Submission to the Inquiry into the impacts of mining in the Murray Darling Basin (specifically referring to point (a)).

By Kirrily Blomfield
Grazier at Caroona on the Liverpool Plains.

My family and I have a grazing property near Caroona at the headwaters of the Namoi Valley catchment. We are proud of the significant improvements we have made to surface flows and groundwater infiltration on our farm, which go on to contribute to the flows of the Murray Darling Basin. These improvements are a direct result of our improved, controlled grazing management. These management techniques are not possible without access to underground aquifers to water our cattle.

Mining either the plains or ridges of the Liverpool Plains area and the resultant subsidence from doing so, would put at risk the shallow aquifers that we rely on for watering our stock (26 meters deep in our case). Without this water we could not graze our property in the manner that has allowed these environmental improvements.

The grazing techniques that I refer to are based around Holistic Management grazing principles, where our cattle are grazed at high densities as one mob. To achieve this high density grazing, our farm has been fenced into smaller blocks and the cattle move around the property, while previously grazed pastures are allowed a growth recovery period. For this to be done successfully, water must be supplied in all the smaller grazing blocks – to which **piped bore water (coming from shallow aquifers in the ridges) is absolutely critical.**

You may say "*so what… that's just your farm, not much in the scheme of the Murray Darling Basin"*. Well, to enable the fencing and watering of our farm to suit this grazing technique, we were lucky to have received funding from Liverpool Plains Land Management (LPLM). And we have not been the only ones. LPLM has funded around 16,700ha of similar works in the Liverpool Plains area, with other farmers aiming for similar results as us. The Namoi CMA has also funded such projects in the wider Namoi catchment (the hectares of which they would not divulge with relatively short notice).

More specifically, some of the results that we are achieving are:

- increased groundcover (ie. more plants covering the soil)
- greater plant and animal biodiversity (including swarming dung beetles)
- improved soil carbon sequestration
- *natural* tree regeneration
- slower moving surface flows
- Increased infiltration to groundwater (which is known to be a recharge area for the aquifers of the alluvial floodplains of the Liverpool Plains). Refer to SEPP No. 46 Application Assessment: Rado Ranch, where the Department of Land and Water Conservation at the time, refused our application for cypress pine clearing, on the basis that "The area under application is a recognised recharge area".
- Erosion elimination (refer to **photo 1**).

Photo 1 – This photo (from some years ago) shows where two surface flow streams met. One came from an improved area of the farm where there were clear surface flows (left) and the other from a yet to be improved area, with poorer ground cover and the resulting erosion evident in the water colour (right).

To gain a greater understanding of what this grazing management can achieve on landscapes, please see **appendix 1 - attached,** by Soil Carbon Australia.

In Summary, we, and many other farmers, managing thousands of hectares on the Liverpool Plains are having significant positive impacts on the stream and riverine environments in ridge and plains country. More specifically, grazing management is helping to have positive impacts on surface flows and infiltration to groundwater, which are at the headwaters of the Namoi Valley, which goes on to be part of the Murray Darling river system. **Underground water supplies or aquifers are critical for the grazing management that enables the resulting improvements to the environment of the river systems. These will all be placed at risk if mining is allowed to proceed anywhere in the Liverpool Plains area.** I have not once heard Coal Mines Australia (BHP, who has a coal exploration license over part of our farm), refer to, or consider the more shallow aquifers of the Liverpool Plains region. If long wall mining proceeds under the ridges or floodplains of the Liverpool Plains, the resulting subsidence (undenied by mining companies) would mean the collapsing of these aquifers and the further degradation of the Murray Darling River System.

This just can not be allowed to occur!

I invite you to our farm to see for yourself the importance of the aquifers to both the ridge and plains country of this region and, in turn, the Murray Darling Basin.