

Review of Wilpinjong PIT 8 EXTENSION MODIFICATION BDAR

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Summary

This modification follows approval of the previous adjacent open cut by Peabody, that allowed the removal of over 650 ha of native vegetation.

The BDAR states that the Wilpinjong Modification WILL result in the loss of habitat and area of occupancy for Large-eared Pied Bat, Eastern Cave bat, Regent Honeyeater, Koala and Pink-tailed Worm-skink. These impacts cannot be adequately mitigated. Despite the consultants claiming that the impacts will not be irreversible, based on a close examination of the evidence and the cumulative impacts of mining in the district, there is likely to be an irreversible impact on these species.

There are also a number of shortfalls in the methodology that was applied in the field surveys.

Scope of direct impact

This Development Footprint (the area to be cleared) covers some 124.6 ha of native vegetation with areas of woodland (19.6 ha) and areas devoid of native vegetation amount to only 4.4 ha, the rest is derived native grassland (DNG), still classed as native vegetation. Seven PCTs (split into 16 unique vegetation zones) were identified within the Development Footprint. Most of the Development Footprint is a native grassland that was derived from past clearance of the Box-Gum Grassy Woodland on Valley Floors (PCT 3396) but is not included in this DNG component (has a VI score of less than 40%, [Hunter Eco]) within the definition of the Commonwealth critically endangered community. The two prominent rocky knolls within the footprint, comprise mostly of the listed vulnerable Slaty Box Forest (PCT 3497) are earmarked for removal.

Peabody has quarantined off a 200 metre buffer around the edge of the mountain spur adjacent to the footprint (A) and two additional areas where some low lying topographical features occur (B).



Scope of indirect impact

The BDAR acknowledges extensive impact within an area, sometime is referred to as the 'buffer zone' around the proposed mine open cut. This includes noise and vibrational pollution from blasting and vehicles and other mine construction activity (ongoing), light pollution from infrastructure and vehicles (ongoing), and seepage of groundwater and water runoff into the mine pit area, potentially draining surrounding aquifers. Another impact not identified is the potential of PFAS contamination of aquifers.

The SAIL entities for this approval

6.7 (section 6.5(1)) of the *Biodiversity Conservation Act* identifies certain criteria for the identification of an entity as being subject to ‘serious and irreversible impacts’ and ‘likely to contribute significantly to the risk of a threatened species or ecological community becoming extinct’ These are

(b) it will cause a further decline of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to be in a rapid rate of decline, or
(c) it will further reduce the population size of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to have a very small population size, or
(d) it is an impact on the habitat of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution, or
(e) the impacted species or ecological community is unlikely to respond to measures to improve its habitat and vegetation integrity and therefore its members are not replaceable.

A ‘decline of a species or ecological community’ is defined as a, ‘continuing or projected decline in’,

(a) an index of abundance appropriate to the taxon, or
(b) the geographic distribution and habitat quality of the species or ecological community.’

These Commonwealth listed entities are also the identified SAIL entities for the modification:

- Box-Gum Woodland CEEC listed under the BC Act (including the Derived Native Grassland component) and EPBC Act (not the Derived Native Grassland component);
- Swift Parrot (*Lathamus discolor*) potential foraging habitat (not mapped by NSW DCCEEW as Important Habitat [NSW DCCEEW, 2025e]);
- Regent Honeyeater (*Anthochaera phrygia*) potential habitat mapped by NSW DCCEEW as Important Habitat (NSW DCCEEW, 2025e);
- Large-eared Pied Bat (*Chalinolobus dwyeri*) breeding and foraging habitat; and
- Eastern Cave Bat (*Vespadelus troughtoni*) breeding and foraging habitat.

The BDAR also lists these Species credit entities which may suffer impacts:

Pink-tailed Legless Lizard (*Aprasia parapulchella*) - potential habitat identified by Robert Spiers (Capital Ecology);

- Regent Honeyeater (*Anthochaera phrygia*) - potential habitat mapped by NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) as Important Habitat;
- Koala (*Phascolarctos cinereus*) - potential habitat;
- Large-eared Pied Bat (*Chalinolobus dwyeri*) - breeding and foraging habitat; and
- Eastern Cave Bat (*Vespadelus troughtoni*) - breeding and foraging habitat.

Box Gum Woodland

The vegetation community with the widest extent in the development footprint is PCT 3396 Northwest Flats Box-Blakely’s Red Gum Forest, of which there is 108.7 ha of Derived Native Grassland (DNG).

An examination of the DNG component of this community shows that it easily conforms to definition of Box-Gum Woodland CEEC listed under the BC Act under the final determination (TSSC, 2020), with a total native groundstorey cover contribution of 63.07% and a total weed cover contribution of only 11.95%.

However, the consultants contend that this DNG does not conform to Box-Gum Woodland CEEC listed under the EPBC Act, despite it meeting all but one of the criteria, that is, “... because it does not meet the condition thresholds for the listed community. The derived native grassland did not meet the required native understorey non-grass species count (≥ 12 species) (Cth DCCEEW, 2023b).”

The non-grass species account for only eight species according to the data collected by the consultant, despite the contribution of non-grass species (measure of cover) being 23.5%. Only six plots were sampled in this community, while consistent with BAM requirements for survey intensity, the question remains, did other species occur outside the plots which did not register for a contribution due to

relatively low numbers (a less than 1%). While plots are important to determine cover and presence, establishing a comprehensive species list should also require random transect searches to establish a more reliable measure of diversity. This is important because grasslands are not of an even character in terms of slope, aspect and microhabitats. Despite this method being standard for most vegetation surveys in the past, this component seems not to have been undertaken for the Wilpinjong Modification. It would be fair to say that total plant diversity has not been adequately addressed in the BDAR. Below is the species richness summary contained in the BDAR.

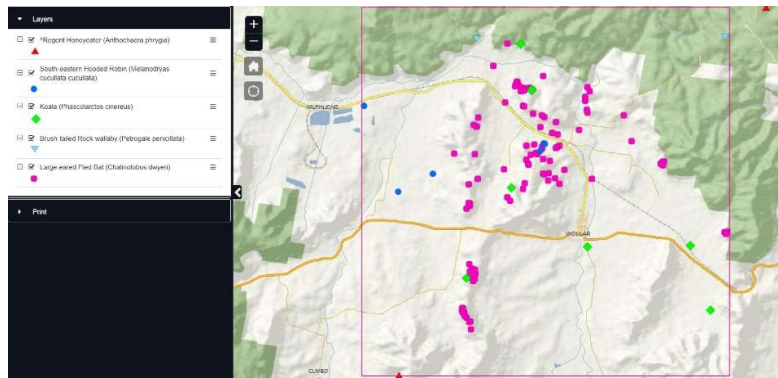
Species Richness						
Native species 49; Weeds 12 including High Threat weeds <i>Hypericum perforatum</i> (St Johns Wort) and <i>Opuntia stricta</i> (Prickly Pear).						
Plots: 3						
Mean species/plot 32±2.0SD						
Key Diagnostic Species						
Average similarity: 45.23						
BAM Growth Form Group	Scientific Name	Av.Abund	Av.Sim	Sim/S.D	Contrib %	Cum. %
Tree	<i>Eucalyptus albens</i>	3.18	5.71	22.78	12.63	12.63
	<i>Cassinia sifton</i>	2.11	3.21	3.45	7.09	19.72
Shrub	<i>Calotis lappulacea</i>	1.95	3.03	4.87	6.7	33.52
Forb	<i>Dichondra repens</i>	1.42	2.55	22.78	5.65	62.62
	<i>Wahlenbergia communis</i>	1.42	2.55	22.78	5.65	73.92
	<i>Sida corrugata</i>	0.93	0.84	0.58	1.85	90.89
	<i>Chryscephalum semipappusum</i>	0.94	0.82	0.58	1.82	92.71
	<i>Mentha satereioides</i>	0.94	0.82	0.58	1.82	96.35
	<i>Spombolus creber</i>	2.11	3.21	3.45	7.09	26.82
Grass	<i>Chloris ventricosa</i>	1.98	2.93	3.89	6.47	39.99
	<i>Aristida ramosa</i>	1.77	2.56	19.98	5.67	45.66
	<i>Microlaena stipoides</i>	1.95	1.53	0.58	3.38	77.3
	<i>Cyperus gracilis</i>	0.97	0.89	0.58	1.98	83.27
	<i>Bothriochloa decipiens</i>	1.13	0.84	0.58	1.85	89.04
	<i>Eragrostis leptostachya</i>	1.14	0.82	0.58	1.82	94.53
Fern	<i>Cheilanthes sieberi</i>	1.62	2.56	19.98	5.67	51.33
Other	<i>Gnina varians</i>	1.42	2.55	22.78	5.65	68.27
Weed	<i>Conyza sp.</i>	1.42	2.55	22.78	5.65	56.97
	<i>Verbena bonariensis</i>	1.17	0.9	0.58	2	81.3
	<i>Marrubium vulgare</i>	1.12	0.89	0.58	1.96	85.24
	<i>Cirsium vulgare</i>	1.27	0.88	0.58	1.95	87.19
HTE	<i>Hypericum perforatum</i>	1.17	0.9	0.58	2	79.3

Cave dwelling Bats

Biodiversity Monitoring Surveys undertook the targeted survey for bat species for the BDAR. They undertook targeted bat fauna surveys within the breeding period of each year (November – February) commencing in 2022 until 2025 within the Development Footprint of the Modification and the surrounds. They detected 23 locations of Large-eared Pied Bat within the development footprint and within the surrounding terrain adjacent to the footprint to the south. They found bats foraging within rocky terrain and in breeding condition, including in relation to the two outcrops, stating “*No specific breeding roost has actually been confirmed within the Development Footprint, though bats presenting signs of breeding were observed returning to cave features on the two knolls.*”

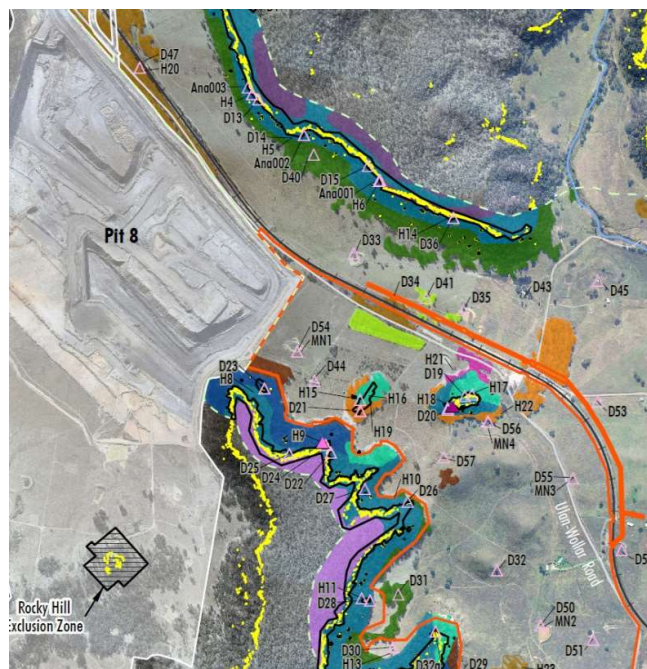
They found additional records north of the railway line and adjacent to the hilly terrain. Similar results were obtained for the Eastern Cave Bat. In addition, there are a large number of previous records of these species from the development footprint (BioNet figure).

Breeding habitat for these species is identified as any area 100m from suitable outcropping rock formations. It is listed as being ‘at risk of SAIL’ because of criterion (e) or Principle 4’, “*...the impacted species or ecological community is unlikely to respond to measures to improve its habitat and vegetation integrity and therefore its members are not replaceable.*”



BioNet records for affected species (accessed 6/10/25)

Breeding sites are very specific structural requirements for these species, especially the Large-eared Pied Bat and even though areas of potential breeding habitat can be found extensively in the region, we do not know of any specific locations outside the development footprint. As the species credit guidelines say, any presence of potential habitat along with the capture of animals in breeding condition, then nearby breeding habitat should be assumed. Such a breeding individual was caught near the rocky outcrop to be removed, “single post-lactating female released from a harp trap returned to a crack in a cave in a large boulder on the large knoll in February 2023. Another individual was found roosting in this crack during an inspection in March 2023.”



around the active/historic mine were undertaken between 12 February and 28 March 2024. Anabat devices (Anabat Express and Anabat Chorus) were deployed in 41 cave locations on the cliff lines surrounding the mine for a total of 101 detector nights.”

The surveys confirmed the presence of the target threatened bat species (Large-eared Pied Bat and Eastern Cave Bat) within 500 m of the existing mine pits, as well as records of three other cave-roosting bat species, the Eastern Horseshoe-bat (*Rhinolophus megaphyllus*), Little Bent-winged Bat (*Miniopterus australis*) and Large Bent-winged Bat (*Miniopterus orianae oceanensis*), but with no evidence of breeding of Large eared Pied bat, with one record found of breeding Eastern Cave Bat.

While some individuals of were found with 200 m of an existing pit, just a few animals suggest that important communal cave roosting sites were not located in the area adjacent to an active pit. While it is difficult to compare one survey with another, with different topography, different times of year and weather and different levels of detection intensity, it is safe to assume that numbers of bats and evidence of breeding has decreased significantly in areas adjacent to existing pits.

It seems that there has been significant and ongoing loss of the meta-populations of the two bat species from the around the existing Wilpinjong complex. However, the BDAR states,

“Once mining activity ceases, as long as the caves are not collapsed (along southern cliff line), bats that found the sites unsuitable for occupation during mining would be able to return to the caves post impact. There is some evidence that this might be possible with a likely Eastern Cave Bat breeding roost located adjacent to the historical Pit 5 workings on the western end of Wilpinjong Mine (BMS 2025b). This was found by BMS in February 2024 during another investigation at site.”

But not apparently for the *Chalinobolus*. While some roosting sites have been found next to a couple of pits, no adequate assessment of the ongoing decrease in numbers of either species as a result of the existing mine works has been undertaken.

While the BDAR attempts to lessen the ongoing impact of open cut mining on cave bat species:

- The current extension area contains the highest density of Large-eared Pied Bat and Eastern Cave Bat in the region.
- Two rocky hills will be removed, which are at the centre of the hotspot. These offer important stepping stones between Goulburn River NP and the terrain to the south of the mine, as well as breeding habitat.
- These species have limiting foraging and dispersal capabilities in term of distance they can travel. The loss of foraging habitat for these species may be more extensive than stated, the loss of 120 ha of derived grassland and two rocky knolls is significant. Studies of foraging habitat adjacent to existing pits did not return many animals. There is loss of occupied habitat.
- The lack of animals detected adjacent to active pits, suggest strongly that the contention that irreversible impacts are likely for cave bat as a result of mining because roosting/breeding habitat cannot be rehabilitated is supported by the evidence in the data provide by Peabody.
- Despite statements to the contrary the Extent of Occupancy and Area of Occupancy will likely be reduced, both for foraging and roosting/breeding habitat.

The extent of ongoing indirect impacts are given short coverage in the BDAR. *“Indirect impacts most relevant include disturbance by light, as well as noise and vibration associated with blasting. These impacts are currently hard to quantify but are temporary in nature”.*

Based on the evidence provided, the impacts on cave habitat from open cut mining may be of a more permanent nature, or at least for a longer periods of time than desired by the company. The criterion (e) *the impacted species or ecological community is unlikely to respond to measures to improve its habitat and vegetation integrity and therefore its members are not replaceable*” appears to be supported by the evidence provide by Peabody.

Offset measures such as revegetation elsewhere and man-made roosting boxes are not proven to alleviate the scale of proposed impact for these species.

Regent Honeyeater and Koala.

Vegetation removal is not large in the Modification, but represents a continuation of the Wilpingjong Mine down the valley and in particular will add the loss of connectivity along the valley for these species.

Seven Regent Honeyeater records are known from within 10km of the Project Area, not dealt with properly in the BDAR from a number of respects. In fact we know little about the habitat selected by the Regent Honeyeater in the study area, as it was noted in the expert report (Debus) that this species is categorised as a 'sensitive species' so the geographic coordinates of records in BioNet Atlas (NSW DCCEEW 2025a) have been withheld and 'denatured', in order to generalise the locality. This fact has not been dealt with in the BDAR properly. In fact, the species may be known from the development footprint, *we don't know*.

NSW Important Habitat Map for Regent Honeyeater mapped for Project Area. However the expert report claims the habitat is not present. Given the possible location of historic records and their historic use of the valley, it should be assumed the species could be present with a reduction of area of occupancy and so population viability as a result of the Modification.

For Koala, known from the general area, the mine will further break up connectivity in the valley and further reduce the suitability of habitat in the area. Given the close location of historic records and their historic use of the valley, it should be assumed the species *could be present* with a reduction of area of occupancy and population viability as a result of the Modification.

Powerful Owl is another species with a number of historic records from the development footprint. This species was surveyed with no result. However, the consultant took this to mean they are not present and did not pursue in a significance impact assessment. This is the incorrect way to deal with this situation, in that it should be assumed the species *could be present*.

Aprasia parapulchella

The expert report commissioned by Peabody has contended that the company is to assume the presence with the development footprint. While either area in question is small (< a hectare), it would strongly suggest that a local population of this species is also present, on and of the development footprint.

"For the purpose of this assessment, it is considered that if the Pink-tailed Legless Lizard were present, it could be part of an important population by definition (DEWHA, 2013) as the extent of the population is not known."

If this is the case then this should be assumed within the tests of significant assessment or the SAIL test. However the BDAR contends that there will be no significant impact on the species largely because they did not find any in targeted surveys. The expert report should *override* the survey result in terms of importance, as this is consistent with the Assessment Methodology. An expert report is required precisely because of the difficulties in detecting this species, under any conditions.

Cumulative Impact and offsets.

The proponent give a very weak assessment using the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022c).

"The proposed Action (for the Modification) as referred under the EPBC Act is physically separate from, but related to, the components of the Wilpinjong Coal Mine previously referred and determined to be 'not a controlled action' (EPBC 2005/2309) or determined to be 'a controlled action' and subsequently approved (EPBC 2015/7431)."

This is not an assessment of cumulative impact, whether previous approvals have been given is not relevant, what is relevant is the extent of the total impact, particularly in the Wilpingjong Creek, Munghorn Gap area.

Also not relevant are the 'offsets' proposed for the Rocky Hill and Cumbo Creek exclusions, as these form part of the area of the previous assessment of the Wilpingjong open cut, in areas which have still to be developed under the previous consent.

The combined cumulative impact has made passage along the valley impossible for species such as Regent Honeyeater, Koala and Pink-tailed Worm Lizard. Evidence shows that the cumulative impacts on bats will make the whole area a very poor habitat for cave-dwelling bats with significant drops in the local population size expected. Evidence in fact has supported the contention that significant falls in population numbers have occurred as a result of existing mine activity at Wilpinjong and Moorlarben, there is also some evidence that bats have migrated from previous areas disturbed by the mine into areas near and within the Development footprint, causing the bat hotspot to develop and decreased overall numbers in more recent years.