Environment Court to the approval of Chinese mining company, Shenhua's open cut coal mine on the Liverpool Plains in north-western NSW.

These are judicial review proceedings arguing that the NSW Planning Assessment Commission (PAC), which approved the mine on behalf of the NSW Minister for Planning, failed to properly consider whether the mine was likely to significantly affect Koalas, a threatened species, as required by the Environmental Planning and Assessment Act 1979 and the Threatened Species Guidelines. If the mine goes ahead it will clear 847 hectares of koala habitat.

The group contends that the PAC failed to assess whether the mine would place a viable local population of Koalas at risk of extinction, as required by NSW Environmental Planning and Assessment Act 1979.

Koalas are currently listed as vulnerable to extinction in NSW under State and Federal law after numbers dropped a third over the past 20 years. This means they are facing a high risk of extinction in NSW in the medium-term future.

The PAC stated: "The [Gunnedah Koala] population has reduced significantly, as a result of droughts and heatwaves, with the estimated reduction of up to 70% since 2009."

The evidence before the PAC was widely varying in terms of the estimates of Koalas within the Gunnedah Local Government Area. Shenhua used population estimates of 12,753 animals for the entire Gunnedah Local Government Area. The Australian Koala Foundation estimates that there are only 800-1,300 animals in the Gunnedah Local Government Area.

The NSW Office of Environment and Heritage, in its submission to the mine assessment process, stated: "The assessment of significance [of impacts] for the Koala is totally inadequate. No details of the actual Koala population to be impacted upon, nor what impact the Project will have on the population is provided."

The plan for managing the impact of clearing 847ha of the Koala habitat noted in the PAC's report is that "the animals will be encouraged to naturally move away from the habitat that is being cleared. If the animals do not naturally move, then a translocation plan will be implemented". There was evidence before the PAC that translocation programs have resulted in significantly high mor-

tality rates.

A directions hearing on the case was held in the NSW Land and Environment Court on June 5.

To find out more about how you can help the EDO to help the community to defend the environment in court, go to: <https://www.givenow.com.au/edonsw>

EDO NSW e-Bulletin – 15 June
2015: Number 912



From p2 used. Cold comfort but we appreciated that he was keen to put the company's case.

Interestingly, Sustain Northern Rivers and the Office of Environment and Heritage NSW have been investigating the community's perceptions and awareness of bioenergy in the region. A report, titled *Assessing Community Support and Feasibility for Bioenergy in the Northern Rivers Region*, was released in mid-May 2015. It found low awareness amongst community members about bioenergy (p.i), concluding that "A lot of work must be done before a social license for bioenergy can actually be developed." ... "Forest waste from plantations should not be explored as an option until further research and assessment has been conducted; native forestry waste should not be canvassed at all because it received low acceptance from the community." (p.38)

If using forestry waste to generate electricity was viewed so poorly by those surveyed, how would they respond to using whole trees; trees used by koalas no less! The community survey is open at: https://cornell.qualtrics.com/jfe/form/SV_74lloesIXINF4up

Thanks to everyone who contributes to *Treetops*. I know those deadlines come around far too quickly. New contributors are always welcome and I'm happy to point out that we have a couple in this issue.

In finishing up, I'd like to share some words of encouragement from Karl Beckert, Forest and Wildlife Campaigner with the Nature Conservation Council, whose part-time contract concludes at the end of June. Karl's observations were to members of the Forest Working Group of which I'm a nominal member, but I think all of you who work so hard for our koalas, are also entitled to hang

Helping Hillcrest's Koalas

The most recent partnership between Friends of the Koala and Lismore City Council to improve the situation of Lismore's urban koalas has seen restoration of a six hectare reserve of prime habitat in Hillcrest Avenue, in Goonellabah's northern ridges.

Over the past two years bush regenerators have removed weeds and planted koala food trees and dry rainforest at the reserve, paid for with a Federal Government Caring for our Country grant.

Dense lantana and other weeds were preventing koalas from accessing the trees on the site, some found to be mature eucalypts when they were eventually uncovered. Now being used as food trees, more have been planted. Regeneration of rainforest species for shade is just as important as koalas need a variety of trees for different purposes.

In 1993 when the Northern Ridges DCP was prepared the locality was home to an estimated 15 to 20 koalas with transient animals making occasional forays into the area. These days the number of resident koalas is certainly fewer. However, six hectares is a significant tract of land that urban koalas can use for breeding and feeding.

We hope that neighbouring residents will be seeing and hearing much more koala activity in the very near future.



Celebrating the end of a two year project to restore a 6-ha reserve in Goonellabah. (l-r) bush regenerators Steve Wood and Fiona Dawson, FOK Project Manager, Mark Wilson and LCC Parks and Gardens Coordinator, Martin Soutar

on to these thoughts.

"Remember you're not alone in the fight for environmental and social justice. Across NGO sectors, both in Australia and globally, there are millions of others out there who are working for a more just society and planet.

As part of a link in the global chain, you guys are doing the work of the angels in NSW."

—Lorraine Vass

Investing in the Koala Conservationists of the Future

Over the years Friends of the Koala has worked with local schools, mostly in the greater Lismore area, the Dorroughby Environmental Education Centre and numerous other partners, to develop and implement projects involving students, which support koala conservation. Here we update our current projects.

Wilson River Catchment Schools Education and Restoration Project

Based on a successful National Tree

Day event held at Trinity Catholic College in 2011, the Wilson River project attracted Environment Trust funding over a three-year period from 2012 to 2015. During that time approximately 6,000 riparian trees including koala food and habitat trees were planted and students (as well as their teachers) have increased their awareness, knowledge, skills and motivation for natural resource management.



Workshop presenters (l-r) Susannah (FOK), Georgina (Goolmangar), Christine and Al (DEEC), Mark (FOK) and of course Stuff!

Friends of Koala participated in 12 education events involving nine schools: Trinity College, Richmond River High School, Kadina High School, Albert Park Public School, St Johns College Woodlawn, St Carthage's Primary School, Corndale Public School, Our Lady of Lourdes Primary School and Tuntable Primary School, reaching approximately 2,500 students.

Excellent bush regeneration and planting responses have contributed towards healthier native vegetation cover, better resilience and an improved riverine habitat corridor – all good news for koalas.

Other participants were Rous Water, Lismore City Council, Southern Cross University, Far North Coast Weeds, North East Waste, Wilson River Landcare Group, Richmond Landcare Inc. and WIRES - Northern Rivers.

Goolmangar School Koala Community Connections

The two workshops from the Eco Schools Project with participating schools (Goolmangar, Coffee Camp, Larnook, Blakebrook, Wyrallah Road Primaries and Nimbin Central School) were held on 28th April and 25th May with three schools at each event.

Three sessions were held during the day: koala food tree propagation workshop, threats to koalas, and the development of a koala resource/display including use of technology. The seeds sown are all growing nicely and will be potted up in Spring, probably by our Green Army team. Seedlings will be offered back to the schools or distributed and/or planted locally by Friends of the Koala.

Enhancing Koala Habitat at Tregeagle Public School and Surrounds

Construction of the greenhouse at Tregeagle Public School has been completed and we are just awaiting a plumber to sign off on the irrigation system (Department regulations).

The first seed sowing session was held at the School on 22nd May where eucalypt and vegetable seeds were sown by the students in the Junior Landcare Group.

The next session will be held on 25th July (National Schools Tree Day). Students will be tending to the seedlings and doing some landscaping around the new greenhouse.

Koala Movies

Christine Freeman from Dorroughby Environmental Education Centre and Mark Wilson from Friends of the Koala ran a workshop at Blakebrook Public School on 28th May where the students were able to make movies about koalas using Ipads.

There were six groups of students and the movies made are currently being edited. Hopefully we can get copies when they are finalised to display on Friends of the Koala's website.

—Mark Wilson

Position Vacant Nursery Manager

Friends of the Koala is looking for a plant nursery manager, this is a voluntary position.

The FOK nursery is located in a scenic location adjacent to the Southern Cross University overlooking the university lake, home to a range of waterbirds. Koalas are frequent visitors in the trees surrounding the nursery facility.

One of the strategic objectives for FOK is to continue to develop the plant nursery to supply koala food trees for revegetation and restoration of koala habitat in the local area. Plants are sold at a reduced rate to the community.

Mark Wilson has been the driving force behind the establishment and growth of the nursery for the past 25 years. Mark is ready to hand over the duties to another 'green thumb'.

A two day per week commitment is all that is required with one set day, the other day can be changed to suit. There is the option to do more if the desire is there.

Duties would include; overseeing other volunteers, seed storage and data recording, ordering nursery materials, plant propagation, potting up seedlings, labelling, plant care and maintenance and making up tree orders for collection. A detailed list of duties is available on request.

If you would like to be part of the FOK team and have plant propagation experience and/or passion and commitment with a desire to learn more, FOK would love to hear from you.

Handover of duties will commence in mid-July and August.

If you would like to find out more, please contact Mark Wilson on 0413 339 554 or info@friendsofthekoala.org

Otherwise please send a brief Expression of Interest outlining your experience and availability to Lorraine Vass president@friendsofthekoala.org

Restoring Koala Habitat – 3: Planting Techniques

Species selection

When purchasing and planting food trees for koala plantings, it is important to select trees grown from seed collected locally (local provenance). Choosing plants with local provenance gives new plants the best chance of survival. Selecting plants known to be browsed by koalas provides an additional advantage. Friends of the Koala nursery propagate and sell koala food trees with known local provenance.

Koalas change their preferences seasonally, it is therefore important that Koalas should have a range of tree species to choose from that reflect seasonal changes. Each eucalypt species has its own adaptations and requirements; these need to be considered when planning the planting lay out. Some examples follow:

- Forest Red Gum (*Eucalyptus tereticornis*) - Prefers moist sites. Can tolerate frosts and poorly drained areas.
- Tallowood (*Eucalyptus microcorys*) - Prefers drier sites.
- Swamp Mahogany (*Eucalyptus robusta*)- Prefers very moist sites
- Flooded Gum (*Eucalyptus grandis*)- Prefers moist sites.

Site preparation

The most efficient method of preparation is to spray grasses/ground covers with *Glyphosate* a non-selective herbicide, to form circles of approximately 1m diameter. Once the vegetation has browned off planting can commence, the time taken varies throughout the year. Warmer months have more rapid results. Alternatively chip grass from around the planting area. Ground covers, in particular grasses, will compete with newly planted trees often smothering them before they become established.

Planting and mulching

Preparing planting holes can be done using a shovel or an auger depending on budget and the number of trees to be planted. Plants should be well watered and mulched for optimum results. Mulch serves to suppress weeds while reducing drying out of the soil. Mulch should be spread thickly as it breaks down quickly; a standard bale of straw is adequate to mulch 12-15 plants. Pull mulch back slightly from around the base of the plant to minimise the



Spot sprayed circles ready for planting using the auger option to prepare planting holes

risk of rot as well as allowing rain to penetrate to increase moisture content.

Eucalypt trees in nature grow at greater spacings than other plant communities. The recommended planting space is more than 3m. Wider spacings are possible where other mid story species are planted between the eucalypts.



Site fenced and eucalypts planted, heavily mulched

Tree guards v fencing

As biodiversity increases so do the browsers who enjoy a meal of young eucalypt leaves. Cattle may also be an issue so some form of browser protection is generally required and forms the most expensive item in any planting project. Areas fenced to exclude cattle can generally be put back in to production in about four years as trees reach a height where cattle can graze between them, this varies between sites. Tree guards on the other hand can be reused many times to maximise the benefits of the initial outlay. Tree guards with stakes can range from approximately \$7.50 (black mesh with two stakes) to \$2.78 (chicken wire guards with 2 stakes). Another option is corflute guards with a single stake for \$3.80

Follow up maintenance

The ideal time to plant is during the rainy season in late summer. Eucalypt trees grow fast and can emerge from ground covers in a short time requiring minimal maintenance. Trees that are well watered and mulched should not require additional watering.

To learn more about tree planting from Mark Wilson, the Friends of the Koala Trees Officer, visit the Friends of the Koala website: www.friendsofthekoala.org/wp/?page_id=183

—Julie Reid



The National Koala Alliance (NKA) FB Page <https://www.facebook.com/NationalKoalaAlliance?fref=ts> was launched towards the end of June.

The NKA grew out of the National Koala Conference held in May 2013 at Port Macquarie when the need for a national collaborative advocacy body for koalas was identified. It was officially created in November 2013 and aims to take action to achieve koala welfare and protection throughout their distribution.

Over the past eighteen months or so a multi-state steering committee has been working (mostly by teleconference and email) to pull together the collaborative network of koala conservation, welfare, advocacy, and research groups which is the Alliance.

We all work in the areas of koala rehabilitation and release, habitat protection, koala research, community empowerment and political lobbying. Our aim is to provide a strong and united voice for the protection and conservation of Australia's best-known and much-loved national icon, the koala. Our one goal is to ensure that the koala survives and thrives in the wild throughout their natural distribution range.

Koalas are in crisis. They are threatened by habitat loss, disease, feral animal predation and by conflict with human activity, including road traffic, domestic animals, industry and development. They are also threatened by increasingly intense logging operations and climate events, including bushfires. NKA members are the wildlife carers, rescuers, advocates, conservationists and researchers who help protect koalas from these threats.

The NKA's mission is to provide a strong, united and cohesive voice for koala conservation and protection.



Koala Gardens at Tuckurimba

The real estate image from five years ago (right) makes me laugh remembering how I thought it was near perfect, like a park. I knew little about koala habitat then! Now looking at the same area (below) there are native grasses, herbs and self-sown Forest Red Gums.



For three years Chris spent countless hours slashing faithfully and we would survey our 'park' with pride.

In 2011 and 2012 funding through Lismore City Council, enabled planting of 700 native trees, mostly primary koala food trees (right). We loved the idea of reduced slashing and providing habitat as we noticed there was always a koala to spot somewhere. Each tree had a guard to protect from the wallabies and we felt pride that we were 'doing our bit'

When planting trees in 2012 Chris was having problems speaking and swallowing. He was diagnosed with Motor Neuron Disease (the ice bucket challenge disease) and began to waste away.

He had to give up the tractor during 2013 and I left the land to itself as my time was consumed in caring for him until he sadly passed away early 2014.



When I finally ventured for a walk around the property I discovered that nature had been taking care of her own and there were hundreds of Forest Red Gums that had self-sown, ranging from a few inches to healthy saplings as tall as myself. I was staggered and began to realise a whole new vision for the property.

I sold the tractor and purchased a big quad bike (right) and a tow-behind slasher and now I only slash paths through the property to allow easy access around all areas whilst letting the trees regenerate themselves.



I secured a Landcare grant for 2015 which will fund the professional property management plan in development. The Friends of the Koala (FOK) Green Army team has removed all the tree guards and are recycling them for new plantings and will assist in carrying out the plan's strategies.

In November 2014 I began daily koala spotting and photographing to document how they are utilising the property. In a few years I will have a wealth of information about movements, habits and any changes as the trees continue to mature. I've found up to six on the property on any one day, not bad for only 14 acres!

I have a development application in at Council to provide an environmental facility and conduct guided tours on the property. I hope that this small commercial venture will allow me to primarily work on the property and allow the koalas and nature to work their healing on both the land and myself.



Joining FOK as a volunteer worker has brought me in contact with some amazing people and I love being part of the team and working towards such important goals with the koalas.

You can follow the koalas below on [facebook.com/koalagardens](https://www.facebook.com/koalagardens) or 365project.org/koalagardens

—Katrina Jeffery



Bertha



Chrissy



Clinger



Corkey & joey



Dewy



Mist



Scar

Dates for your Diary

1 July 2015: 2015-2016 Friends of the Koala Membership Subscriptions Due (see Renewal Form p.15)

19 July 2015: Friends of the Koala Stall, 7am ish to 2pm ish, Lismore Carboot Market

25 July 2015: Management Committee Meeting, 2pm SCU

25-26 July 2015: WIRES Koala Rehabilitation Workshop, UNSW & Port Macquarie Koala Hospital

8 August 2015: Fundraising BBQ, Bunnings (Lismore), 8.30am – 4pm ish

16 August 2015: Friends of the Koala Stall, 7amish to 2pmish, Lismore Carboot Market

22 August 2015: Art vs Science Festi-

val (incl. Big Scrub Rainforest Information Day), Lismore City Hall

22-23 August 2015: NSW Wildlife Council, Inc. 37th General Meeting & 10th Annual General Meeting. The Centre, Randwick

25 August 2015: Contributions due for Treetops (September issue)

Advocacy and Policy Reform

Planning NSW released its State Environmental Planning Policies (SEPP) Review 2015 in early June. The intended effect is to repeal eleven SEPPs or Regional Environment Plans (REPs), continue with some, update others and introduce more flexible provisions, "in order to save planners, industry and the community time spent navigating the planning system."

The hit-list includes the North Coast Regional Environment Plan which was made in 1988 to provide consistency for policy and development control for rural and urban development, the environment, regional infrastructure, tourism and recreation in the region. Locals maintain it is the most credible piece of regional planning done on the North Coast.

The department claims that apart from the land zoned for environmental conservation which remains deferred in Tweed, Ballina, Kyogle and Lismore, protections consistent with the North Coast REP's provisions are now in place.

The removal of environmental zones (along with most clauses relating to protecting wildlife corridors, steep land, riparian lands and watercourses) from all far north coast local environment plans (LEPs), while the still unresolved Review of Environmental Zones on the Far North Coast plods into its third year, is unacceptable. So is repeal of the North Coast REP, at least until the fate of the "deferred matters" is determined and the E zones and environmental clauses are restored. The REP provides the criteria used by Councils to identify the "deferred" E zones and clauses, thus its repeal will undermine their justification.

The other proposal of interest in the SEPP Review is the re-instatement of Coffs Harbour into SEPP 44 - Koala Habitat Protection.

Coffs Harbour City Council requested re-listing the local government area so that its revised Comprehensive Koala Plan of Management (2014) can be approved. Re-listing will correct a longstanding administrative error that saw the removal of Coffs Harbour from the list when its CKPoM was prepared in 2000. The error has been used to enable licensing of private native forestry (PNF) operations in mapped areas of core koala habitat by the Environment Protection Agency (EPA).

The Tweed Coast Koala Plan of Management was adopted as a strategy of Council on Thursday 19 February 2015

and has been forwarded to Planning NSW for approval. Just how close or otherwise approval is may be governed by the legality maelstrom created by Byron Council's decision in October 2014 to receive legal advice on a number of questions relating to the draft Byron Coast Koala Plan of Management and the provisions of SEPP 44.

Apparently the advice was of sufficient concern to have been referred to Planning NSW. We understand that the advice of its legal unit effectively limits the scope of SEPP 44 and the way in which CKPoMs approved under the SEPP can operate. Understandably north coast Councils which are or have prepared CKPoMs with Planning NSW assistance are not amused with this turn of events. More to come!

In January 2015 the North East Forest Alliance (NEFA) changed its position on logging publically owned native forests, "calling for a rapid phase out of logging from our public native forests" conceding that "Decades-long attempts to achieve ecologically sustainable forest management have failed..." You can read the statement in full at <http://www.nefa.org.au/policies>

Related are NEFA's and other NSW environmental groups' dissatisfaction and frustration with the present dilution of rules that regulate logging of native forests in the Integrated Forestry Operations Approvals (IFOAs) Remake process.

Plans to remake the IFOAs for the Eden, Southern, Upper North East and Lower North East coastal regions of NSW into a single agreement were announced by the NSW Government in May 2012. A Discussion Paper was released in February 2014 and community information sessions held. We attended and lodged a submission expressing our lack of faith in the proposed 'outcomes focus' approach to properly protect koalas and their habitat. By mid-2014 environmental groups in general had had enough and disengaged.

One of several projects associated with the proposed threatened species protections is a three-year pilot project funded by the Environmental Trust aimed at improving koala habitat mapping in NSW native forests on public and private land. The first stage, development of a broad-scale baseline of koala occurrence in NSW has resulted in two reports available at www.epa.nsw.gov.au/pnf/koalamap.htm

Environmental groups and interested scientists have been concerned with a

number of things: the slow progress of the mapping project, the lack of a standardised field methodology, and the dominance of Forest Corporation NSW.

Vigorous debate on the pros and cons of re-engagement in the IFOA review, triggered by stakeholder scepticism of the recent announcement of a three-month small-scale trial on the Lower Mid North Coast to assess protections for threatened species and outright outrage on the separate but related cable logging of steep slopes trial, is presently underway.

Whichever way it goes, commitment to stopping logging of native forests by the Forests Agreements' expiry in 2018 is already strong and getting stronger.

Over past months Friends of the Koala has made submissions on the directions statement for establishing national parks 2015-2020, the Inquiry into the Administration and Transparency of the Register of Environmental Organisations, and written to the NSW Sugar Milling Cop Ltd regarding the use of planted eucalypts as biofuel.

We wrote to the NSW Minister for the Environment to congratulate him on his appointment and to brief him on the Pacific Highway Upgrade campaign, and to the Chair of the Koala Expert Advisory Committee offering assistance and requesting information on matters before the Committee.

We have also responded to development applications for constructing a plant nursery and dwelling in Grays Lane Tyagarah, a s96 variation to enable blasting at the Ruthven Quarry, and an application to Planning NSW Major Projects to amend noise limits at the North Byron Parkland Events Site.

We instructed the EDO to lodge a request for the Federal Minister for the Environment's statement of reasons for approval of the Kings Forest Residential Development (EPBC Referral 2012/6328). We also emailed Senators Muir, Lazarus, Xenophon, Wang, Day, Madigan, Lambie and Leyonhjelm on the inclusion of native forest "waste" in the renewable energy target, sadly to no avail.

Meetings were held with members of the RMS Project Team, the CEO of Cape Byron Management Pty Ltd. and the Shadow Minister for the Environment, Penny Sharpe, MLC. We welcomed her to the Koala Care Centre and hosted her visit to the Pacific Highway route a couple of weeks later.

—Lorraine Vass

Bulletin Board

New Members

A very warm welcome to the following members who have been formally accepted into Friends of the Koala over recent months:

Katy Zimlak, Marlee Monahan, Miranda Retz, Bronya Lipski, Elisabeth Gregory, Mattew Jenkins, Lauren Bazley, and Mary Jo Enright of Lismore, **Christopher Johnson, Daniel Green** and **Luke Kane** of Goonellabah, **Anna Powel** and **Emily Moroney** of Coraki, **Sarah O'Hare** of Koonorigan, **Marama Hopkins** of Uki, **Lindy Margan** of Federal, **Keith Williams** of Tintenbar, **Richard Barrett** of Clues, **Alison Bryant** of Ocean Shores, **Jessica Riekenberg** of Girards Hill, and **Downie Jhabel** of Ettrick.

National Koala Recovery Plan

The Federal Environment Department has engaged a company to work with it in developing a stakeholder engagement plan to develop the overdue national recovery plan for the koala populations in Queensland, NSW and the ACT which were listed as a vulnerable species in May 2012.



Foreign Affairs Minister Julie Bishop gifts a koala

Koala Commodities

Koala diplomacy has a long history. It's over 30 years since the first koala was given to the Japanese. Back in the bad old days (1880) London's Regent's Park Zoo bought a koala for exhibition.

The poor thing died in June 1881 having caught its head in the washstand of the supervisor's office. In April we saw much ceremony over the despatch of four koalas on loan to the Singapore Zoo for six months. Apparently the gift will be permanent when the Zoo is properly set up to support a koala colony. Singapore, like Japan is important to Aussie trade, defence, investment and everything else. If only koalas in the wild were given similar consideration.

Port Macquarie Manual

The Hospital's *Koala Rehabilitation Manual* for carers, veterinarians, zookeepers and researchers (4th edition) is at the publishers and will be available for sale online or at the Hospital's shop in the first week of July.

Chloramphenicol Gift

Over the past decade the Australia Zoo Wildlife Hospital (AZWH) has treated 4,000+ koalas with chlamydia. The most effective drug, Chloramphenicol was taken off the market by Ceva Australia in 2014 due to low demand in the global veterinary industry. AZWH had a backlog of more than 40 koalas awaiting treatment. We had our own backlog. Following prolonged negotiations between AZWH and Ceva Animal Health a special batch was manufactured. We purchased 60 bottles around the middle of last year. Since then Ceva has come to the party with a donation of 650 bottles to AZWH, but what happens when they run out?

Koala Connections

In mid-May the Koala Connections Steering Committee made field visits to a number of the project sites in Byron Shire. It was an excellent opportunity for us to meet some of the dedicated landowners involved in Koala Connections and to see the great progress underway at the sites. All sites are looking fantastic and well and truly on the way to providing much needed koala habitat.



Koala Connections Steering Committee members (l-r) Jo Green, Marama Hopkins, Tanya Fountain, Chris Roberts, Scott Hetherington and Claire Hewitt

North Coast Koala Management Workshop

A workshop and field day tailored for north coast koala management practitioners attracted about 30 participants from Port Macquarie to Tweed, all eager to swap ideas, knowledge, concerns and a vision of the future for managing habitat and koalas. Held in Coffs Harbour, proceedings were recorded so that everyone's ideas will be incorporated into a final document for use by a wider audience.

North NSW Koala Summit

About 25 koala conservationists participated in the North NSW Koala Summit held in Bellingen in May. Organised by the Nature Conservation Council and the National Parks Association, ideas and experience were

shared and strategies developed for building regional and state-wide campaigns to recover and protect NSW's koalas. Similar workshops are to be held for Western NSW, the South Coast and the Sydney Basin in coming months.

Green Army Teams

The first Green Army teams are to finish up soon. A few weeks ago Lismore Council put on a thank you lunch for its team and on 1 July we will be doing similarly for our first team. The weed control and koala habitat rehabilitation work undertaken by both teams has been broadly complementary with Council's team focussing on properties in the northern part of the local government area and FOK's team focussing on the south-east. All good for Lismore's koalas!

New Tweed Group

Since its formation in 2009 Team Koala has done an excellent job in raising Tweed residents' awareness of koala issues and attracting 600 members. In recent months, a new group, the Tweed Koala Support Group has emerged. Aiming to help prevent the disappearance of koalas in the Tweed Shire and focussing on the Tweed Coast, the Tweed Koala Support Group introduced itself at the World Environment Day Festival in Murwillumbah.



Byron Library Hosts Koala Exhibition

An exhibition of the best 'portraits' of Byron Bay's koalas is being hosted by Byron Library until the end of July. Over 150 photos of koalas in and around The Bay were submitted to local biologist, Mary Gardner who, with the Byron Belongil Environment Group, is keen to create a digital story map about Byron's koalas.



Byron Mayor, Simon Richardson (back row), Koala Connections Project Officer, Jo Green (centre), FOK President, Lorraine Vass and members of the Byron-Belongil Environment Group

In Praise of Leaf Cutters

In the last issue of Treetops I mentioned Christie Budd's blog being a good read. This thought provoking piece on koala diet and choice (10 April 2015) is well worth sharing. For more of Christie's musings, visit:

<https://drchristiebudd.wordpress.com/>

I have been thinking more about Tyron's heroic midnight tree climb to find a koala patient something she would agree to eat, www.facebook.com/KoalaMedicineResearch

It is a lovely story, but it has some serious questions behind it. My colleague, Benjamin Kimble and I have spent many hours in the lab discussing the possible role of diet in treating koalas. Ben has a background in Chinese medicine and has a wonderful holistic approach to problem solving and thinking about disease and health. As we have both read all the koala and marsupial pharmacokinetic (PK) literature, we sometimes despair of ever being able to safely and effectively treat koalas, especially with traditional antibiotics.

The only thing koalas seem to reliably tolerate is their food, which is generally poisonous to all other animals. What if we could manipulate their diet in such a way as make their food their medicine? Or perhaps even better and more simply, since they are the experts at navigating the toxic labyrinth that is their diet, what if we did a better job of allowing them to do what they do best, selecting the exact leaves with the exact plant chemicals they need to help their bodies heal?

One of the first things you learn about koalas either through reading about them or actually working with them is how fussy they are about their food. Early writers described them as being "excessively nice" in their selection of leaves. They may be observed carefully sniffing leaves, rejecting some and gorging on others. Field observers also know they will occasionally make potentially hazardous ground journeys to select a particular tree from which to eat. Like house cats, what is delectable today may be considered inedible, even offensive to them tomorrow. Unlike spoilt house-cats though, what we know about their diet and are learning about their metabolism and digestion suggests that their very lives may depend upon selecting exactly the right leaves.



Koalas appear highly reliant upon gut microbes doing much of the work of digestion and dietary detoxification. Perhaps they are essentially farmers of gut microbes, feeding and nurturing their gut bacterial populations, trying to keep them healthy and in the appropriate balance. Which may be like trying to maintain peace in the Middle East, with lots of competing interests and different needs to accommodate; "OK, today, you Enterobacteriaceae, we need more of you to do this, you others, settle down for a while, you'll get your turn in a couple of days".

Koalas probably also need to balance out the myriad of potentially poisonous substances in their food. It seems likely that they can consume a given amount of some toxins, but then need to switch to something slightly different so that a metabolic pathway is not completely overwhelmed or saturated. Administering medicines may compete with the mechanisms in place to detoxify some of the components of their diet.

What if their food also contains chemicals that act as medicine, ie pain relief, antibacterial properties, immune modifiers or even anti-nausea effects? So every time I despair, I re-read Silva et al "Analgesic and anti-inflammatory effects of essential oils of Eucalyptus", 2003 Journal of Ethnopharmacology. This paper demonstrates that some eucalyptus plant chemicals may have clinically useful anti-inflammatory and pain-killing effects. We don't know if koalas could possibly be using food in this way but it is a fascinating area that I would like to see explored further.

So back to the heroics of leaf cutters. Koalas almost certainly know what is best for them to eat, yet in hospital they are completely dependent upon what is brought to them. If we have leaf cutters providing the greatest possible variety of leaves from all their possible food sources and are able to offer koalas in hospital the greatest choice, we might just be allowing them to save their own lives. It may actually be the leaf cutters, often unsung heroes, who are really doing (or at least supporting) most of the koala medical treatments. No science to prove any of this, just speculations and musings. But I think everyone caring for koalas from fence builders, leaf cutters, fundraisers and vet nurses are heroes.

—Christie Budd

Member Profile – Lyn Olive

Lyn joined FOK in April 2012. New to Lismore she stopped at our stall at the Car Boot Market and got talking to Mark Wilson about koalas. She contacted Lola Whitney and joined the Care Centre's Friday team which is supervised by Lola.



What's the best thing about where you live? The quiet neighbourhood, friendly people, and of course the koalas and other wildlife.

What are you reading? Well, not a book but hunting through Home and Garden magazines for ideas for my new house.

What is your favourite movie? I have a few but always like to watch *Eat Pray Love* starring Julie Roberts. Would love to do what she did! [i.e travel the world, discovering the pleasure of nourishment by eating in Italy, the power of prayer in India, and true love in Indonesia]

What's your favourite hobby/pastime? Photography of course!! I also like walking on the beach (it cleanses the soul).

Your idea of a perfect Sunday? Markets; visiting friends and family; going to the beach.

Your most memorable travel experience? I went to Vanuatu once, years ago. It was beautiful - nice food and the people are friendly.

What would you most like to be doing in five year's time? I could be still working for Friends of the Koala and training up my son.

Who is the person you'd most like to meet? Because he's in Australia, Captain Jack Sparrow (Johnny Depp). He plays the part well.

What has been your favourite koala moment? Helping to rescue two koalas in my street and releasing them back in to the wild.

Another time, seeing a koala walking close to the outdoor runs at the Care Centre and thinking one of the koalas in care had escaped. My reaction was to yell, "A koala has got out". Luckily I didn't because she was one of the koalas that live in the eucalypts around the Care Centre. She was very relaxed, ambling along to the nearest tree.

Application/renewal form — 'Friends of the Koala, Inc.' Membership runs from 1st July to 30th June.		I/We are interested in: (please tick)
Name.....		<input type="checkbox"/> Tree Planting
Postal address.....		<input type="checkbox"/> Plant Nursery work
City/Suburb.....	Postcode.....Country.....	<input type="checkbox"/> Caring for sick & injured koalas
Phone.....	Mobile.....	<input type="checkbox"/> Leaf collection
Email.....		<input type="checkbox"/> Rescue
Membership category (please tick)		<input type="checkbox"/> Committee / Administration
<input type="checkbox"/> Ordinary—Individual/Family (within Australia) \$20		<input type="checkbox"/> Fundraising
<input type="checkbox"/> Concession—Full time Student/Pensioner (within Australia)..... \$10		<input type="checkbox"/> Publicity
<input type="checkbox"/> International—Individual/Family (outside Australia) \$50		<input type="checkbox"/> Education
I/We would like to make an additional donation of : \$.....		<input type="checkbox"/> Surveys / Mapping
Total payment is: \$.....		<input type="checkbox"/> Information Technology
		<input type="checkbox"/> Phone Roster
		<input type="checkbox"/> I/We would like someone to phone and explain about volunteering with Friends of the Koala

Payment by:

Direct Debit (your name as reference) to: Friends of the Koala Inc., BSB 722-744
A/C 38533 Southern Cross Credit Union Ltd.

or Cash (**preferred**) Cheque Money order

Credit card (**amounts over \$20**) Cardholder Name.....

Card Type (e.g. Visa).....Number.....Expiry Date (mm/yy)...../.....

Post to: *The Treasurer, Friends of the Koala Inc., PO Box 5034, East Lismore, NSW 2480*

I agree to abide by the licensing requirements, the constitution and the policies of 'Friends of the Koala' Inc.

Signature.....Date...../...../.....

The Management Committee reserves the right to refuse any application for membership or renewal.

- Please tick here if a receipt **is** required
- Please tick here if you would like to receive Treetops by email (~ 2 mb pdf colour file)

Office Use Only

Date Received.....Receipt #.....Donation Receipt #.....Date Passed by Committee.....

Contact Information: 24 hr Rescue Hotline: **6622 1233** Koala Care Centre: **6621 4664**
 email:info@friendsofthekoala.org web:www.friendsofthekoala.org Follow us on Facebook

President	Lorraine Vass	6629 8388	president@friendsofthekoala.org
Vice President	Ros Irwin	6621 5906	roslyn.irwin@gmail.com
Secretary	Aliison Kelly	0428 216 079	aliison@internode.on.net
Treasurer	Susannah Keogh	0431 707 883	sjkl@iinet.net.au
Trees Officer	Mark Wilson	6624 5032	info@friendsofthekoala.org
Care Coordinator	Pat Barnidge	6622 3690	pat.fok@hotmail.com
Care Centre Coordinator	Lola Whitney	6621 3523	lola.fok@hotmail.com
Training Officer	Julie Reid	6688 8320	taulangau@clubtelco.com
Leaf Harvesting Coordinator	Ros Irwin	6621 5906	roslyn.irwin@gmail.com
Phone Roster Coordinator	Pat Barnidge	6622 3690	pat.fok@hotmail.com

Volunteers Working For: Koala Rescue and Rehabilitation . Advocacy . Education . Environmental Repair



IF UNDELIVERABLE RETURN TO:
'FRIENDS OF THE KOALA' INC
PO BOX 5034
EAST LISMORE NSW 2480
PRINT POST APPROVED
1100002148

POSTAGE
PAID
AUSTRALIA



Friends of the Koala at the 2015 Lismore Lantern Parade

Deadline for next newsletter:
Tuesday 25th August
Contributions gratefully accepted
– please post to FOK or email
info@friendsofthekoala.org