

## **Nina Harrison**

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**From:** IPCN Enquiries Mailbox  
**Subject:** Narrabri Gas Project submission

Project Narrabri Gas

I am submitting as an individual.

Address: RiverGum

Darling Street

Tilpa 2840

NSW

I object to the project

Yours Sincerely

Bronwen Evans

My name is Bronwen Evans. I am a practising Veterinarian, so my main focus for this submission is Animal Welfare.

The Pilliga Forest is the largest continuous remnant of semi-arid woodland in the state. The continuity is important. This is irreplaceable. It is not reproduceable. Much of our natural environment has been impacted by human change including agriculture and urban development and the recent extended destructive fire season.

The Pilliga is dominated by pine ( Cupressaceae spp ) with a variety of other distinct plant communities such as mallee, heathland and ground water dependant ecosystems. The predominant subcanopy is she oaks ( Casuarinaceae spp) and the predominant canopy throughout the forest is eucalypt.

Within this area there are many endangered and threatened birds, animals and plants. This is documented in the surveys by Santos. Only limited surveys were done for the assessment of the gasfield, but these found 10 threatened plants and 35 threatened animals in the gasfield area, including pygmy possums, koalas and the Pilliga mouse.

There are no adequate offsets to this forest.

The NSW Parliamentary Inquiry into Koala Populations and Habitat was handed down on 30th June 2020. It found Koalas will be extinct by 2050 without serious government intervention. The findings and recommendations should be a blue print to stop all species from extinction. Shamefully Australia has the highest rate of extinction in the world. Allowing the Santos Pilliga Forest project to proceed will go against the most important advice from this inquiry.

It is most important to realise that koalas, or any individual species, is just one element in an incredibly diverse web of life, of flora, fauna, microbes, water and earth. All these elements can only be saved if they are saved together.

In the NSW Parliamentary Inquiry into Koala Populations and Habitat I note some pertinent findings regarding habitat loss which would occur if the project is allowed. I reference the Inquiry results

#### Finding 2

That, given the scale of loss to koala populations across New South Wales as a result of the 2019- 2020 bushfires and without urgent government intervention to protect habitat and address all other threats, the koala will become extinct in New South Wales before 2050.

#### Finding 4

That the fragmentation and loss of habitat poses the most serious threat to koala populations in New South Wales.

#### Finding 5

That the future of koalas in the wild in New South Wales cannot be guaranteed unless the NSW Government takes stronger action to prevent further loss of koala habitat.

#### Finding 6

That climate change is having a severe impact on koala populations by affecting the quality of their food and habitat.

## Finding 7

That climate change is compounding the severity and impact of other threats, such as drought and bushfires, on koala populations.

## Finding 14

Translocation is an unproven way of protecting koala populations from the impacts of development and should only be used as a last resort. Further research needs to be undertaken to assess its methodology and effectiveness.

The following recommendations also outline why the project should be rejected.

## Recommendation 11

That the NSW Government factor in climate change as a key consideration in the drafting of all relevant legislation and planning strategies and ensure climate change mitigation is a core component of all strategies to save the koala in New South Wales.

## Recommendation 34

That the NSW Government review the impact on koala habitat of the application of regulated land and self-assessment frameworks under the Local Land Services Act 2013.

## Recommendation 37

That the NSW Government review the Biodiversity Conservation Act 2016 in relation to the Biodiversity Offsets Scheme with particular regard to:

- amending its objectives to ensure all offsets meet the standard of 'no net loss or better'
- prohibiting the ability to offset high quality koala habitat
- ensuring all offsets are 'like for like'
- imposing location restrictions on koala offsets
- removing the ability to make payments in lieu of offsets
- removing the ability of mining companies to delay offsets until project completion.

Habitat destruction and fragmentation is the greatest cause of extinction and yet it is just this which will happen if the CSG project of Santos goes ahead.

It is disingenuous and misleading for Santos to inform us that this project will only be clearing 1,000 hectares on the 95,000 hectares of the site. The well pads of approx 4.5 m X 4.5 m will be linked by barriers , some of them

impenetrable, roads, pipelines, paths and fences. This will fragment the 95,000 hectares making it inhospitable to animals and disrupt vegetation communities.

By opening the canopy it will allow bright light and heat to groundlevel changing the pattern and type of the plant community. These altered channels allow feral species to penetrate further into the forest. It obliges our arboreal species to descend to the ground to move across their territory whereby they are subject to heat, predation and may become roadkill.

Currently surface water gathers in gilgais which are important natural water sources for native species. These are formed in cracking clay soils over years of wet and dry seasons. Many of these will be bulldozed flat for access paths.

Most of our native species are crepuscular (dusk and dawn) or nocturnal (night). The constant light of 24 hour production will alter this diurnal rhythm adversely. We have all seen images of kangaroos stunned in the glare of bright lights unable to behave normally. So too will the altered light pattern impact on the behaviour of all life.

The suggested downward shedding of light to maintain the important dark sky for the important astronomical activity will certainly not shield the wildlife from constant light interference.

Flaring will impose more impact onto wildlife. Flaring shoots light and heat to higher levels of the canopy causing stress on the arboreal species who use the canopy as safe havens to eat and sleep.

Research has shown that the ground around flares is affected. At the base of a flare the soil is acidified to pH 4 - 4.2 and soil moisture is decreased by 40%. This effect is not normalised till approximately 20 m - that is a 40m diameter area of altered soil and it's affect on vegetation. Flare light will also affect ground level of light as previously discussed.

It stands to reason that fugitive gas emissions of methane will adversely affect the birds, animals and all life in the same manner as has been documented for the human population.

Many of the fauna in the forest are small. Smaller animals have a greater ratio of surface area to body weight and so are impacted more by heat stress. Heat stress causes acute kidney disease, increases the affects of congestive heart failure and electrolyte imbalances. Heat stress is well documented to adversely affect animal reproduction. In species who have their testes outside the body, in a scrotum, it is so they can regulate the temperature for sperm production. With higher ambient temperatures and increased reflected heat from ground not shaded by or covered with vegetation these male animals will have decreased fertility. The female reproductive tract, the ovarian pool of follicles and their enclosed oocytes are highly sensitive to hyperthermia.

Extinction, Endangered, Threatened are not passive terms whereby the last animals die quietly in their sleep. They are cruel processes whereby individual animals suffer. They slowly die due to lack of a suitable habitat, lack of food and water, increased predation, competition for resources by introduced species, decreased ability to breed due to lack of suitable places such as tree hollows in aged trees or simply lack of a mate due to population decrease or fragmented habitat by roads and pipelines. Just not enough to eat and drink in the changed environment.

The Pilliga once hosted one of the most important koala populations in New South Wales, but the species is now on an extinction trajectory in the area. With so much habitat and lives lost to recent bushfires, it is crucial to the survival of the koala and those that live within its ecosystem, that this area be spared industrialisation but be rehabilitated to the environment we need to save Koalas from extinction

The IPC needs seriously to consider assessments that have already been made regarding the dangers of CSG extraction to human health and be realistic in applying this data and findings to the flora and fauna in the projects area. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS), which is Australia's own regulatory body, conducted a National assessment of chemicals associated with coal seam gas extraction in Australia. It found that 48 of 113 chemicals used in coal seam gas operations could harm the health of workers in the CSG industry that come into contact with harmful quantities of them in mixing or blending chemicals to produce formulations, or in the event of an industrial accident. It also found that 11 of 21 chemicals used for drilling were of a potential concern for public health following a bulk spill during transport. In NICNAS' survey of companies in the CSG industry eight years ago companies reported 10 incidents of unintentional release of CSG chemicals including many of the types of incidents that the assessment found can be harmful to the health of CSG workers and the broader public. In some of these reported spills and incidents, the chemicals could not be recovered.

There have already been more than 20 leaks and spills from coal seam gas exploration activity in the Pilliga. This is already not negligible for the native species in their own habitat.

It is clear that Santos is only offering environmentally destructive jobs for a few people that would last a maximum of 20 years. If the government spent the same amount it subsidises the fossil fuel industry on local projects and industry, perhaps rebuilding the abattoir, it would resolve the local unemployment problem without increasing environmental destruction and climate change. We cannot allow the few forests and landscapes that escaped the devastation by the recent fires to now be destroyed. These need to be protected as the precious oasis they have become. We cannot rely on promises of protection of water resources, future rehabilitation in time lines of more than 10 years and offsets that don't pass scrutiny. Promises are too easily broken.

At the headwaters of the ancient groundwater of the Great Artesian Basin, we can't risk our water. We should look to the NSW Parliament Inquiry into Koala Populations and Habitat as proof we need to change our mode of operations. We need to act differently to the past and make decisions that deliver better outcomes for our iconic Koalas and their habitats with all the interrelationships they enfold. As the inquiry laid out, we can reverse this extinction process if we act on their recommendations which means not destroying any more habitats, including 95,000 hectares of the Pilliga.

The koala is now our canary in the gas field.

Sent from my iPad