



LIVERPOOL PLAINS KOALAS AND THE PROPOSED SHENHUA WATERMARK COAL MINE



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THE NATURE CONSERVATION COUNCIL OF NSW.**

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FOREWORD

**By Wendy Hawes BSc MSc (prelim), Principal Ecologist,
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In an extensive sea of cleared agricultural land the Liverpool Plains woodlands are an important refuge for wildlife, including the koala. The koala population here is of both state and national significance, as one of the largest remaining populations west of the Great Dividing Range. All pockets of remnant vegetation are critical to the survival of this threatened marsupial, in a region where over 60 per cent of the native vegetation has been cleared.

If approved, the Shenhua mine will remove a substantial area of this remnant vegetation placing the local koala population at risk of extinction. The threat from the mine comes at a time when koala habitat is continually being fragmented, increasing the vulnerability of an already declining population to dog attack, car strike, disease, fire, drought and climate change.

Shenhua's proposed measures to ameliorate the detrimental impacts on koalas and their habitat, as outlined in their Koala Plan of Management, are in my opinion clearly inadequate.

Contrary to Shenhua's claims, displaced koalas cannot simply move into nearby habitat and the company's plans to relocate affected koalas is certain to fail. Those koalas that remain on site face a future of disease and starvation.

Sadly if this mine goes ahead, I have no doubt it is our local population of koalas that will pay the heavy price.

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INTRODUCTION

Every country has its icons. For us, the koala holds a special place in our culture. The uniquely Australian marsupial is a drawcard for visitors from across the globe. Just as we couldn't imagine the United States without grizzly bears or China without pandas, our state would lose a sense of identity without koalas.

Yet if current trends continue, koalas may vanish from much of New South Wales. Their numbers have reduced by more than a third over the last twenty years alone.

The primary cause is the destruction of their habitat – the forests and woodlands of our great state.

The Shenhua coal mine on the Liverpool Plains in the north-west of NSW is the latest threat to prime koala habitat. With koalas and their habitat so at risk, we simply cannot afford to destroy this remaining stronghold for this gentle animal.

Our state is at a juncture and it will be wildlife like the koala that will pay the price if we make the wrong choice.

Kate Smolski

CEO, Nature Conservation Council of NSW

CRITICAL ISSUES

1 | NSW koalas are a threatened species and listed for protection under both national and state environment laws.

→ In 2012 koalas in NSW, Qld and ACT listed as a vulnerable population under the federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).¹

→ Koalas are listed as vulnerable under the NSW *Threatened Species Conservation Act 1995* (TSC Act).²

Habitat destruction and fragmentation increases the vulnerability of koala populations.

2 | The Liverpool Plains region is known for its koalas. Koalas have been consistently detected in the area Shenhua plans to mine.

If the Shenhua Watermark coal mine goes ahead it will clear 847 hectares of koala habitat, displacing an estimated 262 koalas.³

3 | Shenhua’s Koala Plan of Management uses the controversial ‘translocation’ method that can lead to significant koala mortality.⁴

The NSW Department of Environment and Heritage notes “the translocation of koalas should be used in exceptional circumstances, not as a major mitigation measure.”⁵

The NSW Koala Recovery Plan states that translocation of koalas should only be considered when animals are at extreme and immediate risk.⁵



KOALAS IN EASTERN AUSTRALIA

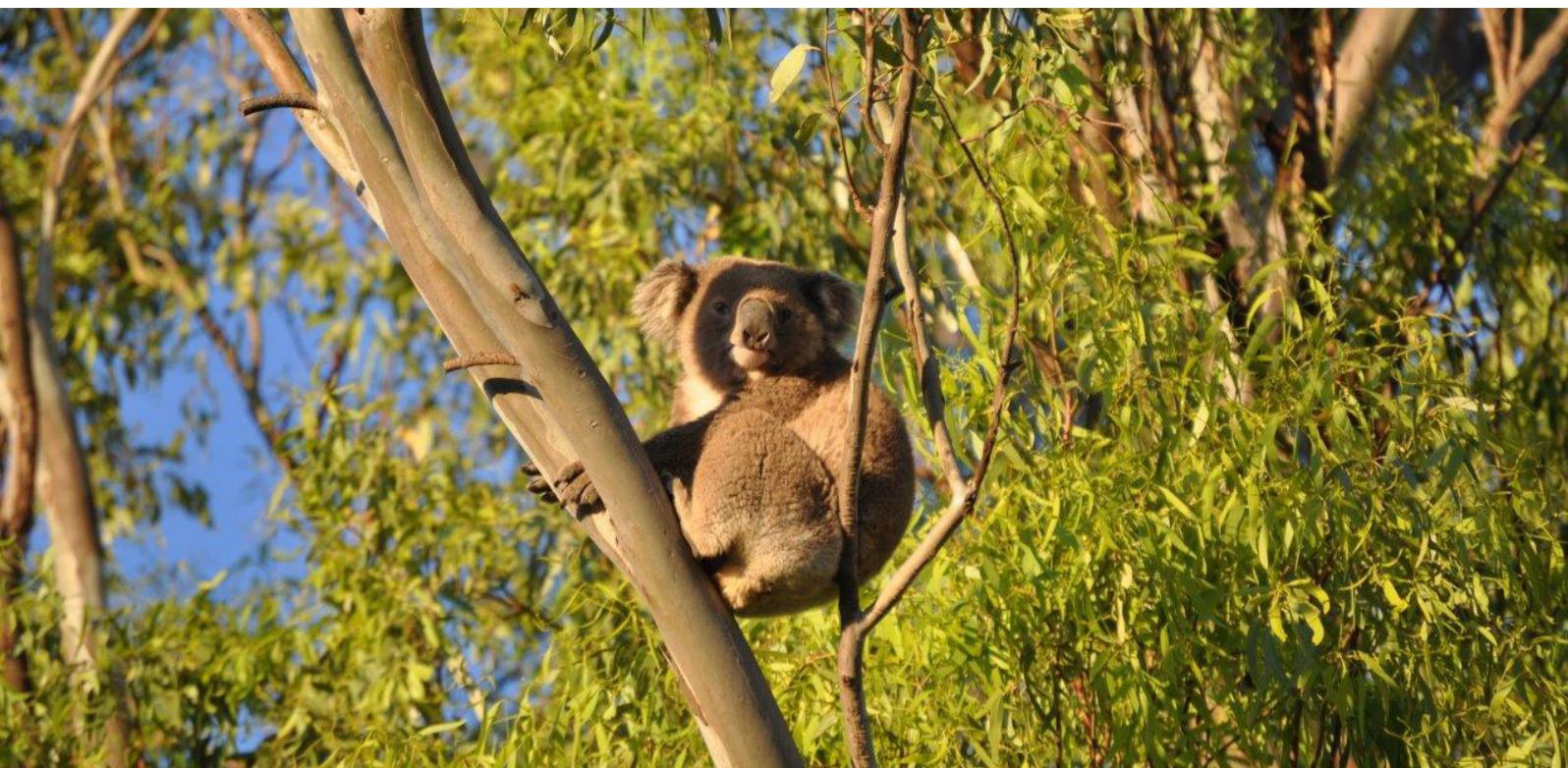
“Our state is at a juncture and it will be wildlife like the koala that will pay the price if we make the wrong choice.”

— Kate Smolski, CEO,
Nature Conservation
Council of NSW.

The status of the koala is precarious. Koalas are listed as “vulnerable” in NSW under the *Threatened Species Conservation Act 1995*.²

In 2012 the Federal Department of the Environment also listed the NSW population as “vulnerable”, noting that between 1990 and 2010 the population of koalas in NSW is estimated to have fallen by a third.⁶

Koalas are known to exist on the site Shenhua plan to mine. If the mine proceeds it would clear habitat and expose the local population to even greater vulnerability.



KOALA CAPITAL OF THE WORLD

The Gunnedah area is referred to as the ‘koala capital of Australia’ and, thus, the world. This highly significant local population is under threat.

In 2013, Shenhua’s Koala Plan of Management noted reports that 25% of the population within the Gunnedah Local Government Area (LGA) had been killed by a heatwave in 2009.³ Since then the Gunnedah population has suffered further losses.

The area experienced another heatwave in early 2014 with the temperature at Gunnedah airport hitting 46.9 °C on the 3rd of January. This will have further impacted the local koala population.



The NSW Planning Assessment Commission, in determining to approve the mine, noted that within the LGA the “population has reduced significantly, as a result of droughts and heatwaves, with the estimated reduction of up to 70% since 2009”.⁷

This is a much larger decrease than was recognised by Shenhua. Research is currently underway to understand both the scale and full range of causes of this decline.⁸

SHENHUA WATERMARK MINE

The Shenhua Watermark mine is a new open cut coal mine proposed for development at Breeza in the Liverpool Plains region of NSW. The mine would have a 30 year life during which up to 10 million tonnes of coal would be extracted each year. This will result in the production of both semi-soft coking coal and thermal coal for export.⁹

The scale of the mine is significant, with the project boundary encompassing 9,501 hectares of woodland and grassland.⁹

Over the course of the mine's life three separate pits would



This would necessitate the clearing of 4,084 hectares of vegetation, including 738 hectares of Box Gum Woodland critically endangered ecological community.⁹

To make way for the mine, Shenhua would clear 45% of the woodland on the site. The mine will also impact local groundwater, air quality, destroy Aboriginal archaeological sites, increase road traffic, and “relocate” an average of approximately 194 million litres of water per year from agricultural purposes to coal mining.¹

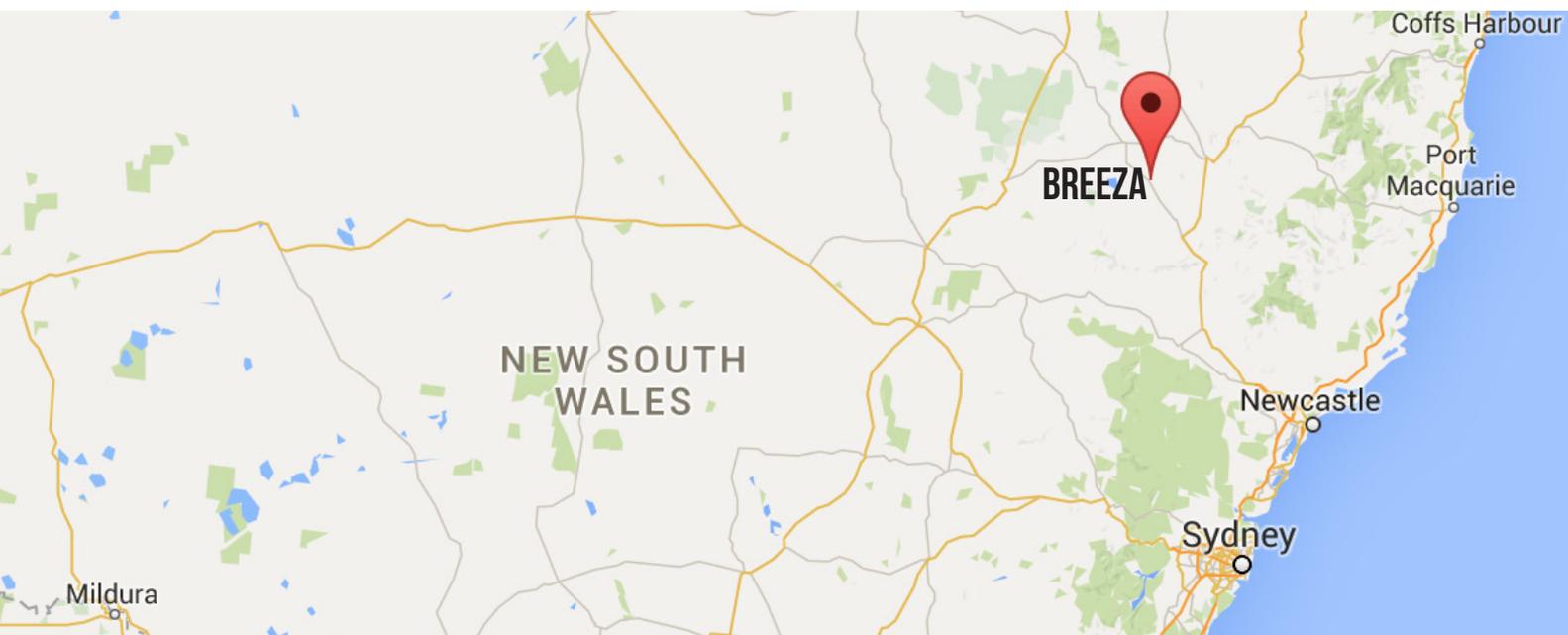
Shenhua's proposed coal project comprises three open-cut coal pits and associated infrastructure. The coal mine would operate 24/7 for 30 years.

The NSW Government first granted a mining exploration licence to Shenhua in 2008. The company paid the government \$300 million for the mining licence.¹⁰

In the years that followed, Shenhua conducted a feasibility study, and purchased the farms inside the exploration lease area¹¹. The mine was approved by state and federal governments in 2015.^{7, 13}

The Liverpool Plains is one of the most productive agricultural regions in the nation, if not the world. The topography, climate, and geological variety make the area not only highly productive but a refuge for natural flora and fauna, including the koala.¹⁴

The Shenhua Watermark coal mine proposal is fiercely opposed by the Liverpool Plains farming community.¹⁵



COAL MINE VS LOCAL KOALAS



Shenhua recognises that “clearance of a large proportion of woodland within the Disturbance Area is likely to represent a loss of locally important habitat for various fauna species”.⁹

Significantly, this habitat includes a local population of koalas. Ecological surveys have found that all of the eucalypt-dominated woodland on the mine site is suitable for koalas and that the koalas are utilising the majority of it.¹⁶

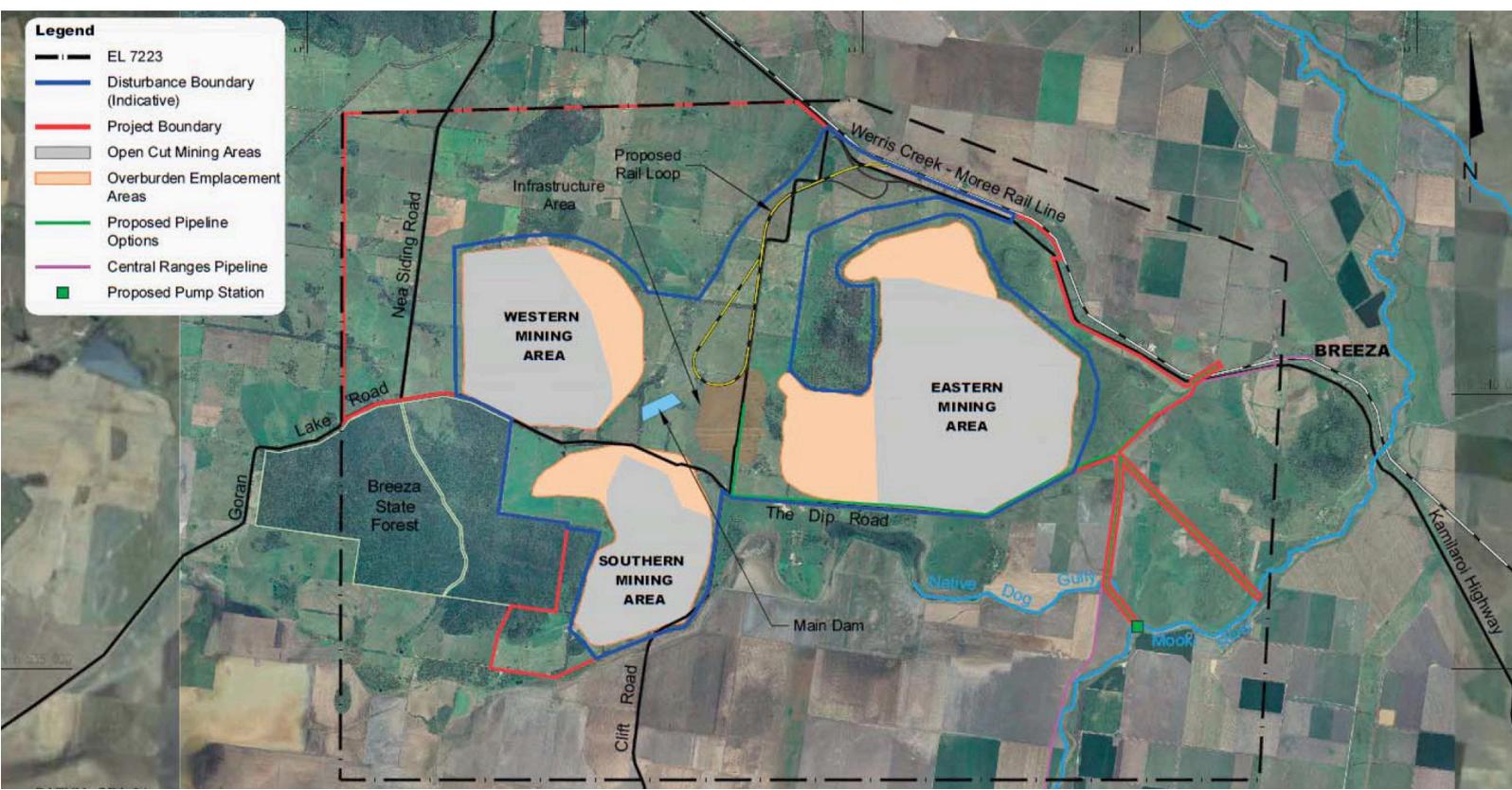
Shenhua’s ecologists, Cumberland Ecology, concluded that the project site supports “a relatively large koala population”.¹⁶

Shenhua's plans for koalas are set out in a Koala Plan of Management (KPoM). This formed a component of the Environmental Impact Statement (EIS) and was subsequently revised after public exhibition. Our report draws on the revised October 2013 KPoM except where explicitly stated.

Shenhua plans to clear 847 hectares of koala habitat over the life of the project.⁹

Shenhua notes this clearing of habitat will also impact the remaining suitable habitat, resulting in further fragmentation and isolation.⁹

The patches of habitat suitable for koalas within the project area already have limited connectivity both within the mine area and with the wider locality, affecting the ability of koalas to safely move within and exit the mine area as construction and mining occur.



KOALA PLAN OF MANAGEMENT

“As habitat is progressively cleared, koalas will be encouraged to move away ... The aim will be to encourage koalas to move naturally, however if this does not occur, translocation will be implemented.”

— This is a quote from Shenhua’s original plan to manage koalas demonstrating the impact the mine will have.¹⁷

This suggestion was removed from a revised version of the plan³.

Shenhua recognises that the Watermark coal mine may cause a range of indirect impacts on koalas including:

- an increase in road and train injuries/mortalities;
- habitat degradation;
- increased predation;
- increased incidence of disease;
- increased risk of fire and physical injury”.³





Shenhua states that it plans to mitigate and offset koala impacts to “maximise the probability of the population persisting in perpetuity”.³

The plan’s two main elements involve:

Offsets — the (re-)establishment and rehabilitation of habitat suitable for koalas, both within and outside of the mine site.

Translocation — removing individual koalas from the mine site as the woodland is destroyed.

The possible success of both of these approaches is under question.

SHENHUA'S KOALA PLAN

Offsets

Shenhua plans to ameliorate the destruction of koala habitat through a range of initiatives intended to increase suitable habitat for them in other areas.³ The company plans to:

- protect and revegetate areas of the mine site that are already suitable for koalas and will not be destroyed by mining (the Onsite Offset Area).
- replace much of the land destroyed by mining with habitat suitable for koalas as part of their rehabilitation strategy, during and after the life of the mine.
- protect and revegetate an area of koala habitat 50 km west of the mine site (the Additional Offsite Offset Area).

These plans are an implementation of the concept of environmental offsets. Offsetting assumes that the damage to one area of habitat or population of flora or fauna can be made up for by improving another. It is used to permit the approval of environmental destruction that may otherwise be considered unacceptable.



The concept of offsetting is flawed on a number of grounds:

Offset creation occurs after destruction.

Environmental destruction is typically permitted well before offsets are secured. In cases where the offset is to be planted, it is often decades before the offset can be considered to approximate the destroyed habitat. In the case of the Watermark mine, even the best case scenario results in a short-term, net loss of habitat.

Offsetting results in a fundamentally negative outcome for the environment.

The practice assumes that areas of existing habitat will only be protected or improved if existing good quality habitat is destroyed. This is flawed logic.

Offsetting assumes that it is possible to recreate natural environments.

The creation of an approximation of a natural environment is a complex task and in some cases is near-impossible.

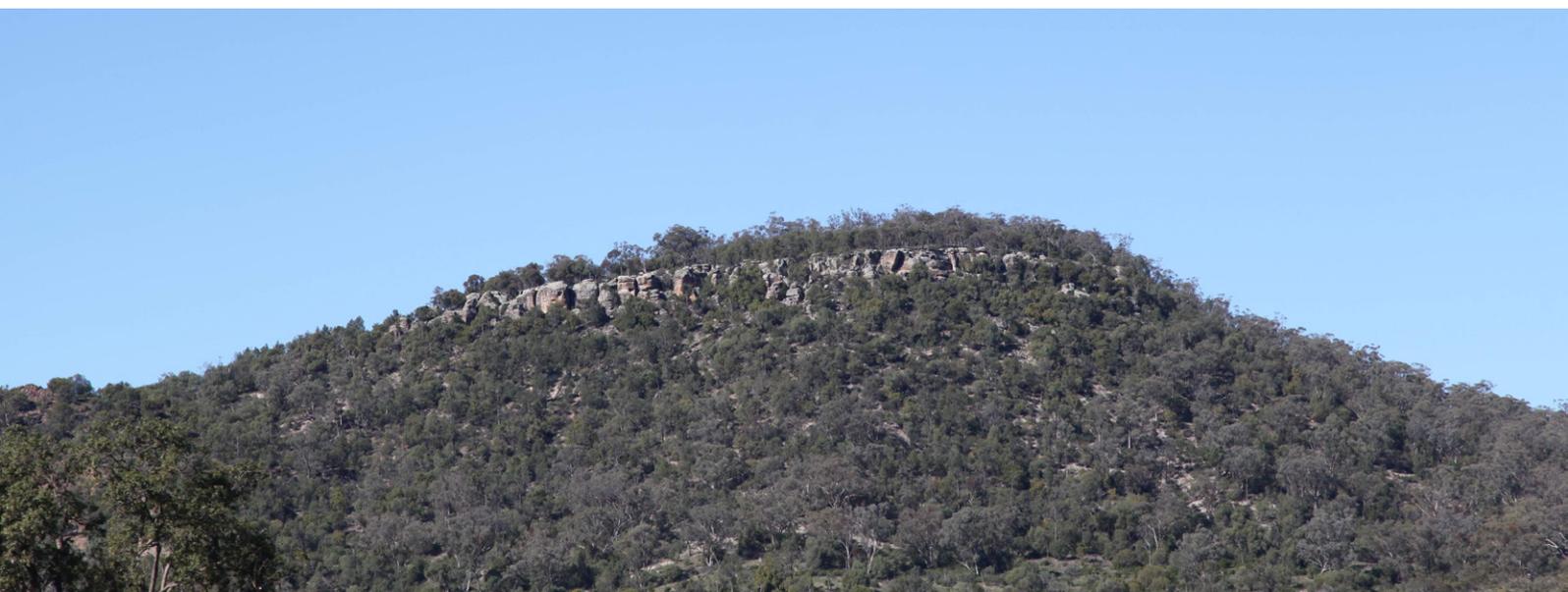
Translocation

Shenhua claims its offset plans, “will create large areas of additional Koala habitat over time”³. However, as the company recognises, even if rehabilitation is successful it will take years, even decades, for the habitat to become suitably established for use by koalas. Therefore, it will be necessary for Shenhua to move koalas to offsite locations, especially in the first decade of mining. This is called translocation.

Shenhua’s ecologists estimate that 262 koalas will need to be “translocated” over the mine’s life, including 89 in the first ten years.³

The company plans to move the koalas to “suitable offset areas which will be identified as part of an ongoing process”.³

The success of this proposed relocation is critical to the impact that the mine will have on the local koala population.



“Translocation should not be viewed as an acceptable alternative to conservation of habitat and populations in situ.”

— *NSW Recovery Plan for the Koala*.¹⁸

The Australian Koala Foundation (AKF) is “totally opposed to the concept of translocation.” The AKF draws attention to the failure rate of previous translocation programs. In one highlighted case, 80-100% of the animals died.⁴ When commenting on Shenhua’s translocation plans, the NSW Office of Environment and Heritage (OEH) stated “this is a drastic measure and exceptional care will be required”.¹⁹

Doubt remains about both Shenhua’s ability to find new homes for the koalas and to successfully move them. The OEH stated “alternative procedures must be available if the translocation of koalas is not successful”.¹⁹ Shenhua is yet to publish their koala Translocation Management Plan or confirm the location to which they will move the koalas. There is no meaningful source of confidence in the company’s plans.

Overall, the OEH found that “inadequate information has been provided within the EIA and the Koala Plan of Management (KPoM) to assess the impacts of the Project on the koala population, and whether the population will be improved or maintained over the life of the Project”.¹⁹

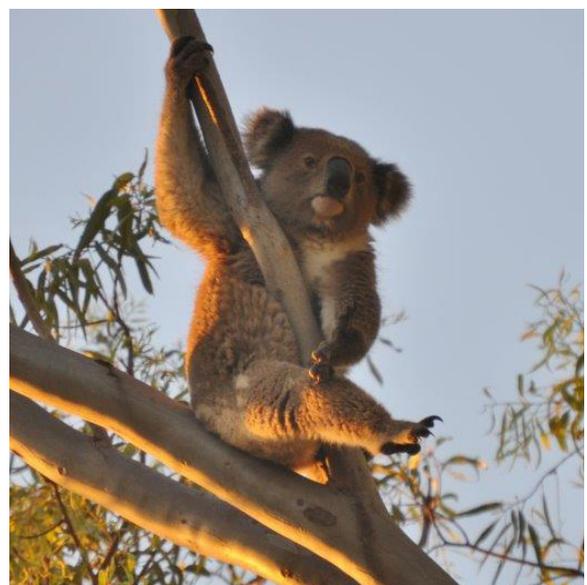
LOCAL KOALA POPULATION

Uncertainty surrounding the size of the koala population in the Gunnedah area is another source of concern with Shenhua's plans.

The company states that "it is anticipated that the Project will require the translocation of 2.1% ... of the total population within the Gunnedah LGA."³ This assumption is questionable. It is based on an unpublished estimate of the population made prior to the 2014 heatwave and that population estimate is an order of magnitude higher than that estimated by the Australian Koala Foundation.⁴

Without a clear understanding of both regional and local koala populations it is unclear how the impact of the mine upon them can be determined.

The NSW OEH, reviewing Shenhua's Koala Plan of Management, stated that "it is difficult to extract meaningful information on key questions regarding the Koala population on the site. These include: what is the population of koalas to be affected, what will the impact be on the population and what is going to be done to secure their future?"



CONCLUSION

If the Shenhua Watermark coal mine proceeds it will require the clearing of 847 hectares of koala habitat at Breeza on the Liverpool Plains. The exact size of the population of koalas across the region is contested. However, Shenhua estimate 262 koalas will need to be moved over the 30 year life of the mine.

There are many outstanding questions regarding the methods that Shenhua propose to manage and mitigate the risk to koalas. Significantly, the methods used in the current plan cannot be guaranteed to ensure the survival of the estimated 262 koalas that currently live on the site Shenhua seek to mine.

Koalas in NSW are listed as vulnerable to extinction, and the destruction and fragmentation of known koala habitat to make way for a new coal mine will negatively impact the local koala population. While the listing of the koala as vulnerable is an acknowledgement of recent population decline across the region, there is considerable uncertainty surrounding both the scale and cause of this decline. Shenhua is partially funding research to explore this issue.

It is unclear how it could be deemed appropriate to proceed with the Shenhua Watermark coal mine at this time. The company's plans cannot guarantee the survival of the local koala population and the species is already listed as vulnerable. Can the region remain known as the koala capital of the world if the Shenhua coal mine goes ahead? It does not seem so.

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Cover photograph by Dean Sewell. Photographs throughout by John Hamparsum, Cynthia Pursehouse, Dean Sewell and Kate Ausburn.