

Wilpinjong Coal Mine Expansion EIS

Assessment of Biodiversity Assessment Report and Biodiversity Offset Strategy (Hunter Eco) and supporting documents

By

David Paull 9 March 2016

Key issues

- Koala survey methodology is not conclusive for the purpose of identifying whether core habitat is present or not. Koalas should have been included as a 'Matter for Further Consideration'.
- Offset Strategy is not compliant with the requirements of the new Offset Policy for Major Projects (2014), particularly a significant shortfall for the Regent Honeyeater.
- Impacts on Munghorn Gap NR have not been adequately addressed and do not meet the requirements identified in the *Guidelines for Developments Adjoining Land and Water Managed by the Department of Environment, Climate Change and Water* (DECCW, 2010)
- Groundwater Dependent Ecosystems impact not considered adequately according to the Risk Assessment Guidelines for Groundwater Dependent Ecosystems (NOW).

Impact

The impact of the project in terms of area and biodiversity credits is:

- Ecosystem Credits: 354 ha 15,314 credits
- Species Credits:
 - *Ozothamnus tessellatus* 589 individuals 23,560 credits
 - Regent Honeyeater (*Anthochaera phrygia*) 273 ha potential habitat 21,021 credits
 - Koala (*Phascolarctos cinereus*) 165 ha potential habitat 4,290 credits

The SEARs also required the assessment of Groundwater Dependent Ecosystems, Munghorn Gap Nature Reserve, Cumulative Impacts.

Offsets

Five land-based offsets comprising a total of 1,100 ha have been selected for the Project. The offset areas are strategically located to adjoin Goulburn River National Park and Munghorn Gap Nature Reserve, with the potential to increase the extent of these existing protected areas.

Species credits for the matters listed above were also calculated.

The SEARs should have listed the Koala as a "Matter which requires Further Consideration."

The EIS gives further consideration to potential impacts on Box-Gum Woodland EEC/CEEC, *Ozothamnus tessellatus* and Regent Honeyeater. It concluded that with the proposed measures to avoid, mitigate and offset it is appropriate for these impacts to occur without further modifications to the Project.

Two records near the boundary of the Wilpinjong Mine plus the existence of large areas of potential Koala habitat in and adjacent to the development area should have prompted OEH to identify the Koala for further consideration. This would have prompted the proponent to undertake more

detailed baseline studies to examine Koala usage within the locality. This species is also a 'species credit' which usually requires additional effort be undertaken to verify biodiversity credit retirement.

Inadequate assessment of Koala usage within the locality

Biodiversity Monitoring Services (2013) describes that considering the dearth of sightings in the immediate and surrounding area it is unlikely that a viable population exists in or near Wilpinjong Coal Mine and that the single animal sighted was an individual moving between areas. Notwithstanding this statement, approximately 165 ha of potential Koala habitat is mapped on Figure 12.

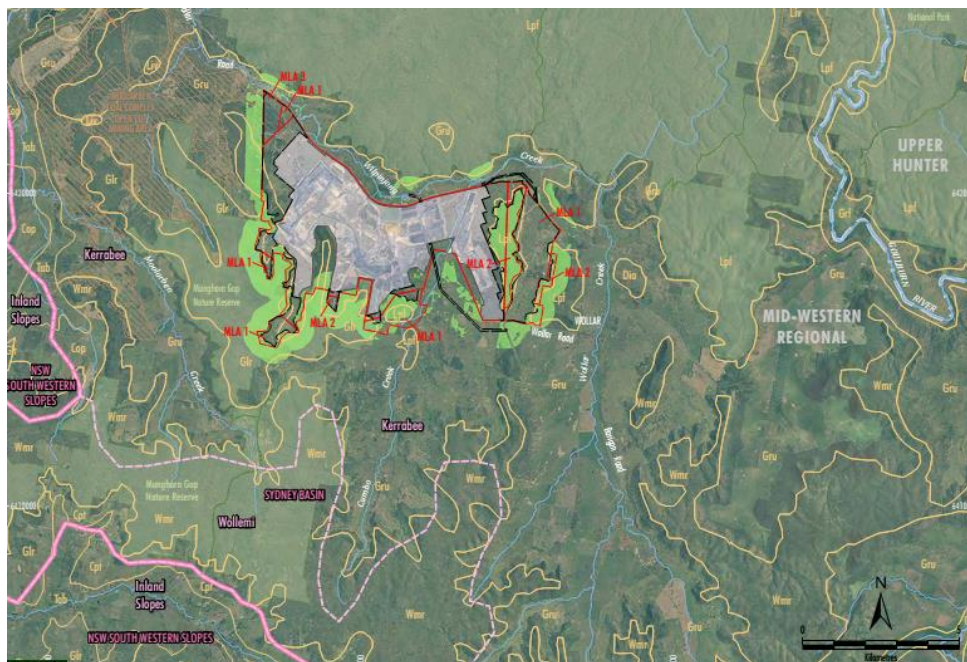
The Biodiversity Monitoring Services (2013) report states that due to dearth of Koalas, no 'core habitat' is likely in the project area, however, the sighting of two Koalas in one of the offset sites prompted an assessment that this area was likely to contain 'core habitat'. Both areas contain the same woodland types, Grey Gum slope forest and lower slope red gum /yellow box/ Rough barked Apple.

The survey methodology used in the EIS to detect Koalas was said to have been done according to Commonwealth and NSW fauna survey guidelines, while combinations of these methods raise the chances of detecting Koalas, they are not ‘targeted’ methodologies. OEH recommends the use of the SEPP 55 Guidelines for Koala assessment which uses the ‘SAT’ scat detection methodology.

Even though the Biodiversity Monitoring Services (2015) report states that 'core' habitat is present or not present in different parts of the valley, there is no evidence that that SAT methodology has been used which is the only way core habitat can be identified.

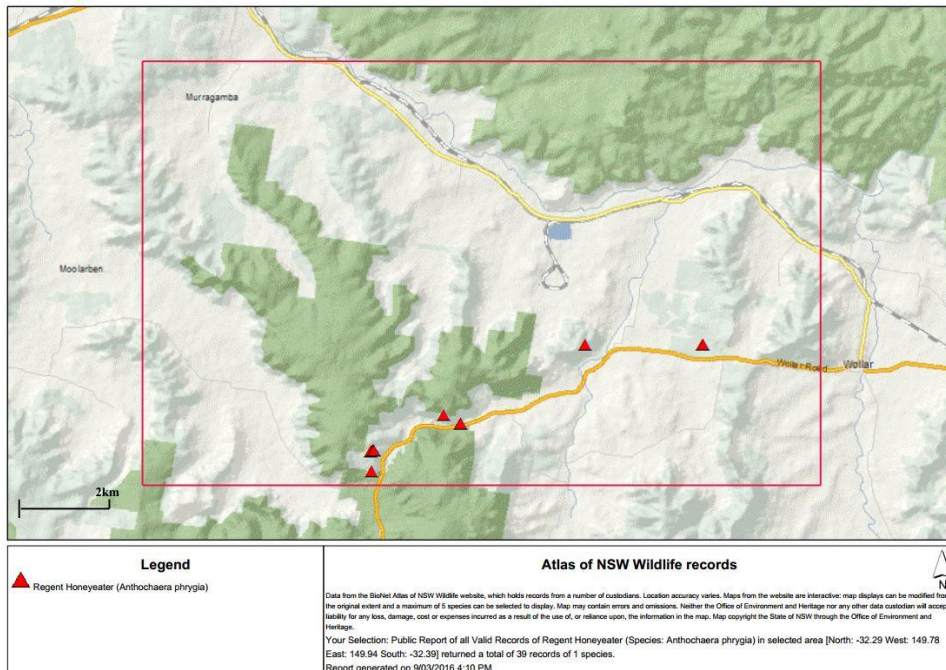
Impacts on Munghorn Gap NR and Regent Honeyeater habitat

Biodiversity Monitoring Services (2015a) claim there will be minimal impact upon fauna residing in the 'buffer zone' around the edge of the park though may cause the collapse of a weakened roosting site for Eastern Bentwing Bat 152 m away from one proposed pit.



The location of the buffer Zones are indicated in Figure 4 of the Hunter Eco report (above) .It is presumed that the buffers represent areas of indirect impact from noise, light and dust pollution.

IN terms of the Regent Honeyeater, BioNet Atlas database show there are 37 records in the locality of the proposed mine extension. These records are from 1970s to 2000s. During this period bird-banding was undertaken indicating this area is used periodically as refuge and likely breeding habitat. Most of these records lie within 1 km of the proposed mine extension.



There is a potential for indirect impacts to occur on the flora and/or fauna in Munghorn Gap Nature Reserve (because it is adjacent) so an assessment of the potential indirect impacts was undertaken by the proponent by considering the *Guidelines for Developments Adjoining Land and Water Managed by the Department of Environment, Climate Change and Water* (DECCW, 2010) and the objectives outlined in the *Goulburn River National Park and Munghorn Gap Nature Reserve Plan of Management* (NSW National Parks and Wildlife Service, 2003). As a result of this assessment the proponent has asserted that the development is in compliance with these guidelines.

Adherence to the Guidelines (DECCW 2010) above are considered here.

The following specific parts of the Guidelines have not been followed / addressed in the EIS:

“DECCW land should not be considered as a buffer zone between a development and other surrounding uses (such as residential areas).”

The proponent's buffer zone encroaches into the Munghorn Gap NR. This guideline is important as it reduces the effects of indirect impacts and avoids increased edge effect upon reserve system lands. This is particularly important for the Regent Honeyeater hotspots identified in the public database.

“DECCW recommends that vegetation, waterways and water bodies adjoining DECCW land that exhibit ecological connectivity should be retained, protected and, where necessary, rehabilitated. Consent authorities should consider the corridor values, or connective importance, of any vegetation

(not only trees) and waterways or water bodies and possible impacts from the proposed development.”

There is only a cursory consideration of removal of sensitive lowland vegetation from the boundaries of the NR in the EIS. The mine proposal will remove strategically located remnant vegetation along the lower slopes and valley in the locality that will reduce the ability of fauna to disperse along the Wilpinjong Creek Valley. This is particularly important for the Regent Honeyeater and the Koala which prefer the higher nutrient areas associated with these areas. The project will reduce the connectivity along the creek valley, another aspect of the impact assessment which has not adequately been discussed.

In relation to impacts on surface water and GDEs, the EIS makes the following comment:

“There would not be any surface water quality impacts on the Munghorn Gap Nature Reserve (e.g. sedimentation, erosion or pollution) because the nature reserve is located upstream of the Project (WRM Water and Environment, 2015) the Project is unlikely to impact any groundwater-dependent ecosystems within the nature reserve as the Project is predicted to have no discernible effect on the perched groundwater systems they are associated with (HydroSimulations, 2015).”

“Drawdown in the aquifers of the shallow alluvial groundwater system along Wilpinjong Creek would be minimal (approximately 1 m) (HydroSimulations, 2015). Loss of groundwater discharge (or baseflow capture) to Wilpinjong Creek due to the Wilpinjong Coal Mine (incorporating the Project) would be minimal. HydroSimulations (2015) predict that incremental baseflow impacts in Wilpinjong Creek due to the Project would be negligible. During mining, baseflow impacts would continue to be offset to varying extents by the approved water discharges from the Reverse Osmosis (RO) Plant in accordance with EPL 12425.”

There is no evidence provided in these assessments that perched aquifers will not leak into the mine pit as a result of the proposed expansion. This is particularly pertinent for lands within Munghorn Gap NR which lies upslope from the development area.

In relation to air quality, potential indirect dust impacts, the EIS states:

“(impacts) would be mitigated using a range of best practice dust mitigation measures, including real-time monitoring and reactive dust management (Todoroski Air Sciences, 2015). Operational noise levels in the Munghorn Gap Nature Reserve would be generally comparable to the approved Wilpinjong Coal Mine (SLR Consulting, 2015). Both noise and dust emissions would vary temporally according to the location of mining operations and would cease when the Project is complete.”

This is not an assessment of potential impacts of dust on natural features.

In relation to the Noise and Vibration Impacts”:

“Biodiversity Monitoring Services (2013) assessed the potential impacts on fauna from the approved Wilpinjong Coal Mine and concluded that impacts on fauna from noise and vibration are likely to be minimal.”

This conclusion was made based largely on the result that there are many species of fauna within close proximity to the mine. This is not a contention that is supported by data which may support this conclusion such as, distance from mine works, any increases or decreases of species composition or relative abundance.

Offset Strategy is not compliant with the requirements of the new Offset Policy for Major Projects (2014), particularly a significant shortfall for the Regent Honeyeater.

The credit requirements for the Regent Honeyeater as determined by use of the Framework for Biodiversity Assessment.

The offset strategy provides for 4,413 (remnant vegetation) plus 3,230 (rehabilitation)

This is 13,378 credits short of the total credit requirement.

In relation to this the EIS states:

“This is the result of very high offset multiplier values that are not reflective of a realistic biodiversity offset requirement. This is especially the case where the credit requirements are converted to area requirements and compared with recently approved biodiversity offsets.

“The new NSW Offset Policy (OEH, 2014b) (and associated NSW Framework for Biodiversity Assessment (OEH, 2014a) requires a higher ratio than previously required, and in some cases, significantly more. For example, certain species (e.g. Regent Honeyeater) have very low Tg scores which are driving high offset multipliers (perverse outcomes), i.e. greater than 10.8:1 compared with previous policies.”

Essentially saying the new credit requirement is unreasonable (in the opinion of the proponent’s consultant) is usually not sufficient reason for failing to meet the credit requirements. Tg values may have changed, perhaps this is inline with the Regent Honeyeater’s updated status as being ‘critically endangered’ under the TSC Act.

As the Regent Honeyeater is a “Matter for further consideration” the requirements of the NSW Offset Policy have not been met.

Impacts on GDEs

The EIS states that there are no GDEs - apart from Wilpinjong Creek. Although it states there may be subterranean GDEs associated with the Narrabeen Group sandstone aquifer in the upslope areas within Munghorn Gap NR. It states that:

“... any GDEs on these plateaus would be accessing perched groundwater systems associated with the Narrabeen Group and would not be affected by mining in the deeper strata (HydroSimulations, 2015). Wilpinjong Creek is considered to be a GDE (i.e. the stream and associated riparian vegetation). Groundwater interaction between Wilpinjong Creek and the underlying alluvium varies based on rainfall conditions and effects of the existing/approved Wilpinjong Coal Mine (HydroSimulations, 2015).”

This statement does not clarify that there will not be a significant impact upon Wilpinjong Creek. This system is presumably already experiencing some drawdown from existing operations, and is likely to experience a further 1 m drop as a result of the mine extension. This cumulative assessment has not been carried out, other than to state that the Wilpinjong Creek is a ‘Low value’ GDE according to the NSW Office of Waters risk assessment guideline (NOW 2014). Prior degradation of this creek system may in part be from existing mine activities.

The former assumption about lack of connectivity between coal seams and sandstone aquifers is supported by the conceptual groundwater modelling used in this assessment, despite demonstrated evidence that such assumptions are likely to erroneous and that ‘multi-flow’ approaches should be used. Recent work undertaken in the Liverpool Plains (Acworth *et al.* 2015) found a very different

sub-surface environment when what had been presented in mining EIS documents submitted for the Watermark Shenhua Project for the same area. They found little evidence of any effective 'aquitard' barrier and that the hydrogeology was complex and had a lot to do with ancient riverine processes.

References

Acworth, R. I., W. A. Timms, B. F. J. Kelly, D. E. McGeeney, T. J. Ralph, Z. T. Larkin & G. C. Rau. 2015. Late Cenozoic paleo-valley fill sequence from the Southern Liverpool Plains, New South Wales—implications for groundwater resource evaluation. *Australian Journal of Earth Sciences*