Central Queensland Koala Volunteers

AUTUMN EDITION 2017

Cyclone Debbie impacts north Queensland's koala islands

Cyclone Debbie passed over Rabbit, Newry, Brampton and St Bees islands last month. Fortunately the most severe winds were further north. Despite that wind strengths exceeded 110 k / hr with higher gusts. Rainfall was high and prolonged.

We have not visited the islands to inspect damage, but will do so in May. Reports from Keswick Island indicate that there has been widespread tree defoliation and minor infrastructure damage.

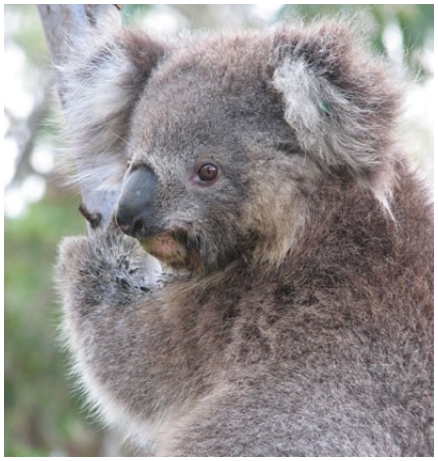
Likely impacts on the koalas are outlined below.
Immediate impacts will be related to trauma from (a) strong winds, (b) stress associated with loss of body insulation, as wind-driven rain breaches the protective layering of the fur and saturates the fur (as animals have no subcutaneous fat layer, hypothermia and pneumonia are a risk), and (c) physical injury, or death from fallen timber or wind-blown debris.

Subsequent impacts are (a) stress induced eruption of Chlamydia or other diseases, (b) loss
of, or reduction in, food source as foliage is stripped to varying extent from eucalypt canopies, (c) where severe defoliation has occurred, heat stress as habitat elements that provide shelter during the day are no longer
available, and (d) impediments to ground movement and access to some habitat trees due to storm debris.

Further, in the event of subsequent fires there is a risk of death from smoke and flame if flame heights and/or fire intensity are too high with elevated fuel associated with cyclone debris.

More subtle and medium term influences are associated with the change in canopy structure influencing the floristic successional paths. It is likely that understory shrubs and lianas will be released with the opening of canopies, producing a vegetative response that will accelerate the loss of eucalypt communities, and the establishment of closed shrublands and rainforest related communities – depending on local geography and hydrology.

However, the cyclone impacts will be influenced by aspect, and topography. The most severely affected areas will (1) be those that were exposed to the direction of the wind, and/or at higher altitude, as well as (b) those where local topography channels and intensifies wind flows. Elsewhere there will be areas of habitat that were protected, and impacts will be less severe. Here koalas will have experienced more moderate conditions and, hopefully be less impacted.
Alistair Melzer April 2017



Queensland Government makes $600,000 available for koala research

Minister for Environment and Heritage Protection, Dr Steven Miles has announced $600,000 for grants to support research on koalas. The applications close in early May. The grants will support research into:

- The threats to Queensland's koalas and developing or identifying strategies to mitigate these threats;
- Methods to create stakeholder partnerships for effective koala conservation, and how to foster behavioural change in the community;
- The dynamics of koala habitat and appropriate koala habitat management techniques;
- Improving koala survey and monitoring techniques;
- Appropriate koala translocation and reintroduction policies;
- Effective and appropriate market-based instruments for koala conservation.

The projects must be completed within three years of the project start date.

Reintroducing koalas to the Capricorn coast and the Berserkers

A community coalition from Livingstone, Rockhampton, Gladstone and surrounding regions has commenced moves to re-establish viable koala populations in Capricornia, Rockhampton, and northern SE Qld.

The project will involve the establishment of local breeding populations in suitable, well connected koala habitat remaining regionally. CQUniversity has mapped the habitat across Livingstone, Rockhampton, Central Highlands and Isaac local government areas so far. Also a number of properties have registered as potential release sites.

A project proposal was put to the Queensland Department of Environment and Heritage in January. A response is awaited. In the meantime a steering committee is to be established in the near future.

The coalition includes the Central Queensland Koala Volunteers, the Koala Research Centre based at Central Queensland University, the Rockhampton Zoo http://www.rockhamptonregion.qld.gov.au/Facilities-and-Recreation/Rockhampton-Zoo Safe Haven at Mt Larcom https://www.facebook.com/pg/SafeHavenAace/about regional landholders and community members. The project has the support of Minister for Environment and Heritage, the Hon. Steven Miles, Minister for Agriculture and Fisheries, and local member for Rockhampton the Hon. Bill Byrnes, and local member for Keppel, Mrs Britney Lauga MLA. The Leichhardt Hotel is sponsoring the project.

More about the project can be seen on a Morning Bulletin link (https://www.themorningbulletin.com.au/news/watch-cq-has-the-right-koalafications-for-sanctuar/3136367/). There are also interviews on ABC local radio, and Chanel 9.
Alistair Melzer April 2017

Queensland Government Koala Expert Panel's interim report released

Environment Minister accepts interim findings of independent Koala Expert Panel.

Environment Minister Steven Miles today (Friday) released an interim report by the Koala Expert Panel set up last year by the Palaszczuk Government to explore ways to better protect koalas in the state's south-east.
Mr Miles said the independent panel supported the development of new koala habitat mapping between Noosa and the Gold Coast, as well as areas west of Brisbane.

He said the panel also supported an improved

monitoring program and recommendations for developing a strategy to focus koala conservation efforts in priority areas to ensure koala populations persist in the wild across the region.

“The panel of experts has been working with the Palaszczuk Government to identify a range of actions designed to halt the alarming decline in koala numbers in South-East Queensland.

“I’m pleased to receive this interim report by the Koala Expert Panel ahead of its final recommendations due mid-year.

“I welcome their support for the approach this Government has undertaken and I thank them for their invaluable input and advice in the implementation of these projects,” Mr Miles said.

University of Queensland Associate Professor Jonathan Rhodes, who chairs the expert koala panel, said the interim report identified a number of key ongoing issues which threaten koala populations in South-East Queensland.

“These include issues relating to strategic policy settings, threat management, planning processes, mapping and monitoring,” Associate Professor Rhodes said.

“The panel will provide advice on these issues in its final recommendations due later this year but it’s good to see progress being made in the key area of improving koala habitat mapping in the meantime. “The panel also supports the State Government’s plans to restructure the koala monitoring program and we have provided advice to the EHP team responsible for this task.”

Mr Miles said officers from the Department of Environment and Heritage Protection were working closely with the expert panel to make sure improved koala habitat mapping can better inform targeted management actions and future conservation efforts.

“The existing maps were previously updated in 2010 and 2013 and since then there have been a number of technological advances,” he said.

“The new maps will be able to get down to a level of detail which previously was simply not possible and that will contribute greatly to the identification and protection of important habitat.

“Associate Professor Rhodes and his colleagues have provided useful insights which will guide the third prong of the Government’s immediate measures to halt the koala’s decline – identification of specific areas where we can best focus our conservation efforts.”

Mr Miles said the panel’s final report would include specific recommendations for koala policy and management in South-East Queensland as well as how progress can be evaluated over time.

He said the terms of reference had been amended to also seek the expert panel’s advice role in providing input into key planning instruments, including the draft State Planning Policy and the new draft regional plan for South East Queensland, *ShapingSEQ*.

“The Palaszczuk Government is committed to ensuring viable and healthy koala populations in South East Queensland, and across the state,” he said.

“That’s why we’ve invested an additional $12.1 million to boost koala conservation measures and improve population surveys over the next four years, and a further $2.6 million per annum for ongoing funding for koala protection”.

[Extracted from http://statements.qld.gov.au/Statement/2017/3/10/environment-minister-accepts-interim-findings-of-independent-koala-expert-panel]
A copy of the report is available at: https://www.ehp.qld.gov.au/wildlife/koalas/pdf/koala-expert-panel-interim-report.pdf

Stressed? Well, koalas could be too!

Link between stress (including environmental), increase in cortisol levels and diseases has been

previously documented in humans, as well as in other animal species (Barton .

The question that I have been asking myself, for a very long time, is: Is it possible that *Chlamydia*, which we know is latent (covert) in most koalas, only becomes overt (shows with symptoms and signs) when they are stressed and cortisol levels increase? It is well known that abnormal prolonged increase of cortisol level has very negative effects on the immune system by decreasing the ability of white blood cells to fight bacteria and viruses.

The research I am proposing would look at determining stress in koalas using a non-invasive method: testing koala faeces, also called scats, for cortisol levels. Research on other wildlife, which has been carried out to determine cortisol through scats, has shown very good results. This test would be very useful to determine stress levels of koalas before and during translocation when they are being radiotracked. During a research project in Victoria, all but one of the koalas translocated for the project sadly became infected with *Chlamydia* ; maybe knowing the levels of cortisol of those transloacated animals could have been useful in preventing some negative outcomes.

Flavia Santamaria April 2017

Cohen, S., & Williamson, G. M. (1991). Stress and infectious disease in humans. *Psychological bulletin, 109*(1), 5.

Koolhaas, J., Korte, S., De Boer, S., Van Der Vegt, B., Van Reenen, C., Hopster, H., . . . Blokhuis, H. (1999). Coping styles in animals: current status in behavior and stress-physiology. *Neuroscience & Biobehavioral Reviews, 23*(7), 925-935.

Lafferty, K. D., & Holt, R. D. (2003). How should environmental stress affect the population dynamics of disease? *Ecology Letters, 6*(7), 654-664.

McCallum, H., & Dobson, A. (2002). Disease, habitat fragmentation and conservation. *Proceedings of the Royal Society of London B: Biological Sciences, 269*(1504), 2041-2049.

Merl, S., Scherzer, S., Palme, R., & Möstl, E. (2000). Pain causes increased concentrations of glucocorticoid metabolites in horse feces. *Journal of Equine Veterinary Science, 20*(9), 586-590.

Möstl, E., & Palme, R. (2002). Hormones as indicators of stress. *Domestic animal endocrinology, 23*(1), 67-74.

Santamaria, F., & Schlagloth, R. (2016). The effect of *Chlamydia* on translocated *Chlamydia*-naïve koalas; a case study. *Australian Zoologist*.

Thomason, C., Hedrick-Hopper, T., & Derting, T. (2013). Social and nutritional stressors: agents for altered immune function in white-footed mice (Peromyscus leucopus). *Canadian Journal of Zoology, 91*(5), 313-320.

Submission to the Review of koala programs and initiatives for SE Queensland

On the 17th October 2016 Rolf Schlagloth and Flavia Santamaria wrote a submission to the Queensland Government expressing concerns on, and proposing recommendation for, the management of koalas in SE Queensland. We are aware that trees are being lost to farmland and to mining developments, and that koalas' existence may be in jeopardy throughout Qld as well, however, for this submission we had to focus on SE Qld.

Below is a section of our submission.

> 'The main concern is the loss of habitat. In fact, increased development and the associated removal of trees is impacting on koalas by reducing the food source, movement and dispersal, as well as ultimately their survival due to vehicle collisions and dog attacks . Furthermore, the translocation of koalas from developed areas to other sites can be the cause of other issues such as, impact on resident koala populations and spread of diseases, like Chlamydia, which, in most cases, causes sterility (Everett, Bush, and death 2). Therefore the impact of a localised development extends further than the immediate area, and translocation should only be considered as a management tool if all precautions have been taken and all risks have been assessed and monitored. It should not be considered as a strategy for further development.
>
> We think that the first question that needs to be answered is: are we seriously interested in avoiding the demise of the Koala, a species recognised throughout the world, a species that is iconic of, and endemic only to Australia, an

umbrella species for many others that are not equally ‘famous’ and recognisable? If the answer is yes, then there are a plethora of ideas, possibilities and options that must be seriously considered by the Government and everything needs to be on the table.

The ultimate aim has to be the protection of koala habitat throughout SEQ. Therefore, management options that previously may have been considered unrealistic or utopian, must now be considered as essential. We suggest:

1. Ensuring that all koala habitat maps for SEQ are detailed, accurate and up-to-date.
2. Focusing future development on areas that are currently open farmland or contain non-koala habitat.
3. Legislating for no further rezoning of existing properties containing koala habitat for residential or industrial purpose.
4. Where possible (landholder agreement), revoking development permits and compensating existing residential development approvals in koala habitat. If this is not possible, introducing innovative koala friendly development (Koala Land 2014; Koala Beach Estate, Tweed Shire, NSW: Sanctuary Mt Helen, Ballarat, Vic).
5. Offsetting should only be considered as a very last resort as part of a koala friendly development.
6. Educating stakeholders: There is now ample scientific evidence showing the vulnerability of the Koala in SEQ and the shortcomings of the current management practices. These facts and the new management prescriptions need to be widely communicated to all stakeholders using scientific and non-scientific language.
7. We suggest that a summit be held for koala researchers, developers, planners and politicians to have an open discussion of the issues and to find solutions.'

We are very keen to see some of these recommendation being adopted by managing authorities not just within the south eastern region, but also across the Koala’s range throughout Queensland. We feel that it is important that Local and State Governments think of policies for this century, and evolve to a more sustainable way of developing land, so that vegetation is maintained and wildlife is able to coexist with humans.

Flavia Santamaria March 2017

Govendir, M., Hanger, J., Loader, J., Kimble, B., Griffith, J., Black, L., . . . Higgins, D. (2012). Plasma concentrations of chloramphenicol after subcutaneous administration to koalas (Phascolarctos cinereus) with chlamydiosis. *Journal of veterinary pharmacology and therapeutics, 35*(2), 147-154. doi:10.1111/j.1365-2885.2011.01307

Rhodes, J., Beyer, H. L., Preece, H. J., & McAlpine, C. (2015). South East Queensland Koala Population Modelling Study. Retrieved from https://www.ehp.qld.gov.au/wildlife/koalas/pdf/seq-koala-population-modelling-study.pdf

Santamaria, F., & Schlagloth, R. (2016). The effect of *Chlamydia* on translocated *Chlamydia*-naïve koalas; a case study. *Australian Zoologist*.

Mission

CQ Koala Volunteers seek the conservation of the koala and other tree living mammals in Central Queensland by

- *Supporting research into koalas, other arboreal mammals and their habitat through (a) providing volunteer support to research projects, and (b) assisting in the raising of funds for research and the volunteer teams;*
- *Developing public awareness of the needs of koalas, tree living mammals and their habitat requirements generally;*
- *Fostering community support for koalas and tree living mammals generally;*
- *Encouraging and assisting with the development of habitat rehabilitation projects where necessary through the region;*
- *Supporting the rehabilitation and release of sick, injured or displaced koalas and tree living mammals.*

The Central Queensland Koala Volunteers are not about stopping development. They seek to encourage planned development, which allows for the co-existence of koalas and other tree living mammals with human activity.

Funds are used to buy equipment for the researchers, to fund volunteer field teams and provide limited support for animal carers. Donations may also be made to the Koala Research Centre of Central Queensland and are tax deductible.

Office Bearers

Alistair Melzer, signatory, Chairperson
Carmen Drake, signatory, CQKV representative on Koala Research Centre Board
Shirley Hopkins, signatory, Treasurer
Doreen Lovett, Editor: drl33@bigpond.com
Nick Quigley, Web designer
Web: www.cqkoala.org.au

Direct correspondence to

Central Queensland Koala Volunteers
Centre of Environment Management
CQIRP Bld 361
CQUniversity,
Ibis Avenue
North Rockhampton QLD 4701.
Email: koalas@cqu.edu.au

CQ KOALA VOLUNTEERS ANNUAL STATEMENT

01/01/2016 to 31/12/2016

S5 Savings Accumulator credit balance a **$5,736.67**

	INCOME	EXPENDITURE	
	$155.00		
	$195.00		
Interest	$111.00		
Donations	$95.00		
Bank Chgrs		$1.20	
TOTAL	$556.00	$1.20	
	$554.80		
Credit Balance as at 31/12/2016			**$6,291.47**

S26 CLUB CHEQUE

Credit Balance as at 31/12/2015		$700.04
Interest	$1.07	
Credit Balance as at 31/12/2016		**$701.11**

TOTAL ASSETS

S5		$6,291.47
S26		$701.11
TERM Dep	Reinvested12mths@2.5%	$12,336.39
TOTAL		**$19,328.97**

One of the last of our old female koalas on St Bees Island last seen in 2009. Today, none are collared, although Bill Ellis and team catch and sample as many of the new cohort of young animals each year as we follow the koala generations over time

Photo G. Mano