Assessment of EPBC Act-listed threatened species and communities for projects

Suggested information for inclusion in the advice to DP&E

Glendell Continued Operations Project (SSD 9349) EPBC Bilateral Assessment – BCD Assessment

Unless stated otherwise, all section, table, figure and appendix references in this document (below) refer to sections, tables, figures and appendices in 'Appendix 10: Assessment of Commonwealth Matters Report' ('Appendix 10') submitted with the EIS.

1. Identifying MNES

(a) **Confirm** whether all the EPBC Act-listed threatened species and communities that occur on the project site, or in the vicinity are identified in the EIS. Note which species and/or communities have not been identified. *The Commonwealth has provided NSW with referral documentation which includes a possible list of MNES recorded on and within the vicinity of the project site generated from the Environmental Reporting Tool (ERT Report). If you do not have the referral documentation contact the DP&E assessment officer.*

A list of *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)-listed threatened species and communities that may occur on the Glendell Continued Operations Project site, or in the vicinity, was generated by the Protected Matters Search Tool by the proponent (dated 5 February 2019). The search results were not provided in the EIS. Instead they were presented as 'Appendix A' of the 'Glendell Continued Operations Project: Ecological Matters of National Environmental Significance Report: Final' (Dated February 2019) by Umwelt (Australia) Pty Limited. This report accompanied the EPBC Act referral application (dated 5 April 2019). The search had a 5-kilometre buffer added to the project area and identified 29 threatened species, 5 threatened ecological communities, 14 migratory species and 1 wetland of international importance that may be significantly affected by the project. No additional Matters of National Environmental Significance (MNES) species or threatened ecological communities to those identified by Protected Matters Search Tool were identified as being potentially impacted by the project.

The Department of Agriculture, Water and the Environment (DAWE) (EPBC 2019/8409), based their decision on referral (dated 10 July 2019) on their Environment Reporting Tool search (dated 9 July 2019) and information provided by the Species Profiles and Threats Database (SPRAT). They considered that the proposed action is likely to have a significant impact on the following matters of national environmental significance:

- Central Hunter Valley Eucalypt Forest and Woodland ecological community – Critically Endangered
- Regent Honeyeater (*Anthochaera phrygia*) - Critically Endangered
- Swift Parrot (*Lathamus discolor*) - Critically Endangered
- Green and Golden Bell Frog (*Litoria aurea*) – Vulnerable, and
- Spotted-tailed Quoll (*Dasyurus maculatus maculatus*) – Endangered

And that the proposed action may significantly affect the following matters:

- Large-eared Pied Bat (*Chalinolobus dwyeri*) – Vulnerable
- Koala (*Phascolarctos cinereus*) (combined populations of Qld., NSW and the ACT) – Vulnerable
- New Holland Mouse (*Pseudomys novaehollandiae*) – Vulnerable
- Grey-headed Flying-fox (*Pteropus poliocephalus*) – Vulnerable, and
- Trailing Woodruff (*Asperula asthenes*) – Vulnerable.

Potential impacts on the following species and communities were assessed in the BDAR:

- Central Hunter Valley Eucalypt Forest and Woodland – Critically Endangered
- Regent Honeyeater (*Anthochaera phrygia*) - Critically Endangered
- Swift Parrot (*Lathamus discolor*) - Critically Endangered; and
- Green and Golden Bell Frog (*Litoria aurea*) - Vulnerable

- Spotted-tailed Quoll (*Dasyurus maculatus maculatus*) – Vulnerable

All MNES identified by the Protected Matters Search Tool were considered in the EPBC Act referral application (dated 5 April 2019). However, only those four species and one threatened community that DAWE considered likely to be impacted by the project (as per above) have been assessed within the Appendix 10 (Section 2) of the EIS.

(b) **Comment** on whether the Biodiversity Assessment Method (BAM) has been applied to all EPBC Act-listed threatened species and communities that occur on the project site or in the vicinity.

All entities that were identified as requiring an assessment of significance have been assessed (Sections 2.1.1 and 2.2.1 7.2).

Impacts to all species or TEC were assessed and impacts that were significant were identified, and credit liabilities were determined. The Biodiversity Assessment Method (BAM) has been correctly applied to all EPBC Act-listed threatened species and communities that occur on the project site or in the vicinity. No breeding habitat was identified on site for any of the EPBC Act-listed threatened species likely to be significantly impacted (as per Table 2.22 of the Chapter 10), so they generated ecosystem credits only for their foraging habitat. Following is a summary of the application of the BAM to each of the above listed entities.

Central Hunter Valley Eucalypt Forest and Woodland ecological community (Sections 2.1.1 and 2.2.1 of Appendix 10; and Section 3.2.3.1 of the BDAR):

The Project will result in the direct clearance of approximately 122.9 hectares of Central Hunter Valley Eucalypt Forest and Woodland critically Endangered Ecological Community, comprising various woodland patches of PCT1603 (95.2 hectares), PCT1692 (27.4 hectares) and PCT1604 (0.3 hectares).

The BDAR was assessed by BCD to have been conducted correctly and in accordance with the BAM. The direct clearance of 122.9 hectares of this TEC was considered a significant impact that requires the retirement of 1,810 ecosystem credits, associated with PCT 1603 (1,490 credits), PCT 1692 (313 credits) and PCT 1604 (7 credits).

Regent Honeyeater (Sections 2.1.2 and 2.2.2 of Appendix 10 and Table B1.2 of the BDAR):

The Project will result in the direct clearance of approximately 81.3 hectares of potential foraging habitat for the Regent Honeyeater (Figure 2.5 & Table 2.13). This species is classified as an 'Ecosystem Credit / Species Credit Species' in the Threatened Biodiversity Data Collection (OEH 2021); however, given that there is no important habitat (i.e. breeding habitat) mapped in the Project area based on DPIE's 'Important Area Mapping' (in BOAMS), the species will be offset with ecosystem credits calculated for PCTs associated with potential habitat for this species, namely woodland forms of PCT 1603 and 1603 with key feed tees, as identified in the National Recovery Plan. The Regent Honeyeater has not been recorded in the project area (Figure 2.3).

In accordance with the criteria set out in the Matters of National Environmental Significance Significant Impact Guidelines 1.1. (DotE 2013) the BDAR assessed that the project could have a significant impact on the Regent Honeyeater given potential habitat present. However, none of the development footprint has been mapped on DPIE 'Important Area Mapping' for Regent Honeyeater, and as per BAM this impact is not considered significant.

The BDAR was assessed by BCD to have been conducted correctly and in accordance with the BAM. The removal of potential foraging habitat will be offset through the retirement of with ecosystem credits calculated for PCTs associated with potential habitat for this species, namely the woodland forms of woodland forms of PCT 1603 (1,358 credits) and 1604 (11 credits), with key feed canopy species identified in the Recovery Plan.

Swift Parrot (Sections 2.1.3 and 2.2.3 of Appendix 10 and Table B1.2 of the BDAR):

The Project will result in the direct clearance of approximately 81.3 hectares of potential foraging habitat for the Swift Parrot (Figure 2.6 & Table 2.14 of Appendix 10). This species is classified as an 'Ecosystem Credit / Species Credit Species' in the Threatened Biodiversity Data Collection (OEH 2021); however, given that there is no important habitat (i.e. breeding habitat) in the Project area based on DPIE's 'Important Area Mapping' (in BOAMS), the species will be offset with ecosystem credits calculated for PCTs associated with potential habitat for this species, namely the woodland forms of PCT 1603 and 1604. The species has not been recorded in the project area (Figure 2.3).

In accordance with the criteria set out in the Matters of National Environmental Significance Significant Impact Guidelines 1.1. (DotE 2013) the BDAR assessed the project could have a significant impact on the Swift Parrot on foraging habitat given that the species has been recorded adjacent to the project area, within the Ravensworth State Forest and on the Mount Owen Complex Southeast Offset Area, and there is potential habitat on the Glendell Continuation Project area. However, none of the development footprint has been mapped on DPIE's 'Important Area Mapping' for Swift Parrot, and as per the BAM this impact is not considered significant.

The BDAR was assessed by BCD to have been conducted correctly and in accordance with the BAM. The removal of potential habitat (not breeding) will be offset through the retirement of ecosystem credits calculated for PCTs associated with potential habitat for this species, namely the woodland forms of PCT 1603 (1,358 credits) and 1604 (11 credits).

Spotted-tailed Quoll (Sections 2.1.4 and 2.2.4 of Appendix 10 and Table B1.2 of the BDAR):

The Project will result in the direct clearance of approximately 154.5 hectares of potential habitat for the Spotted-tailed Quoll (Figure 2.7 & Table 2.15 of Appendix 10). This species is classified as an 'Ecosystem Credit Species' in the Threatened Biodiversity Data Collection (OEH 2021), however the proponent has undertaken targeted surveys for Spotted-tailed Quoll, and the species has been recorded on the project area. The proponent identified foraging and dispersal habitat for this species in PCT 1603, 1692, 485, 1604 and 1731.

DAWE (2019) in their referral decision brief identified that the project was likely to have a significant impact on the Spotted-tailed Quoll. However, the proponent did not identify any den sites for this species on the project area – but they do occur nearby, in mine rehabilitation on the Mount Owen Mine Complex and in the Ravensworth State Forest. Therefore, they stated that the proposed that the loss of 154.5 hectares of potential habitat would not have a significant impact on the Barrington Tops regional population of Spotted-tailed Quoll. DPIE does not agree with this conclusion and considers that the Project could have a significant impact on this species. As an Ecosystem Credit species, the BAM has generated credits for the identified Spotted-tailed Quolls, which must be offset.

The BDAR was assessed by BCD to have been conducted correctly and in accordance with the BAM. The removal of potential habitat (not breeding) will be offset through the retirement of ecosystem credits calculated for PCTs associated with potential habitat for this species, namely PCT 1603 (1,371 credits), 1692 (322 credits), 485 (34 credits), 1604 (11 credits) and 1731 (707 credits).

Green and Golden Bell Frog (Sections 2.1.5 and 2.2.5 of Appendix 10 and Table B1.2 of the BDAR):

The Project will result in the direct clearance of approximately 2.0 hectares of potential habitat for the Green and Golden Bell Frog (Figure 2.8 & Table 2.16 of Appendix 10). This species is classified as a 'Species Credit Species' in the Threatened Biodiversity Data Collection (OEH 2021), however the proponent has undertaken targeted surveys for Green and Golden Bell Frog, and the species has not been recorded on the project area.

DAWE (2019) in their referral decision brief identified that the project was likely to have a significant impact on the Green and Golden Bell Frog. The species was recorded in farm dams on the nearby Mount Owen Mine Complex between 1994 and 1999 and has not been recorded since. This is despite repeated targeted surveys. The proponent argues that the Green and Golden Bell Frog does not occur on the Project area, which BCD agrees is supported by the survey effort and lack of recent sightings.

The BDAR was assessed by BCD to have been conducted correctly and in accordance with the BAM. The assessment of the Green and Golden Bell Frog was a candidate species but was discounted from being on site through targeted surveys conducted in accordance with BCD survey guidelines. BCD is satisfied that the farm dams do not constitute occupied habitat, and therefore, the project does not generate any Green and Golden Bell Frog species credits to be offset.

Koala (Sections 2.1.6 and 2.2.6 of Appendix 10 and Table B1.2 of the BDAR):

The Project will result in the direct clearance of approximately 83.9 hectares of potential foraging habitat for the Koala (Figure 2.9 & Table 2.17 of Appendix 10). This species is classified as an 'Ecosystem Credit / Species Credit Species' in the Threatened Biodiversity Data Collection (OEH 2021). The canopy of forest and woodland patches on the project area contains less than 15% koala feed trees, as defined by State Environmental Planning Policy 44, so there is no 'potential' or core' koala habitat on the project area. Therefore the koala will be treated as an ecosystem species, and will be offset with ecosystem credits calculated for PCTs associated with potential habitat for this species, namely the woodland forms of PCT 1603, 1604, and 1731 The species has not been recorded in the project area, but has been recorded nearby (Figure 2.9).

In accordance with the criteria set out in the Matters of National Environmental Significance Significant Impact Guidelines 1.1. (DotE 2013) the BDAR assessed the project could have a significant impact on the Koala on foraging habitat given that the species has been recorded to the west of the project area, near Bowmans Creek, and there is potential habitat on the Glendell Continuation Project area. However, none of the development footprint met the definition of 'potential' or 'core' koala habitat, as per SEPP 44, therefore as per the BAM this impact is not considered significant.

The BDAR was assessed by BCD to have been conducted correctly and in accordance with the BAM. The removal of potential habitat (not breeding) will be offset through the retirement of ecosystem credits calculated for PCTs associated with potential habitat for this species, namely the woodland forms of PCT 1603 (1,371 credits), 1604 (11 credits), and 1731 (28 credits).

Large-eared Pied Bat (Sections 2.1.7 and 2.2.7 of Appendix 10 and Table B1.2 of the BDAR):

The Project will result in the direct clearance of approximately 154.5 hectares of potential foraging habitat for the Large-eared Pied Bat (Figure 2.10 & Table 2.18 of Appendix 10). This species is classified as a 'Species Credit Species' in the Threatened Biodiversity Data Collection (OEH 2021). The proponent has undertaken targeted surveys for the Large-eared Pied Bat, and the species has been tentatively recorded near the project area. The proponent identified foraging and dispersal habitat for this species in PCT 1603, 1692, 485, 1604 and 1731. However, this species only triggers BAM species credits for PCTs within 2 kilometres of known or potential breeding habitat; which is described in the Threatened Biodiversity Data Collection as '…rocky areas containing caves, or overhangs or crevices, cliffs or escarpments, or old mines, tunnels, culverts, [or] derelict concrete buildings' (BCD, 2021). No rocky areas occur on or, are within 2 kilometres of the project area, therefore no known or potential breeding habitat in caves, or overhangs or crevices, cliffs or escarpments was identified for the Project. Therefore, no Large-eared Pied Bat species credits were generated for this project.

The BDAR was assessed by BCD to have been conducted incompletely and not fully in accordance with the BAM. An assessment of culverts or derelict concrete buildings as potential roosting habitat for the Large-eared Pied Bat is required to see whether potential breeding habitat occurs, and whether an offset is required for the species. This information was requested on 16 June 2021. A letter by Umwelt (Australia) Pty Limited dated 29 June 2021 was provided. The letter stated that the three buildings in the project area had been assessed. They were found not to support any colonies of Large-eared Pied bat. BCD is satisfied that this additional information meets the assessment requirements.

The removal of potential habitat (not breeding) will be offset through the retirement of ecosystem credits calculated for PCTs associated with potential habitat for this species, namely PCT 1603 (1,371 credits), 1692 (322 credits), 485 (34 credits), 1604 (11 credits) and 1731 (707 credits).

New Holland Mouse (Sections 2.1.8 and 2.2.8 of Appendix 10 and Table B1.2 of the BDAR):

The Project will result in the direct clearance of approximately 4.1 hectares of potential foraging and breeding habitat for the New Holland Mouse (Figure 2.11 & Table 2.19 of Appendix 10). This species is classified as an 'Ecosystem Credit Species' in the Threatened Biodiversity Data Collection (BCD, 2021). This species appears to prefer recently disturbed vegetation and has been recorded in post-mine rehabilitation areas of the adjacent Mount Owen coal mine. Similar habitat has been identified on the project area in plantations matched to PCT 1603 and 1731 and in woodland rehabilitation matched to PCT1604. These areas of the project generated Ecosystem Credits, which will be offset.

The BDAR was assessed by BCD to have been conducted correctly and in accordance with the BAM. The removal of potential habitat for the New Holland Mouse will be offset through the retirement of ecosystem credits calculated for PCTs associated with potential habitat for this species, namely regenerating vegetation matched to PCT 1603, 1604, and 1731.

Grey-headed Flying-fox (Sections 2.1.9 and 2.2.9 of Appendix 10 and Table B1.2 of the BDAR):

No Grey-headed Flying-fox camps are located within the project area or surrounds.

The Project will result in the direct clearance of approximately 154.5 hectares of potential foraging habitat for the Grey-headed Flying Fox (Figure 2.12 & Table 2.20 of Appendix 10). The clearance would be required for the proposed mine entry area, transport and services corridor and Edderton Road Realignment. The clearance areas also include a minor area (<0.3 ha) of potential subsidence ponding (Figure 35). This species is classified as an 'Ecosystem species / Species Credit Species' in the Threatened Biodiversity Data Collection (BCD, 2021); but given that there is no important breeding habitat (i.e. camps) in the project area the species will be offset with ecosystem credits calculated for PCTs associated with potential foraging habitat for this species.

The BDAR concluded that the Project will not likely have a significant impact on Grey-headed Flying Fox due to the lack of a breeding camp and that there are numerous areas of suitable foraging habitat within the surrounds. BCD supported this conclusion.

No offset is required for this species based on the above. However, this species is classified as both an 'Ecosystem Credit / Species Credit Species' in the Threatened Biodiversity Data Collection (BCD, 2021) and as such foraging habitat would be offset the retirement of ecosystem credits calculated for PCTs associated with potential habitat for this species, namely PCT 1603 (1,371 credits), 1692 (322 credits), 485 (34 credits), 1604 (11 credits) and 1731 (707 credits).

Trailing Woodruff (Sections 2.1.10 and 2.2.10 of Appendix 10 and Table B1.2 of the BDAR):

As described in Section 2.2.10 of Appendix 10, the record of Trailing Woodruff (*Asperula asthenes*) in the Central Hunter Valley is based on a misidentification of Common Woodruff (*Asperula conferta*). The proponent describes the survey effort for this species in Section 2.1.10 of Appendix 10, from which no plants were reported. BCD agrees with the proponent that this species is unlikely to be on the development site, and therefore generates no credits to be offset.

General:

BCD in its review of the EIS indicated that the BDAR was undertaken correctly and in accordance with the BAM.

Appendix 10 of the EIS addresses impacts to MNES species and a TEC. Apart from the above comments, each species or TEC section has generally included text and addressed the following principles:

- discussion of the likely direct, indirect, cumulative and consequential impacts relevant to MNES
- description of the quantum and nature of the impacts on the species, the populations and/or the extent of the community (including discussion of the scale of impact in relation to local, regional, state and national populations / habitat)
- discussion of the nature and significance of impacts in the context of any relevant Approved Conservation Advice; and
- details of specific measures to avoid, mitigate and/or offset impacts to relevant MNES.

However, BCD notes that most of the species and TEC assessments are lacking specific detail in relation to following principles:

- statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible; and
- reference to any relevant policies or plans such as Recovery Plans and Threat Abatement Plans.

The Project results in a total of 6,385 ecosystem credits (Table 1) and 3,310 species credits (Table 2) that will need to be retired (see below for further breakdown).

Table 1: Ecosystem Credit Requirements

PCT	Name	Condition	Total Credits
1603	Narrow-leaved Ironbark – Bull Oak – Grey Box Shrub-Grass Open Forest of the Central and Lower Hunter	Moderate	502
1603	Narrow-leaved Ironbark – Bull Oak – Grey Box Shrub-Grass Open Forest of the Central and Lower Hunter	Regeneration / DNG	4,363
1603	Narrow-leaved Ironbark – Bull Oak – Grey Box Shrub-Grass Open Forest of the Central and Lower Hunter	Plantation	33
1603	Narrow-leaved Ironbark – Bull Oak – Grey Box Shrub-Grass Open Forest of the Central and Lower Hunter	Modified DNG	404
1692	Fuzzy Box Woodland on alluvial brown loam soils mainly in the NSW South Western Slopes Bioregion	Moderate	207
1692	Bull Oak grassy woodland of the central Hunter Valley	Regeneration	115
485	River Oak Riparian Grassy Tall Woodland of the Western Hunter Valley	Moderate	43
1604	Narrow-leaved Ironbark - Grey Box - Spotted Gum shrub - grass woodland of the central and lower Hunter	Woodland Rehabilitation	11
1731	Swamp Oak - Weeping Grass grassy riparian forest of the Hunter Valley	Moderate	679
1731	Swamp Oak - Weeping Grass grassy riparian forest of the Hunter Valley	Plantation	28
TOTAL	**6,385**		

Table 2: Species Credit Requirements

Species	Total Credits
Brush-tailed Phascogale (*Phascogale tapoatafa*))	2,559
Southern Myotis (*Myotis macropus)*	732
Cymbidium canaliculatum – endangered population in the Hunter catchment	2
Eastern Cave Bat (*Vespadelus troughtonii*)	17
TOTAL	**3,310**

Table 2.22 of Appendix 10 provides an explanation on how the BAM was applied to EPBC Act species and communities, and which PCT yield the ecosystem credits for each EPBC entity:

- Central Hunter Valley Eucalypt Forest and Woodland Ecosystem credits calculated for PCT 1604, 1692 and 1604 (Woodland only).
- Regent Honeyeater ecosystem credits calculated for PCTs associated with potential foraging habitat for this species, namely the woodland forms of PCT1603 and 1604
- Swift Parrot ecosystem credits calculated for PCTs associated with potential foraging habitat for this species, namely the woodland forms of PCT1603 and 1604
- Spotted-tailed Quoll ecosystem credits calculated for PCTs associated with potential foraging habitat for this species, namely PCT1603, 1692, 485, 1604, and 1731
- Large-eared Pied Bat ecosystem credits calculated for PCTs associated with potential foraging habitat for this species, namely PCT1603, 1692, 485, 1604, and 1731
- Grey-headed Flying-fox ecosystem credits calculated for PCTs associated with potential foraging habitat for this species, namely PCT1603, 1692, 485, 1604, and 1731
- Koala ecosystem credits calculated for PCTs associated with potential foraging habitat for this species, namely PCT1603, 1604, and 1731; and
- New Holland Mouse ecosystem credits calculated for PCTs associated with potential foraging and breeding

habitat for this species, namely regenerating vegetation matched to PCT1603, 1604, and 1731

BCD confirms that the minimum number of transects/plots were undertaken for each vegetation zone / PCT (as per Sections 2.2 & 2.3 and Appendix B 'Candidate Ecosystem and Species-credit Species and targeted Surveys of the BDAR), which is in accordance with the BAM. BCD's review of the EIS also concluded that targeted surveys were undertaken in accordance with BCD survey guidelines (both flora and fauna). Targeted threatened flora surveys were also undertaken during the appropriate season, especial for cryptic species that require flowers or fruits for identification.

Section 2.1 of Appendix 10 lists the EPBC Act species targeted for surveying; with Section 2.2 of Appendix 10 stating which species were recorded on the project area during surveys.

The BAM (OEH 2017a) does not require a formal Biodiversity Offset Strategy (BOS) to be presented in a BDAR, however, a Biodiversity Offset Strategy is required to be included in this BDAR in accordance with the SEARs for the EIS. This has been provided in Chapter 7 'Biodiversity Offsets' of the BDAR. Effectively, this section outlines the potential offset mechanisms available and the potential likelihood of use, ranging from payment into the Biodiversity Conservation Trust, purchase and retirement of open market available biodiversity credits, post-mine rehabilitation, to establishment of a Biodiversity Stewardship Sites.

With respect to MNES matters, the proponent (Glencore) states that they will provide an appropriate offset via the retirement of like-for-like biodiversity credits for habitat for relevant Commonwealth-listed threatened species and for communities as required by the EPBC Act (Section 2.5 of Appendix 10). However, BCD notes that the like-for-like trading rules for ecosystem credits (Clause 6.3 of the Biodiversity Conservation Regulation 2017) does not recognise Commonwealth-listed TECs, and so PCTs that match a Commonwealth-listed TEC but not a NSW-listed TEC do not have to be offset with credits from a Commonwealth-listed TEC. However, this may be addressed by any Consent conditions issued for the project. Table 2.22 in Appendix 10 lists the biodiversity credits required to be retired for MNES entities.

(c) In the circumstance where there are EPBC Act-listed species that are not addressed by the BAM (i.e. migratory species) **comment** on whether these species have been assessed in accordance with the SEARs and provide references to where the assessment information is detailed in the EIS.

Central Hunter Valley Eucalypt Forest and Woodland Critically Endangered Community is not recognised as a single vegetation community under the BAM. Instead it is recognised as comprising three PCTs on the project area (Section 2.2.1 of Appendix 10). These PCTs were assessed in accordance with the BAM and the ecosystem credits these PCTs generate will be offset (Table 2.2 of Appendix 10)

The Spotted-tailed Quoll is an Ecosystem-Credit species, with no requirement for targeted survey under the BAM. However, as described in Section 2.2.4 of Appendix 10, targeted surveys have been conducted on the Mount Owen Mine complex, including the project area. Spotted-tailed Quolls have been recorded on the project area, but no den sites have been found. Therefore, potential habitat was identified on the project area (Figure 2.7 of Appendix 10), and the ecosystem credits it generates will be offset (Table 2.2 of Appendix 10).

The Referral Decision Brief (dated 10 July 2019) did not identify migratory species to be a controlling provision trigger for this project, and so there was no requirement for migratory species to be assessed for this project.

(d) **Verify** that the proponent has expressed a statement about the potential impact i.e. likely significant, low risk of impact, not occurring, for each listed threatened species and community protected by the EPBC Act referred to in 1(a). Note which species and/or communities have not been addressed in this manner.

An assessment of whether each threatened species and ecological community is likely to occur in the proposal area and whether a subsequent assessment of significance is required has been provided in Appendix A of Appendix 10. Appendix A (Umwelt, 2019) of the application for referral. Table 3.1 identified nine species and one threatened ecological community requiring an assessment of significance. Table 3.2 identified three possible migratory species that may use the site. Section 4 of Appendix A (Umwelt, 2019) provided an assessment of significance of the ten MNES entities

identified in Table 3.1.

Outcomes of the assessment are:

- *Central Hunter Valley Eucalypt Forest and Woodland* - the Project will result in the direct clearance of various woodland patches of this TEC totalling approximately 122.9 hectares. The direct clearance of 122.9 hectares of this TEC was considered a significant impact (i.e. reduced extent and some fragmentation) that requires the retirement of 1,810 ecosystem credits.
- *Regent Honeyeater* - the Project will result in the direct clearance of approximately 81.3 hectares of potential foraging habitat for the Regent Honeyeater (Figure 2.5 and Table 2.13 of Appendix 10). This species is classified as an 'Ecosystem Species / Species Credit Species' in the Threatened Biodiversity Data Collection (BCD 2021); however, given that there is no important habitat (i.e. breeding) in the project area based on DPIE's 'Important Area Mapping', the species will be offset with ecosystem credits calculated for PCTs associated with potential foraging habitat for this species. The impact was assessed as not significant.

- *Swift Parrot* - the Project will result in the direct clearance of approximately 81.3 hectares of potential foraging habitat for the Swift Parrot (Figure 2.6 and Table 2.14 of Appendix 10). This species is classified as an 'Ecosystem Credit / Species Credit Species' in the Threatened Biodiversity Data Collection (BCD, 2021); however, given that there is no important habitat (i.e. breeding) in the project area based on DPIE's 'Important Area Mapping', the species will be offset with ecosystem credits calculated for PCTs associated with potential foraging habitat for this species. The impact was assessed as not significant.

- *Spotted-tailed Quoll* - the Project will result in the direct clearance of approximately 154.5 hectares of potential habitat for the Spotted-tailed Quoll (Figure 2.7 and Table 2.15 of Appendix 10). The Project will not likely have a significant impact on the Spotted-tailed Quoll in consideration of the Matters of National Environmental Significance Significant Impact Guidelines 1.1, due to a lack of den sites on the project area and extensive areas of similar habitat in the vicinity (DotE 2013). This species is classified as an 'Ecosystem Credit Species' in the Threatened Biodiversity Data Collection (BCD 2021) and as such foraging and movement habitat would be offset through the ecosystem credit retirement. The impact was assessed as not significant.

- *Green and Golden Bell Frog* - the Project will result in the direct clearance of approximately 2 hectares of potential habitat for the Green and Golden Bell Frog (Figure 2.6 and Table 2.16 of Appendix 10). However, recent surveys on the project area, and adjacent areas where the frogs were found between 1994 and 1999, but not found since. This supports the idea that Green and Golden Bell Frog are not present on the project area. The potential impact of the project on Green and Golden Bell Frog was therefore assessed as not significant.

- *Koala* - the Project will result in the direct clearance of approximately 83.9 hectares of potential foraging habitat for the Koala (Figure 2.9 and Table 2.17 of Appendix 10). This species is classified as an 'Ecosystem Credit / Species Credit Species' in the Threatened Biodiversity Data Collection (BCD, 2021); however, given that there is no 'potential' or core' koala habitat on the project area, as per SEPP 44, the species will be offset with ecosystem credits calculated for PCTs associated with potential foraging habitat for this species. The impact was assessed as not significant.

- *Large-eared Pied Bat* - the Project will result in the direct clearance of approximately 154.5 hectares of potential foraging habitat for the Large-eared Pied Bat (Figure 2.10 and Table 2.18 of Appendix 10). The Project was considered unlikely to have a significant impact on the Large-eared Pied Bat due to the lack of roosting habitat (caves or rock fissures) on the Project area; and so it was treated as a 'species credit' species. The impact was assessed as not significant. The proponent did not consider any derelict concrete buildings on the project area as potential roosting habitat for this species (as per the Threatened Species Data Collection, BCD, 2021) in the BDAR. Instead this was considered during the bilateral assessment stage, when the three old buildings on site were stated in a letter dated 29 June 2021 as not providing suitable roosting habitat for this species.

- *New Holland Mouse* - the Project will result in the direct clearance of approximately 4.1 hectares of potential foraging and breeding habitat for the New Holland Mouse (Figure 2.6 and Table 2.14 of Appendix 10). The Project will not likely have a significant impact on the New Holland Mouse due to the lack of woody vegetation in early succession stage. The species is an 'ecosystem credit' species; and so, any impact to suitable habitat

for this species will be offset through the ecosystem credit retirement for the whole project. The impact was assessed as not significant.

- Grey-*headed Flying-fox* - the Project will result in the direct clearance of approximately 154.5 hectares of potential foraging habitat for the Grey-headed Flying Fox (Figure 2.12 and Table 2.20 of Appendix 10). No camps occur on or within the vicinity of the project area. The Project will not likely have a significant impact on Grey-headed Flying Fox due to the lack of a breeding camp and that there are numerous areas of suitable foraging habitat within the surrounds. This species is classified as both an 'Ecosystem Credit / Species Credit Species' in the Threatened Biodiversity Data Collection (BCD, 2021) and as such foraging habitat would be offset through the ecosystem credit retirement. The impact was assessed as not significant.

(e) I**dentify** where further information from the proponent is critical to the assessment of MNES particularly in relation to mapping Table 1 (A), analysis of impacts Table 1 (F) and Table 2 (F), avoidance, mitigation and offsetting, and 6. *DP&E would like to be made aware of this as soon as practicably possible – a phone call will do.*

Further information was sought during the review of MNES, with respect to:

(i) The Protected Matters Search Tool results
(ii) The MNES entities likely to be on, or near the project area
(iii) An assessment of which MNES required a test of significance assessment
(iv) A test of significance assessment; and
(v) An assessment of built structures on the Project area as possible roosting sites for the Large-eared Pied Bat. If roosting sites are present then this may generate species credits for this species.

This information was provided in e-mails from Planning and Assessment Division dated 23 June 2021 and 29 June 2021. The former provided details for points (i) to (iv), above, which was found in Appendix A to the referral application. The e-mail dated 29 June 2021 included a letter dated 29 June 2021 from Umwelt (Australia) Pty Limited that reiterated the source of the data for point (iii), above, and included an assessment of built structures on the project area. The three old buildings on the project area had been assessed, and the letter stated that none of the buildings were considered likely to provide roosting habitat for the Large-eared Pied Bat. BCD is satisfied with the additional data provided.

2. Assessment of the relevant impacts

All EPBC Act-listed species and/or communities that the Commonwealth consider would be significantly impacted (as noted in the referral documentation) should be assessed and offset. These are referred to as relevant impacts. *If you do not have the Commonwealth's referral brief contact the DP&E assessment officer*.

(a) **Verify** [by ticking the following boxes]:

✓ the nature and extent of all the relevant impacts has been described

✓ measures to avoid and mitigate have been described

✗ an appropriate offset for any residual adverse significant impact has been determined. *Note an offset is appropriate if calculated by the BAM and provides an offset specifically for the entity impacted*.

DAWE determined that the following threatened species and TEC are likely to be significantly impacted:

- Central Hunter Valley Eucalypt Forest and Woodland Critically Endangered Ecological Community
- Regent Honeyeater
- Swift Parrot
- Green and Golden Bell Frog, and
- Spotted-tailed Quoll

Central Hunter Valley Eucalypt Forest and Woodland - the Project will result in the direct clearance of various woodland patches of this TEC totalling approximately 122.9 hectares. The direct clearance of 122.9 hectares of this TEC was considered a significant impact (i.e. reduced extent and some fragmentation) that requires the retirement of 1,810 ecosystem credits.

Although, advice documents from DAWE suggested that the proposal was likely to have a significant impact on the Regent Honeyeater, Swift Parrot, Green and Golden Bell Frog, Spotted-tailed Quoll, and Koala, and may have a significant impact on the Large-eared Pied Bat, New Holland Mouse, Grey-headed Flying-fox and Trailing Woodruff (*Asperula asthenes*) the BDAR and EIS adequately showed that the impact to these entities would not be significant. The Regent Honeyeater, Swift Parrot, Koala and Grey-headed Flying-fox are classified as an 'Ecosystem Species / Species Credit Species' in the Threatened Biodiversity Data Collection (BCD, 2021); however, given that there is no important habitat (i.e. breeding) in the project area for those species based on DPIE's 'Important Area Mapping' for the Regent Honeyeater or Swift Parrot, no 'potential' or core' koala habitat on the project area (as per SEPP 44) for the koala, and no Grey-headed Flying-fox camps, no species credits are required to be retired. They would be offset with ecosystem credits calculated for PCTs associated with potential foraging habitat for those species. The Spotted-tailed Quoll has been recorded on site, but no breeding habitat (den sites) have been found. There are nearby records of Large-eared Pied Bat and the New Holland Mouse, so the project area is considered to have suitable habitat for them, which will be offset by ecosystem credits. The Green and Golden Bell Frog and Trailing Woodruff have been adequately demonstrated to be unlikely to be on the project area, and do not need to be offset.

A BOS was submitted with the BDAR and is in accordance with the BAM. The Project results in a total of 6,385 ecosystem credits (2,612 credits relevant to MNES TEC and habitat for MNES threatened species) and 3,310 species credits (no credits relevant to MNES) that will need to be retired. Section 7 of the BDAR outlines the potential offset mechanisms available and the potential likelihood of use, ranging from:

- the establishment of a Biodiversity Stewardship Sites (and subsequent retirement of credits)
- ecological rehabilitation
- the purchase and retirement of open market available biodiversity credits, and
- payment into the Biodiversity Conservation Trust Fund.

(b) **Note** if information in relation to any of these boxes has not been provided for any relevant EPBC Act-listed species and communities.

BCD considers that the 'Assessment of MNES' in the BDAR is adequate but notes there is some missing information in regard to threatened species and TECs. The following information was not provided:

- whether any relevant impacts are likely to be unknown, unpredictable or irreversible; and
- is the assessment consistent with or need to reference any relevant policies or Threat Abatement Plans;

However, the provision of the above information for MNES threatened species and TECs is unlikely to change the outcome of the assessments for any of the MNES entities.

(c) There may be listed threatened species and communities for which the proponent will claim that the impact will be **not** significant in accordance with the *EPBC Act Significant Impact Guidelines*. Please **provide** advice for cases where BCD disagrees with this finding. *Note that generally the Commonwealth will not accept that a species determined to be significantly impacted at the referral decision stage is not likely to be significantly impacted unless strong evidence can be provided.*

Not applicable. BCD is satisfied with the assessment of MNES provided the BDAR.

(d) Provide references to where specific lists or tables are detailed in the EIS i.e. *List of EPBC Act-listed EECs Appendix J Table 4 pg 65*

Environmental Impact Statement (Main Report)
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Appendix 20 – Biodiversity Development Assessment Report
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Section 7.6 – Biodiversity, pg. 292-327
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Table 7.30 – Plant Community Types within the Development Footprint, pg. 296
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Appendix 10 – Assessment of Commonwealth Matters Report
Table 1.1 – DoEE and IESC Requirements and where they have been addressed in this document, pg. 6
Table 2.1 – Summary of Floristic Survey Effort in Central Hunter Valley Eucalypt Forest and Woodland CEEC, pg. 10
Table 2.2 – Summary of Survey Effort for Regent Honeyeater, pg. 14
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Appendix 20 – Biodiversity Development Assessment Report

Glendell Continued Operations Project: Ecological Matters of National Environmental Significance: Final (Dated February 2019) (Umwelt (Australia) Pty Limited, 2019) – Appendix A of the referral application.

Table 1 Impact Summary Relevant EPBC Act –listed Ecological Communities (refer to section 3)

A	B	C	D	E		F	G
EPBC Act -listed EEC	**Y/N**	**PCTs**	**Y/N/comment**	**Ha**	**Credits**	**Comment**	**Relevant page numbers in the EIS**
Central Hunter Valley Eucalypt Forest and Woodland CEEC	Y	PCT1603 – Narrow-leaved Ironbark – Bull Oak – Grey Box shrub-grass open forest of the central and lower Hunter [**95.2 ha; 1,490 credits**] PCT1692 – Bull Oak Grassy Woodland of the Central Hunter Valley [**27.4 ha; 313 credits**] PCT1604 – Narrow-leaved Ironbark – Grey Box – Spotted Gum shrub – grass woodland of the central and lower Hunter [**0.3 ha; 7 credits**]	Y – PCT allocation was checked during the NSW assessment of the project	122.9	1,810	The assessment is for areas to be fully cleared. No further information is required.	Section 2.1.1 of Appendix 10, pg. 10-12 Table 2.22 of Appendix 10; pg. 65

(A) **List** the relevant EPBC Act listed ecological communities that will be significantly impacted in accordance with the referral documentation.

(B) **Verify** that there is evidence in the EIS that listed EEC and species habitat has been mapped in accordance with relevant listing guidelines (Yes/No).
Proponents are required by the SEARs to ensure that EPBC-listed communities are mapped in accordance with EPBC Act listing criteria. It is important that any derived native grassland components of an EPBC listed EEC are included in the mapping of native vegetation extent.

(C) **List** the Plant Community Types (PCTs) associated with the ecological communities in accordance with Chapter 5 of the BAM.

(D) **Confirm** that the identification of PCTs has been correct (Yes/No) and comment if not correct.

(E) **Record** the area of impact (ha) and credits required.

(F) **Comment** on the analysis of the impacts in relation to the nature and extent of the impact and whether or not the EIS includes an analysis of the direct and indirect impacts to the EEC. Note whether further information might be required.

(G) **Cite** relevant page numbers for details provided the EIS and Appendices for each EEC.

Table 2 Impact Summary Relevant EPBC Act –listed Species (refer to section 4)

A	B	C	D	E		F	G
Threatened species (listed under the EPBC Act)	**Credit Type (SC/EC)**	**Record PCTs associated with ecosystem credits**	**Y/N/Comment**	**Ha (total species habitat)**	**Credits (total species habitat)**	**Comment**	**Relevant page numbers in the EIS and Appendices**
Regent Honeyeater & Swift Parrot	SC / EC SC / EC	PCT1603 – Narrow-leaved Ironbark – Bull Oak – Grey Box shrub-grass open forest of the central and lower Hunter [**80.8 ha; 1,358 credits**] PCT1604 – Narrow-leaved Ironbark – Grey Box – Spotted Gum shrub – grass woodland of the central and lower Hunter [**0.5 ha; 11 credits**]	Y	81.3	1,369	Both species are classified as an 'Ecosystem / Credit Species' in the Threatened Biodiversity Data Collection (BCD 2021); however, given that there is no important habitat (i.e. breeding) in the Project area based on DPIE's 'Important Area Mapping' the species will be offset with ecosystem credits calculated for PCTs associated with potential habitat for them, namely the woodland form of PCT 1603 and 1604.	Table 2.22 of Appendix 10; pg. 65-66
Spotted-tailed Quoll Large-eared Pied Bat Grey-headed Flying-fox	EC SC SC / EC	PCT1603 – Narrow-leaved Ironbark – Bull Oak – Grey Box shrub-grass open forest of the central and lower Hunter [**95.2 ha; 1,490 credits**] PCT1692 – Bull Oak Grassy Woodland of the Central Hunter Valley [**28.2 ha; 322 credits**] PCT485 – River Oak riparian grassy tall woodland of the western Hunter Valley [**2.4 ha, 34 credits**] PCT1604 – Narrow-leaved Ironbark – Grey Box – Spotted Gum shrub – grass woodland of the central and lower Hunter [**0.5 ha; 11 credits**] PCT1731 Swamp Oak – Weeping Grass Grassy Riparian Forest of the Hunter Valley [**41.8 ha, 707 credits**]	Y	154.5	2,445	The Spotted-tailed Quoll has been recorded on the project area, but the Grey-headed Flying-fox and Large-eared Pied Bat have not. No den sites of the Spotted-tailed Quoll have been recorded on site. Therefore, the offset obligation for these species is based on actual and potential foraging habitat.	Table 2.22 of Appendix 10; pg. 65-66
Green and Golden Bell Frog	SC	9 farm dams	Y	2.0	0	Repeated surveys have not detected the Green and Golden Bell Frog on the project area or the adjacent areas. Potential suitable habitat (farm dams) contain Gambusia and likely have Chytrid Fungus, and so the	Table 2.22 of Appendix 10; pg. 65-66

						species are now considered unlikely to be able to use the project area.	
Koala	SC / EC	PCT1603 – Narrow-leaved Ironbark – Bull Oak – Grey Box shrub-grass open forest of the central and lower Hunter [**81.6 ha; 1,371 credits**] PCT1604 – Narrow-leaved Ironbark – Grey Box – Spotted Gum shrub – grass woodland of the central and lower Hunter [**0.5 ha; 11 credits**] PCT1731 – Swamp Oak – Weeping Grass Grassy Riparian Forest of the Hunter Valley [**1.8 ha, 28 credits**]	Y	83.9	1,410	The koala has not been recorded on site. The offset obligation is based on potential suitable habitat.	Table 2.22 of Appendix 10; pg. 65-66
New Holland Mouse	EC	PCT1603 – Narrow-leaved Ironbark – Bull Oak – Grey Box shrub-grass open forest of the central and lower Hunter [**1.8 Ha; 33 credits**] PCT1604 – Narrow-leaved Ironbark – Grey Box – Spotted Gum shrub – grass woodland of the central and lower Hunter [**0.5 ha; 11 credits**] PCT1731 – Swamp Oak – Weeping Grass Grassy Riparian Forest of the Hunter Valley [**1.8 ha, 28 credits**]	Y	4.1	72	The New Holland Mouse has not been recorded on site. The offset obligation is based on potential suitable habitat.	Table 2.22 of Appendix 10; pg. 65-66

(A) **List** the relevant threatened species that will be significantly impacted in accordance with the referral documentation.
(B) **Record** whether the relevant threatened species is classified as "species credit species" of ecosystem credit species for the purposes of the BAM.
(C) **List** the PCTs associated with the ecosystem credit species.
(D) **Verify** that the habitat polygons for MNES have been mapped appropriately representing the foraging and/or breeding habitat for the species that will be impacted by the development.
(E) **Record** the area of impact (ha) and credits required. For impacts associated with ecosystem credit species identify the total credit requirements associated with the cleared PCTs identified as habitat for the species.
(F) **Comment** on the adequacy of the analysis of the impacts in relation to the nature and extent of the impact and whether or not the EIS includes an analysis of the direct and indirect impacts to the species. Note if further information is required.
(G) **Cite** relevant page numbers for details provided in the EIS and Appendices for each threatened species.

3. Avoid, mitigate and offset

Comment on whether or not the EIS identifies measures to avoid and minimise impacts on the relevant EPBC Act-listed threatened species and communities. Section 8 of the BAM requires that proponents detail these efforts and commitments in the EIS. Identify gaps in the discussion on measures to avoid and minimise impacts on Commonwealth matters. Provide references to sections and page numbers in the EIS.

EIS

Section 7.6.3 of the Main Volume of the EIS identifies measures to avoid and minimise impacts, based on the outcomes of a detailed biodiversity constraints study undertaken during the pre-feasibility assessment of the project.

The proponent (Glencore) states that they made changes to the design of the project to avoid or minimise impacts to vegetation and habitat disturbance and fauna species through:

- Maximising the use of existing disturbed land for the Project
- Project design to reduce impacts to riparian vegetation
- Project design to minimise impacts to established woodland areas

Apart from avoid and minimise, the Project will also incorporate many mitigation measures to reduce adverse impacts to biodiversity. These include:

- *Displacement of Fauna* – presence of a trained ecological or licensed wildlife handler – when triggered by a Ground Disturbance Permit
- *Clearance Impacts on Native Vegetation and Habitat* – vegetation clearance protocol, mine site rehabilitation and revegetation, salvage and re-use of material for habitat enhancement (e.g. hollow logs, fallen timber and rocks / boulders) within the mine site rehabilitation, salvage of threatened flora species and material for rehabilitation (e.g. seed collection, and topsoil) for mine rehabilitation, erosion and sediment control
- *Indirect Impacts on Native Vegetation and Habitat* – pest animal control, weed management, riparian zone management, and bushfire management
- *Vehicle Strike* – fencing and access control.

Appendix 20 – BDAR

Chapter 5. of the BDAR specifically addresses the avoid and minimise aspects of the Project that are relevant MNES. It lists the measures as identified in the EIS and outlined above.

Comment on the adequacy and feasibility of measures to avoid and minimise impacts. Identify inadequacies where further efforts could be made to avoid and minimise impacts on Commonwealth matters. Provide references to sections and page numbers in the EIS that discuss avoidance and mitigation measures relevant to EPBC Act-listed species and communities.

See discussion above for comments on avoid and minimise measures, and details of mitigation. BCD did not identify any inadequacies where further efforts could be made to avoid and minimise.

4. Offsetting

(a) **Verify** [by ticking the following boxes] that the offsets proposed to address impacts to EPBC-listed threatened species and communities are in accordance with the requirements under the EPBC Act.

✗ An appropriate offset for any residual adverse significant impact has been determined.

✗ Proposed offsets for EECs provide a like for like outcome i.e. proponents have identified PCTs attributed to the specific threatened ecological community being impacted

✓ Proposed offsets have been determined using the BAM

If offsets have not been determined in accordance with the BAM, Planning is required to discuss the proposed approach with the Commonwealth as soon as possible.

A BOS was submitted with the BDAR and is in accordance with the BAM. The Project results in a total of 6,385 ecosystem credits (1,810 credits relevant to MNES TEC) and 3,310 species credits (zero credits relevant to MNES) that will need to be retired. Chapter 7 of the BDAR outlines potential offset mechanisms available for meeting offset requirements, ranging from the establishment of new Biodiversity Stewardship Sites, ecological mine rehabilitation, the purchase and retirement of open market-available biodiversity credits, and payment into the Biodiversity Conservation Trust. No biodiversity offset package has yet been provided to BCD to review.

With respect to MNES matters, the proponent (Glencore) states in Section 2.5 'Biodiversity Offset Strategy' of Chapter 10 that the biodiversity offset strategy will meet the stated aims of the EPBC Act Environmental Offsets Policy. This will be done, in large part by following the like-for-like offset rules of the NSW Biodiversity Offsets Scheme; particularly that offsetting will be done by the retirement of like-for-like biodiversity credits for relevant PCTs that meet the definition of Central Hunter Valley Eucalypt Forest and Woodland. Habitat for Commonwealth-listed threatened species will be offset with offset with ecosystem credits from vegetation in the same class of vegetation in the development footprint, within the same or adjoining IBRA subregion, and within the same, or higher offset trading group. Table 2.22 (in Chapter 10) lists the biodiversity credits required to be retired with like-for like biodiversity credits.

Specific offsetting requirements for MNES matters are as follows:

Central Hunter Valley Eucalypt Forest and Woodland - the direct clearance of 122.9 hectares of this TEC was considered a significant impact (i.e. reduced extent and some fragmentation) that requires the retirement of 1,810 ecosystem credits.

Although, advice documents from DAWE suggested that the proposal may have a significant impact on Regent Honeyeater, Swift Parrot, Green and Golden Bell Frog and the Spotted-tailed Quoll the BDAR and EIS adequately showed that the impact to these entities would not be significant. The Regent Honeyeater and Swift Parrot are classified as an 'Ecosystem / Credit Species' in the Threatened Biodiversity Data Collection (BCD 2021). However, there is no important habitat (i.e. breeding) in the project area based on DPIE 'BAM - Important Area Mapping, therefore' no 'species credits' are generated for these species. Instead, they would be offset with ecosystem credits calculated for PCTs associated with potential foraging habitat for these species. This is also the case for the Green and Golden Bell Frog and the Spotted-tailed Quoll.

5. **Comment** on whether the information and data relied upon for the assessment have been appropriately referenced in the EIS. Comment on the validity of the sources of information and robustness of the evidence.

The information and data used in the assessment has been appropriately referenced, and the sources of information are valid.

Table 3 Summary of Offset Requirements

A	B	C	D	E	F
Threatened species or EEC (listed under the EPBC Act)	**Credits required as calculated by the BAM**	**Credits generated from offsets in remnant vegetation**	**Credits generated from offsets proposed by other means**	**Comment on the proposed offsets.**	**Relevant page numbers in the EIS and Appendices**
Central Hunter Valley Eucalypt Forest and Woodland CEEC	1,810	Not yet provided	Not yet provided	No details yet provided.	Section 2.5 (Chapter 10) pg. 63-66 Table 2.22 (Chapter 10), pg. 65-66
Regent Honeyeater & Swift Parrot	1,369	Not yet provided	Not yet provided	No details yet provided.	Section 2.5 (Chapter 10) pg. 63-66 Table 2.22 (Chapter 10), pg. 65-66
Spotted-tailed Quoll Large-eared Pied Bat Grey-headed Flying-fox	2,445	Not yet provided	Not yet provided	No details yet provided.	Section 2.5 (Chapter 10) pg. 63-66 Table 2.22 (Chapter 10), pg. 65-66
Green and Golden Bell Frog	0	Not yet provided	Not yet provided	No details yet provided.	Section 2.5 (Chapter 10) pg. 63-66 Table 2.22 (Chapter 10), pg. 65-66
Koala	1,410	Not yet provided	Not yet provided	No details yet provided.	Section 2.5 (Chapter 10) pg. 63-66 Table 2.22 (Chapter 10), pg. 65-66
New Holland Mouse	72	Not yet provided	Not yet provided	No details yet provided.	Section 2.5 (Chapter 10) pg. 63-66 Table 2.22 (Chapter 10), pg. 65-66

(A) **List** the relevant threatened species or ecological community included in the proposed offset package (these are the listed species and communities that will be significantly impacted in accordance with the *EPBC Act Significant Impact Guidelines 1.1*.). Identify any relevant species or ecological communities which have not been included in the proposed offset package.

(B) **List** the total credit requirement identified by the BAM for impacted listed threatened species and ecological community. For EECs and ecosystem credit species this is the sum of the credits generated by PCTs associated.

(C) **Identify** the total number of required credits which are proposed to be retired through conserving and managing remnant / mature vegetation.

(D) **Identify** the number of credits proposed to be met through other methods allowable under the BAM, such as rehabilitation of impacted areas or regrowth vegetation.

(E) **Comment** on the adequacy of the proposed offset in meeting requirements of the BAM and the EPBC Act. In particular is there a reasonable argument for a shortfall in credits required for MNES and/or non-compliance with like-for like? Are the offsets proposed by means other than protection of remnant vegetation adequate?

(F) **Reference** the relevant page numbers from the EIS and Appendices for each threatened species and community.