

[Print this article](#) | [Close this window](#)

## Ray of hope in koala quest

Geoff Maslen

May 24, 2011 - 12:01AM

Of all Australian marsupials, the koala is the species that generates most public affection. Its image in tourist brochures attracts thousands of foreigners to these shores every year.

Advertisement

In some places the koala is an important drawcard. Elsewhere, though, the cutest of our native animals is under threat for many reasons: habitat destruction, fragmentation of forests, drought and bushfires. Then there is the spread of housing in once-rural regions, attacks by feral and domestic animals, climate change and in-breeding within Victoria's koala population that makes them vulnerable to disabilities and disease.

In south-east Queensland, where development has destroyed vast areas of bushland, koala numbers have plummeted by 64 per cent over the past decade. Alarmed by such devastating decline, a Senate environment committee began an inquiry last February into the status, health and sustainability of koala populations. Within three months, the committee received more than 80 submissions from individuals, government departments, local councils and researchers.

Dr Mathew Crowther is a member of a 60-strong group of scientists called the Koala Research Network whose submission to the inquiry sets out the challenges in protecting Australia's favourite marsupial. A senior biologist at the University of Sydney, Dr Crowther has been studying koalas for years and recently discovered a possible solution to expanding their habitat and enabling their populations to grow.

With a team of other scientists, he has been conducting investigations around Gunnedah, in north-east New South Wales, using GPS collars fitted to 50 koalas to track their movements over three months — and especially at night when they move from tree to tree to feed. He says the continuing research has identified the problems koalas face with habitat loss — in NSW and Queensland particularly — and the high-risk factors that must be managed to reduce their mortality.

Gunnedah is on the Liverpool Plains, a region of prime agricultural land extending over more than a million hectares. Dr Crowther's attention was drawn to the plains when he and colleagues undertook a government-commissioned survey in 2006 of koala numbers across NSW. The survey revealed falling populations almost everywhere except in rare pockets where numbers were not only high but rapidly rising. One of these pockets was around Gunnedah.

"We were interested in studying the Gunnedah koalas because we wanted to find out why the population was increasing," he says. "We knew a massive tree planting effort had taken place in the 1990s so we hoped to discover if that campaign had led to an increase in koalas and whether we could use this information to guide areas where the koala was in decline."

Dr Crowther says farmers involved in Landcare groups around Gunnedah had started widespread tree planting to counter soil erosion and rising salinity. They hadn't thought of koalas but the unintended result was that the trees also provided the animals with a new source of food — and the latest study found they were actively using them.

"Koalas prefer to use a variety of trees throughout the night, including some old-growth trees, but they are restricted to a small range of movement over less than two kilometres and mostly within small patches of trees," he says. "Their limited habitat is worrying for their survival and, although there is hope reforestation can benefit them, we did see lots of koalas die during high summer because they couldn't find enough food and water within these

small patches."

Such events show how koala survival would be improved if they had access to multiple patches of trees linked by planted corridors so they had more options and were not forced to compete with each other during hard times. This is especially the case with the extreme weather events predicted under climate change, Dr Crowther says.

"The fact the koalas in Gunnedah are using trees planted in the 1990s means that simply planting the right trees could expand their habitat and mitigate some of the current problems of koalas living in fragmented patches of forest."

But he says a key issue is that koalas like the same land with good soil that farmers do. That's because when trees grow on good soil types they produce more nutrients for the koala and fewer toxins, whereas the opposite occurs with poor soil.

"One thing we've learnt is that you can't conserve koalas in national parks because they're almost always on land with poor soil the early farmers didn't want. Koalas are not common in any national park because they're often located in steep country and the soil is poor. The Blue Mountains is a large area with myriad eucalypts but there's hardly one koala because it's too steep and the soil is not good."

Anyone chewing on a gumleaf would agree with Dr Crowther when he says eucalypts are "a very tough plant to eat" — and they also produce toxins and tannins in their leaves to prevent them being eaten.

"Koalas can cope with the toxins to a certain extent but there has to be a net energy benefit to the animal or the leaves are not worth eating. That is why private land is so important because farmers plant on good soil and Gunnedah has spectacular soils, dark clay that is quite rare in Australia."

Even so, the environment across the Liverpool Plains is dry and the searing summer of 2009 resulted in one in four koalas dying from lack of moisture. Dr Crowther says climate change scenarios indicate Australia faces more of these hotter and drier days so the high temperatures common around Gunnedah may only get worse.

"Planting more trees is only part of the answer because they may not be sufficient in the future for the koalas' food and water requirements. Koalas need a large number of trees of different ages that have different levels of toxins: they can't eat just one type of tree, there has to be a variety with different moisture levels and they need trees for shelter so we should provide trees for all conditions."

A warming climate also requires corridors linking fragmented forests or patches of eucalypts that would allow koalas to move south, for example, to cooler regions. Where the corridors and patches of trees are located is also important: Dr Crowther discovered that around Gunnedah farmers had chosen the easiest places and planted their trees alongside roads and railway tracks, which led to koalas being killed by cars and trains.

He hopes the Senate inquiry will recommend the federal government list koalas as a "vulnerable species" nationally, as they are in NSW and Queensland. In some places in Victoria, and on Kangaroo Island in South Australia, koalas are overabundant and this raises other difficult management issues, Dr Crowther says.

*This story was found at: <http://www.theage.com.au/national/education/ray-of-hope-in-koala-quest-20110523-1f07h.html>*