



Submission against Coal Seam Extractive Industry in the Pilliga

I have had over 20 years experience of the flora of the Pilliga. Over 15 years ago I was employed by State Forests to conduct pre-harvest surveys throughout the Pilliga. This allowed me to get to know the forest, its plant communities and its uniqueness in the context of the surrounding lands, and NSW as a whole. I have written a small guide to the spectacular flora of the forest, 'Wildflowers of the Pilliga', and for the last 20 years, with my wife, run a native nursery outside the small town of Binnaway - 30 minutes from Coonabarabran.

The Pilliga

The first thing you notice about the forest is its size and diversity. The long sandy roads appear to continue forever, but subtle changes encourage great diversity.

If you were to see a vegetation map of the Pilliga, using different colours for the dominant vegetation communities, you would see one of the most tantalising colourful maps possible. The variation in plant communities is a great surrogate for moisture availability, soil fertility and historic fire events. There are sandy ridges travelling north to south, parallel to water courses. These ridges came from sand blown from dry water courses during times when drought dominated the seasons and have incredible floral displays when years are kind. Many of the sandy ridges date back to the last ice age or are even older.

One of these ridges, on the eastern side of Bohena Creek has a unique plant community, dominated by the Red Mallee Pine - *Callitris verrucosa*. This is an important population - small, about 1km long and only 300m wide and being over 300km from the nearest population out at Narran Lake, north of Brewarrina. Unfortunately this is in the heart of the proposed gas field, and will be impacted by the gross disturbance to the forest that will follow.

Disturbance

Driving through this country you see the lack of encroachment of weeds along the road verges. You also get glimpses of the huge diversity of plants that thrive in this land of very poor soils. It is a well known botanical fact that rich soils promotes dominance by few species, and in poor soils, plant species target a different set of micro nutrients, and so diversity dominates. These areas are also adapted to fire, experiencing some intense large fires over time. Generally the Pilliga is free of the common weed species that dominate smaller relatively intact forests.

The proposed Gas Field, has numerous large pads around gas wells and connecting pipes and tracks, are a huge vector of disturbance for weeds to flourish. The edges of current well sites and those decommissioned exploratory wells have many more weed species compared to those areas metres away. Each major rain event spreads these weeds.

Some of these weeds, such as Lovegrass (*Eragrostis curvula*) comes back enthusiastically after fire, increasing the intensity of following fires. Other exotic grasses are rare in the Pilliga (for now), but will most likely encroach as the gas field fragments the Pilliga environment. These include Coolatai Grass (*Hyparrhenia hirta*) and Guinea Grass (*Panicum maximum*) which are common along the Newell Hwy and other local roads. These exotic grasses grow to the base of trees and large shrubs - unlike the native grasses, greatly increasing the intensity of fires, and inhibiting natural regrowth.

These and other weeds will colonise those gas pads, once they are decommissioned. It is already happening, through poor oversight, and underfunded rehabilitation efforts. Controlling via chemical or physical methods are expensive and usually poorly executed, prevention through no disturbance is far better.

Salty Water - the Unwanted Byproduct

I am amazed that the project of this magnitude and scope is allowed progress without requirements to fully dispose of the salty water byproduct. Yes, there is a water treatment plant, that removes some of the salts, but the remaining salt is then exported to Qld, and buried! The proponent should be required to have a full environmentally benign plan in place to manage the salt. This should be a rigorous and robust plan, independently audited before commencement.

This sodic water is so very toxic to plant life and the environment. Decades long spills are still creeping along the landscape - locking up the organic matter and killing some of the most resilient vegetation.

These salts are very hard on metals and concrete, ageing and corroding them with just little exposure. I cannot believe that the many thousands of kms of well pipe will never leak over time. Being of a statistical mind, I can see the risk of failure of each meter is low, but when measured over the cumulative lengths of pipe, and the eternity they will be in the ground, it is not a matter of if they disrupt aquifers, but what to do when they do bleed sodic water into the artesian and surface aquifers. They **will** fail, and I do not believe this has really been taken into account. Will there be an adequate environmental **bond** supplied by the company for future rehabilitation?

Treatment of the environment over the last 20 years by the various incarnations of the company has been token at best. They have done an incredibly poor job of managing environmental concerns. This includes the original water treatment plant that pumped the salty water into the air in large rubber/plastic lined pools. This water was prone to blow outside the area, causing localised saline poisoning. They also put a reasonable fence on 3 sides... leaving the 4th side open for wildlife to come to the ponds and drown. They also were lucky to avoid a serious spill by having 3km of pipe laid



just off the verge in a very fire prone area of the gas field.

During the mid 2000's the company was licensed to put the "treated" water into Bohena Creek, as long as salt levels stayed below a certain level. You learn a lot about environmental green/red tape with experiences from cynical exploitative companies. Most people would think this requirement was to make the treated water have low salt levels, and then drain it into Bohena Creek, but in reality the company waited till the creek was in flood before draining the ponds via a 2 inch pipe - untreated and directly into the creek.



Conclusion

I have been part of the conservation push for the Pilliga, since February 2000. I have been part of Friends of Pilliga, and taken part of the Western Regional Assessment. The government knows, in detail, how special the Pilliga is. It appears that the government is always working to change legislation that was set up to protect waterways, the environment and biodiversity so that it will enable environmentally destructive extractive industries. I am sad to be so cynical in our elected government that they will end up approving this huge white elephant.

Others have shown the lack of jobs, the huge impact on fauna - all for so little or no long term gain. This project, if approved, throws out the concept of a 'Triple Bottom Line' from years ago. There is no environmental benefit, no community benefit and no real long term economic benefit.

Surprise me, and block this project

Anthony