theenvirofactor
email. theenvirofactor@hotmail.com

THE ENVIROFACTOR PTY LTD
P O Box 626
Inverell NSW 2360
ABN. 96 108 633 325

Wendy Hawes
Principal Ecologist | The Envirofactor | INVERELL NSW 2360
theenvirofactor@hotmail.com

14/12/2022

Submission to the NSW Department of Planning and Environment regarding Modification 9: MAULES CREEK COAL MINE BIODIVERSITY OFFSET AND ROMA BORE ELECTRICITY TRANSMISSION LINE MODIFICATION REPORT - MP10_0138-Mod-9

This submission has been prepared at the request of the Maule's Creek Community Council Incorporated. As the author, I (Wendy Hawes) would like to thank you on behalf of my client for the opportunity to make a submission regrading this modification to a development application.

BACKGROUND

I am an ecologist with Bachelor of Science and Master of Science (prelim) from the University of New England and more than 30 years' experience in the flora, fauna and ecosystems, including the threatened species and ecological communities, of north west NSW. I have been a director and principal ecologist with The Envirofactor since 2004. In respect to vegetation in north west NSW my expertise includes:

- participation on the Commonwealth expert panels to establish a threshold definition for *White Box Yellow Box Blakely's Red Gum grassy woodland and derived native grasslands, Weeping Myall woodlands* and *Native grasslands on basalt and fine-textured alluvial plains*.
- preparation of the draft *National Recovery Plan for White Box Yellow Box Blakely's Red Gum grassy woodland and derived native grasslands,* critically endangered ecological community (CEEC).
- participation on the expert panel (DPIE) regarding mapping criteria for the NSW listed *White Box Yellow Box Blakely's Red Gum grassy woodland and derived native grasslands* CEEC.
- numerous on-ground assessments for clearing applications and compliance actions under NSW legislation (*State Environmental Planning Policy No 46* and *Native Vegetation Conservation Act 1997*).
- expert on-ground assessments of threatened community/species impacts, for compliance actions under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- identification of high conservation value (HCV) areas of Box Gum woodland on Travelling Stock Routes within the north west slopes and central west slopes areas for the Grassy Box Woodland Conservation Management Network.

- numerous threatened species assessments under the NSW *Biodiversity Conservation Act 2016* (previously the *Threatened Species Conservation Act 1995)* and Commonwealth EPBC Act for clearing and development activities.
- training NSW agency staff in the identification and/or assessment of threatened ecological communities and threatened fauna habitat for assessment, compliance and incentive funding. Including staff from; DPIE BDAR; Border Rivers, Gwydir, Central West and Namoi. Catchment Management Authorities and Northern Tablelands Local Land Services.
- development of DVD series on the '*History of Box Gum Grassy Woodland*' for the Grassy Box Woodland Conservation Management Network.

SUBMISSION

Maules Creek Coal Mine (MCCM) is seeking approval to modify the NSW Project Approval (PA) 10_0138 to authorise changes to the existing biodiversity offset strategy and the construction and use of a new Roma Bore electrical transmission line.

In this submission I will focus on the changes to the biodiversity offsets strategy and, in particular, the Northern Offsets of the MCCM, having on-ground knowledge of this area as a result of:

- a 2013 field assessment of areas mapped as White Box – Stringybark Grassy Woodland by Cumberland Ecology 2011 on the offset properties '*Wirradale*' and '*Mt Lindesay*' for the Maule's Creek Community Council, and
- ground-truthing the proposed Commonwealth offset areas identified as *White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland* CEEC (Box Gum Woodland CEEC) within the Northern Offsets (Greenloaning Biostudies reports 2013 and 2014) for the Environmental Defenders Office in 2020.

The proposed modification to the biodiversity offsets as outlined in the document is a significant change to the approved offset areas for the NSW approval (PA10_0138) and Commonwealth EPBC approval (EPBC 2010/5566) both in size and location. As shown in Table 3.3 of the Modification Report, MCC are looking to increase the offset area from the currently approved 12,168.9ha (or 12,254.9ha[1]) to 14,382.2ha by:

- modifying the areas and extent of vegetation communities identified within the existing approved offset properties
- changing the extent of the listed Threatened Ecological Communities (TECs) identified on the approved offset properties
- removing five properties and vegetation areas currently included in the approved offset plan, and
- including five new properties and areas of vegetation including TECs not included in the previously approved offset plan.

[1] The bracketed figure is the purported increase in vegetation area recorded AMBS (2022) in this report compared to the (unbracketed) area original mapped by Cumberland Ecology (2011) and Greenloaning Biostudies(2014)

This is a lot of proposed changes, all of which require careful consideration and close scrutiny. In my opinion, what is proposed is not a simple nor a minor administrative adjustment to the approved biodiversity offset strategy, but a complete overhaul of the approved plan with many potential ramifications. The current two-week exhibition period for making submissions with regard to these changes is therefore nonsensical, and not I believe in the public interest.

An indicator of the significance of the changes to the proposed biodiversity offsets in the Modification 9 report, the existing NSW approval (PA10_0138) condition 44 requires within the Northern Offsets area:

- the protection and enhancement of 4,286ha of woodland/forest (no vegetation type specified) and
- the enhancement of native vegetation by the restoration of at least 1,470 ha of derived native grassland including 1,396 ha of derived native grassland Box Gum Woodland EEC as listed under the TSC Act. (now a CEEC under the BC Act).

The vegetation mapping for the Northern Offset properties, undertaken initially by Cumberland Ecology (2011) and independently reviewed by Greenloaning Biostudies in 2013 and 2014, identified 4,192.43ha of Box Gum Woodland EEC, that included 1,360.59ha of derived native grassland form. In contrast, the AMBS Modification 9 report identifies a total of only 2,580.8ha of Box Gum Woodland in all forms on the same offset area, that includes 1,190.1ha of derived native grassland. This is a 38% reduction in the total CEEC vegetation area and a 13% reduction in the areas of derived native grassland within the Northern Offsets (refer Table 1).

TABLE 1: *Comparison of areas of Box Gum CEEC within the Northern Offsets identified in the existing approved offsets (Greenloaning Biostudies 2013 and 2014) and Modification 9 report (AMBS 2022)*

Northern Offsets Property	**Greenloaning Biostudies (2014)**			**AMBS (2022)**		
	CEEC Derived Native Grassland form	CEEC Woodland form	Total Area of CEEC	CEEC Derived Native Grassland form	CEEC Woodland form	Total Area of CEEC
Mt Lindesay	568.62	1118.27	1686.89	219.2	660.9	880.1
Wirradale	728.23	1494.39	2222.62	970.9*	729.8	1,700.7
Wongala	63.74	219.18	282.92			
TOTAL	**1,360.59**	**2,831.84**	**4,192.43**	**1,190.1***	**1,390.7**	**2,580.8**

* An additional 299.6ha of CEEC (grassland form) is included in the Modification 9 report for the property Wongala. However, this area also appears in the 2017 MCCM Biodiversity Management Plan (Figure 9d), but it is unclear whether it was included or not included in Greenloaning Biostudies (2014) CEEC area, and therefore the current approval. Consequently, this area has not been included in this table.

These significant discrepancies raise important questions, in particular:

- How did the original mapping Cumberland Ecology (2011) and the independent review Greenloaning Biostudies (2013 and 2014) get the area of Box Gum Woodland on the Northern Offsets area so wrong? and
- Was this apparent error repeated across other offset areas, mapped by Cumberland Ecology and Greenloaning Biostudies?

It also calls into serious question the independent review process used to verify the vegetation mapping for the approvals process and, without a true independent review, the efficacy of the AMBS mapping presented in this Modification 9 report.

The Modification 9 report does not address the obvious inconsistency in areas between AMBS Box Gum Woodland mapping and the Cumberland Ecology/Greenloaning Biostudies CEEC mapping on the Northern or any other approved offset area. Although to the outside observer, it appears likely this discrepancy was the impetus for the purchase of the five additional offset properties supporting Box Gum Woodland vegetation.

Within the Modification 9 report, AMBS states the following factors resulted in the need for MCC to modify the biodiversity offset strategy, including:

- a revised process for establishing long-term security of the offset areas with the introduction of the NSW *Biodiversity Conservation Act 2016* (BC Act);
- a revised vegetation classification system in NSW;
- a revised listing of the *White Box Yellow Box Blakely's Red Gum Woodland* Endangered Ecological Community (Box-Gum Woodland EEC) under the BC Act;
- a detailed survey of the property boundaries by a registered property surveyor; and
- variations to the biodiversity offset conditions in the Commonwealth EPBC Act approval (EPBC 2010/5566)

Notwithstanding, the detailed land survey, which has made some minor alterations to some property boundaries, none of the above factors indicate why such extensive changes to the biodiversity offsets strategy is required.

The process for obtaining long-term security of the offset areas has not substantially changed except that, prior to the establishment of the Biodiversity Conservation Trust in 2017 this process was administered by NSW Office of Environment and Heritage. Similarly, while the revised vegetation classification system has changed many Plant Community Type (PCT) names and included a number of new PCT descriptions, this system has never neatly dove-tailed with the Threatened Ecological Community (TEC) listings. The two identification systems are often quite separate. As a result, many PCTs past and present were/are listed within the *BioNet Vegetation Classification* database [NSW Department of Planning and Environment (DPE)] as having only a partial overlap with TECs. This is because some areas of these vegetation types will conform to the listing descriptions and therefore comprise the TEC, while other areas of the same PCT will not match the listing advice and therefore cannot be considered the TEC.

Likewise, in 2020 the NSW listing of *White Box Yellow Box Blakely's Red Gum Woodland* Endangered Ecological Community (Box-Gum Woodland EEC) was upgraded to a CEEC due to on-going clearing and degradation, and the increased risk of ecosystem collapse/extinction. This change in conservation

status did not however, with the exception of co-dominance of grey box (*Eucalyptus moluccana)* and hybrids of characteristic species in the Nandewar and in the north western corner of the Sydney Basin Bioregion, substantially change the criteria for the identification of the listed ecological community. Given no *Eucalyptus moluccana* has been identified on any of the offset areas, there has been no ostensible change to the listing as it applies to the MCCM offsets. So, the implied consequence of *using contemporary mapping techniques and according to the new definition of the Box-Gum Woodland CEEC listed under the BC Act,* as stated in the Modification 9 report as the reason for the changes proposed is misleading.

In contrast to the Commonwealth listing of the CEEC which requires vegetation patches to meet minimum condition criteria[2], the revised NSW (BC Act) listing only requires:

- the presence or previous presence of the characteristic overstorey species (see footnote 2) within the bioregions specified, and
- sparse or absent understorey shrubs, and
- a ground layer dominated by perennial tussock grasses interspersed with a diverse range of forb species.

As stated in the determination (NSW TSSC 2020): *It is the intent of the NSW Threatened Species Scientific Committee that all occurrences of the ecological community (both recorded and as yet unrecorded, and* ***independent of their condition****) that occur within these bioregions be covered by this Determination.*

According to the Modification 9 report, the Box Gum Woodland CEEC vegetation mapping was undertaken using either the criteria for the NSW BC Act or both the NSW BC Act and EPBC Act criteria. It is my experience, having completed numerous field assessments within Box Gum Woodland and derived native grassland, that areas that conform to the NSW BC Act CEEC (both woodland and derived grassland) are far larger than those that meet the minimum condition criteria for the EPBC listed CEEC (both woodland and derived native grassland). However, very surprisingly, the AMBS found only 11ha more of the NSW listed CEEC when compared with and Commonwealth listed CEEC.

[2] EPBC Box Gum woodland minimum condition criteria require:

- an overstorey dominated by or previously dominated by white box (*Eucalyptus albens*), yellow box and/or Blakely's red gum *(E. blakelyi*), or in the Nandewar bioregion coastal grey box (*E. moluccana*) or inland grey box (*E. microcarpa*), and occur within the specified bioregions, and
- have a patch size greater than 0.1ha, and
- a shrub cover of less than 30%, and
- a ground cover that is predominantly native (ie 50% of the perennial vegetative cover comprises native species) with 12 or more native forb species (ie non-grasses) and 1 or more identified important species.

For those patches that do not meet the ground layer criteria above these areas can still comprise the CEEC if:

- they are greater than 2ha in size, and
- have 20 or more mature trees per hectare present, or
- have natural regeneration of the dominant eucalypt overstorey species present (DEH 2006, DECCW 2010).

My experience with these two listings is supported by the Commonwealth TSSC who, in 2006, was of the opinion that less than 5% of the then estimated 10% (i.e. less than half) of the remaining ecological community was of sufficient condition and extent to comprise the EPBC listed ecological community. So it is difficult to comprehend how, on 16 properties scattered over a large geographic area (some 3,000 sq kms) with variable topography and history of management, AMBS only found 11ha more Box Gum woodland that conformed to the NSW CEEC compared to the Commonwealth CEEC.

The accuracy of the mapping of the EPBC listed Box Gum Woodland CEEC, as presented in the Modification 9 report, is further questionable as a result of the timing of some of the surveys. As an example, AMBS reports the survey of the Northern Offsets was undertaken in May and August 2020, with some additional survey in March 2021. The results of flora surveys in north west NSW (particularly at higher and cooler altitudes as in the Northern Offsets) in these months is somewhat problematic. Autumn and winter are generally outside the active growth, flowering and seed set of many of the ground layer species and within the period of frosts (so become hayed-off) making their detection and identification often difficult. So it is surprising that AMBS identified as many ground layer species on the Northern Offsets as indicated in the report at this time of year.

It is important to note with regard to approval, that it is impossible to verify the accuracy of the PCTs described in the Modification 9 report, including what areas within these PCTs constitute the NSW Box Gum Woodland CEEC versus the Commonwealth Box Gum Woodland CEEC or any TEC for that matter. At very least verification of the areas mapped as this TEC requires interrogation of the plot/transect data collected by AMBS in the field. This is not however provided in the Modification 9 report. Only with plot/transect data can the vegetation mapping and the areas of TECs identified within the report be substantiated.

Further, under the Commonwealth EPBC approval (EPBC 2010/5566) for MCCM, Condition 11A replacement and new offsets (such as outlined in the Modification 9 document) require independent review; that '*identifies and verifies the quantity and condition classes of White Box—Yellow Box—Blakely's Red Gum Grassy Woodland and Derived Native Grassland critically endangered ecological community and the quantity and quality of habitat for the regent honeyeater, swift parrot and greater long-eared bat within the additional offset areas'*. Consequently, this modified biodiversity offsets proposal **MUST BE** independently verified before any approval is given.

To avoid the mistakes of the past, perceived or otherwise, an independent verification of the vegetation mapping presented in the Modification 9 report must be carried out by a suitably qualified individual/company familiar the vegetation and landscapes of the NSW northwest slopes and plains and NOT employed or paid directly by MCC. To ensure contractor independence and public faith in the results, MCC should provide funds to NSW DPE or Commonwealth DCCEEW who then directly employ a consultant of their own choosing. By this method many of the obvious pitfalls of pecuniary conflicts of interest would be avoided.

Yours sincerely,

Wendy Hawes| Principal Ecologist | The Envirofactor

REFERENCES

Greenloaning Biostudies (2013) *Independent Peer Review Of Offsets for the Maules Creek Mine Project - EPBC 2010/5566.* Prepared for Whitehaven Coal P/L

Greenloaning Biostudies (2014) *Independent Peer Review Of Offsets for the Maules Creek Mine Project - EPBC 2010/5566. Verification Report For Additional Offsets.* Prepared for Whitehaven Coal P/L

NSW TSSC (2020) *White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions – Critically Endangered Ecological Community listing. NSW Threatened Species Scientific Committee.* Available from: https://www.environment.nsw.gov.au/Topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee/determinations/final-determinations/2020/white-box-yellow-box-critically-endangered-ecological-community-listing

Threatened Species Scientific Committee (2006). *Commonwealth Listing Advice on White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*. Available from: http://www.environment.gov.au/biodiversity/threatened/communities/box-gum.html.