

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

### Suggested information for inclusion in the advice to DP&E

#### 1. Identifying MNES

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(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.*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)-listed threatened species and communities that occur on the project site or in the vicinity as generated from the Protected Matters Search Tool have been identified in the Environmental Impact Statement (EIS). An assessment of the likelihood of each entity occurring has been undertaken and a decision as to whether an assessment of significance is required has been made (Appendix I of Appendix J1 (2 of 2) – Ecological Impact Assessment).

Three MNES were considered to have 'potential' to occur in the project site but have not been included in the offset calculation: Australasian bittern, Australian painted snipe and large-eared pied bat. They were not predicted to occur by the BioBanking Credit Calculator (BBAM-C) and were not recorded in the project site despite targeted surveys across multiple seasons.

All species listed in the referral documentation that are likely to be significantly impacted have been identified in the EIS:

Regent honeyeater (*Anthochaera phrygia*)

Spotted-tailed quoll (*Dasyurus maculates maculatus*)

Koala (*Phascolarctos cinereus*)

South-eastern long-eared bat/Corben's long-eared bat (*Nyctophilus corbeni*)

Pilliga mouse (*Pseudomys pilligaensis*)

*Bertya opponens*

Spiny peppercress (*Lepidium aschersonii*)

Winged peppercress (*Lepidium monoplacoides*)

*Rulingia procumbens*

*Tylophora linearis*

Brigalow (*Acacia harpophylla* dominant and co-dominant) ecological community

Weeping Myall Woodlands ecological community

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

The project involves the progressive establishment of up to 850 new gas wells on up to 425 new well pads. The design of the project is conceptual in nature as the location of gas wells and supporting infrastructure will be established iteratively over the approximately 20-year life of the project. The location of the wells and infrastructure is dependent on the ongoing assessment of gas reserves, with information used to determine well locations being continually improved and updated over time. Due to the conceptual nature of the footprint, the FBA has not been fully applied in terms of survey effort and addressing the minimum information requirements for the biodiversity offset strategy (Table 22 of the FBA). Technically, insufficient survey effort was conducted but the large size of the project and inability to confirm the footprint precluded this. Survey effort for the species of concern is deemed adequate by the Biodiversity and Conservation Division (BCD) to realistically determine the presence of the targeted species.

All entities that were identified as requiring an assessment of significance have been assessed. Impacts on the two ecological communities, five fauna species and five flora species listed in (1a) above that are likely to be significantly impacted were assessed using the FBA, and credit obligations have been determined. Outcomes are discussed in (1d) below.

Additional EPBC-Act listed threatened species and communities that are considered by DoEE to have a real chance or possibility that project activities will significantly impact on them are detailed in the table below:

Entity	Assessment of potential impact as stated by the proponent
<i>Botaurus poiciloptilus</i> (Australasian bittern)	The species is unlikely to be significantly impacted as it has not been recorded in the study area <sup>1</sup> and no potential foraging and no mapped breeding habitat will be directly or indirectly impacted (Appendix K of the EIA in Appendix J1 (2 of 2) of the EIS).
<i>Lathamus discolor</i> (swift parrot)	An upper limit of 796.8 hectares of direct impacts and 157.48 hectares of indirect impacts on foraging habitat will occur. The species does not breed in the Pilliga.  The species is unlikely to be significantly impacted by the project as it has not been recorded in the study area, and over 98 percent of potential foraging habitat in the study area will not be directly or indirectly impacted (Appendix K of the EIA in Appendix J1 (2 of 2) of the EIS).
<i>Polytelis swainsonii</i> (superb parrot)	An upper limit of 416.8 hectares of direct impacts and 82.02 hectares of indirect impacts on foraging habitat will occur. The species is not known to breed in the Pilliga.  The species is unlikely to be significantly impacted by the project as it has not been recorded in the study area, and over 98 percent of foraging habitat in the study area will not be directly or indirectly impacted (Appendix K of the EIA in Appendix J1 (2 of 2) of the EIS).
<i>Rostratula australis</i> (Australian painted snipe)	This species is unlikely to be significantly impacted by the project as it has not been recorded in the study area and no foraging or breeding habitat will be removed (Appendix J of the EIA in Appendix J1 (2 of 2) of the EIS).
<i>Bidyanus bidyanus</i> (silver perch)	This species was not recorded in Bohena Creek, and no significant effect on the survival of the species is likely (Appendix G in Appendix C of Appendix G1 of the EIS).
<i>Maccullochella peelii</i> (Murray cod)	No habitat present, no further discussion (Appendix I of the EIA in Appendix J1 (2 of 2) of the EIS).
<i>Litoria booroolongensis</i> (booroolong frog)	
<i>Chalinolobus dwyeri</i> (large-eared pied bat)	An upper limit of 885 hectares of direct impacts and 175.41 hectares of indirect impacts on foraging habitat will occur. The study area does not provide key breeding habitat.  This species was not confidently recorded in the study area but is considered to potentially occur due to the presence of habitat. It is unlikely to be significantly impacted by the project as over 98 percent of foraging habitat in the study area will not be directly or indirectly impacted (Appendix K of the EIA in Appendix J1 (2 of 2) of the EIS).
<i>Leipoa ocellata</i> (malleefowl)	Considered unlikely to occur in the study area and was therefore not considered in the assessment of significance (Appendix I of the EIA in Appendix J1 (2 of 2) of the EIS).
<i>Petrogale penicillata</i> (brush-tailed rock wallaby)	
<i>Anomalopus mackayi</i> (five-clawed worm skink)	
<i>Aprasia parapulchella</i> (pink-tailed worm lizard)	

<sup>1</sup> “Study area” is defined in the Ecological Impact Assessment as a 95,000 hectare area as depicted in Figure 2 (page 5) of Appendix J1 (1 of 2) in the EIS. It is expected approximately one percent of this area will be impacted by the project.

<i>Uvidicolus sphyrurus</i> (border thick-tailed gecko)	
<i>Androcalva procumbens</i>	Based on the area of habitat and the number of individuals recorded in the study area, the upper limit of individuals to be removed or indirectly impacted would be 3,716.  Despite being recorded on site, this species is unlikely to be significantly impacted by the project as over 98 percent of known individuals in the study area will not be directly or indirectly impacted (Appendix K of the EIA in Appendix J1 (2 of 2) of the EIS).
<i>Cadellia pentastylis</i>	Considered unlikely to occur in the study area and was therefore not considered in the assessment of significance (Appendix I of the EIA in Appendix J1 (2 of 2) of the EIS).
<i>Philothea ericifolia</i>	
<i>Prasophyllum</i> sp. <i>Wybong</i>	
<i>Thesium australe</i> – (austral toadflax)	
Coolibah – black box woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions ecological community	Considered unlikely to occur in the study area and was therefore not considered in the assessment of significance (Appendix I of the EIA in Appendix J1 (2 of 2) of the EIS).
Grey box ( <i>Eucalyptus macrocarpa</i> ) grassy woodlands and derived native grasslands of south-eastern Australia ecological community	
Natural grasslands on basalt and fine-texture alluvial plains of northern NSW and southern Qld ecological community	
White box-yellow box-Blakely's red gum grassy woodland and derived native grassland ecological community	

A Working Draft Biodiversity Offset Strategy (BOS, dated March 2018) was incorporated into the Response to Submissions (RTS) document. The BOS contains a Biodiversity Offset Package proposing that the credit liability will be met through a combination of like-for-like land-based offsets, supplementary measures like feral animal control, and compensatory measures like funding a koala research project.

Currently, the BOS is not compliant with the NSW Biodiversity Offsets Policy for Major Projects (herein referred to as the "offsets policy"). Principle 6 of the offsets policy states that supplementary measures can be used when appropriate offset sites cannot be found. However, before supplementary measures can be enacted the proponent must take reasonable steps to locate like-for-like offset sites (as outlined in Appendix A of the offsets policy), and evidence of these steps must be provided. The proponent has advised that suitable offset land is available to meet the offset obligations of the project, however supplementary measures have been proposed that will comprise one third of the total offset liability of the project. The BOS does not demonstrate how the credit liability for each ecosystem credit and species credit species will be satisfied beyond the theoretical framework they have provided.

The proponent argues that as the offsets policy and the FBA are in transition, the consent authority can consider variation where perverse outcomes are likely. The proponent has not provided evidence that meeting the project's credit obligation through like-for-like land-based offsets will create a perverse outcome.

(c) In the circumstance where there are EPBC Act-listed species that are not addressed by the FBA (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.

All species have been assessed.

(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 project site and whether a subsequent assessment of significance is required has been undertaken by the proponent (Table 16 in Appendix J2 to the EIS; Appendix K of the Ecological Impact Assessment, in Appendix J1 (2 of 2) in the EIS).

An assessment of significance for all entities identified by DoEE as being significantly impacted under the EPBC Act has been completed by the proponent (Appendix K of the EIA in Appendix J1 (2 of 2) of the EIS).

Outcomes of the assessment (as assessed by the proponent) are:

Entity	Assessment of potential impact as stated by the proponent
Regent honeyeater	<p>An upper limit of 796.8 hectares of direct impacts and 157.48 hectares of indirect impacts on foraging habitat will occur. Preferred breeding habitat is not considered to be present.</p> <p>This species is unlikely to be significantly impacted by the project as it has not been recorded in the study area, and over 98 percent of potential foraging habitat in the study area is not being directly or indirectly impacted.</p> <p>NOTE: The impact on the regent honeyeater has been revised in the Response to Submissions report following consultation with BCD (see Table 2 for updated details).</p>
Spotted-tailed quoll	<p>An upper limit of 988.8 hectares of foraging habitat and 885 hectares of breeding habitat will be directly impacted by the project. A further 181.11 hectares of foraging and 175.41 hectares of breeding habitat will be indirectly impacted by the project.</p> <p>This species is unlikely to be significantly impacted by the project as it has not been recorded in the study area, and over 98 percent of potential foraging and breeding habitat in the study area is not being directly or indirectly impacted.</p>
Koala	<p>An upper limit of 449.8 hectares of potential foraging/breeding habitat and 988.8 hectares of dispersal habitat will be directly impacted by the project. A further 89.36 hectares of foraging/breeding habitat and 181.11 hectares of dispersal habitat will be indirectly impacted by the project.</p> <p>This species is unlikely to be significantly impacted by the project as it has not been recorded in the study area, and over 98 percent of potential foraging, breeding and dispersal habitat in the study area is not being directly or indirectly impacted.</p>
South-eastern long-eared bat	<p>An upper limit of 885 hectares of foraging and breeding habitat will be directly impacted by the project. A further 175.41 hectares of foraging and breeding habitat will be indirectly impacted by the project.</p> <p>This species is unlikely to be significantly impacted by the project despite being recorded on site, as over 98 percent of potential foraging habitat in the study area will not be directly or indirectly impacted.</p>
Pilliga mouse	<p>An upper limit of 135.04 hectares of primary habitat, 181.51 hectares of secondary habitat, and 572.76 hectares of dispersal habitat will be directly impacted by the project.</p>

	<p>A further 24.73 hectares of primary habitat, 33.24 hectares of secondary habitat, and 104.9 hectares of dispersal habitat will be indirectly impacted by the project.</p> <p>This species is unlikely to be significantly impacted by the project despite being recorded on site, as over 98 percent of potential foraging habitat in the study area will not be directly or indirectly impacted.</p>
<i>Bertya opposens</i>	<p>Based on occupied habitat and average densities of occurrence, an upper limit of 10,309 individuals (or 6.37 hectares of occupied habitat) would be removed or indirectly impacted.</p> <p>This species is unlikely to be significantly impacted by the project despite being recorded on site, as over 98 percent of habitat in the study area will not be directly or indirectly impacted.</p>
<i>Lepidium aschersonii</i>	<p>Based on occupied habitat and average densities of occurrence, an upper limit of 3 individuals would be removed or indirectly impacted.</p> <p>This species is unlikely to be significantly impacted by the project despite being recorded on site, as over 98 percent of habitat in the study area will not be directly or indirectly impacted.</p>
<i>Lepidium monoplocoides</i>	<p>Based on occupied habitat and average densities of occurrence, an upper limit of 4 individuals would be removed or indirectly impacted.</p> <p>This species is unlikely to be significantly impacted by the project despite being recorded on site, as over 98 percent of habitat in the study area will not be directly or indirectly impacted.</p>
<i>Rulingia procumbens</i>	<p>Based on occupied habitat and average densities of occurrence, an upper limit of 3,716 individuals (or 1,081.78 of habitat) would be removed or indirectly impacted.</p> <p>This species is unlikely to be significantly impacted by the project despite being recorded on site, as over 98 percent of individuals or habitat in the study area will not be directly or indirectly impacted.</p>
<i>Tylophora linearis</i>	<p>Based on occupied habitat and average densities of occurrence, an upper limit of 513 individuals (or 1,081.78 of habitat) would be removed or indirectly impacted.</p> <p>This species is unlikely to be significantly impacted by the project despite being recorded on site, as over 98 percent of individuals or habitat in the study area will not be directly or indirectly impacted.</p>
Brigalow ( <i>Acacia harpophylla</i> dominant and co-dominant) ecological community	<p>An upper limit of 19.3 hectares of direct impacts and 3.9 hectares of indirect impacts will occur.</p> <p>This community is unlikely to be significantly impacted by the project despite being recorded on site, as over 99 percent of the community in the study area will not be directly or indirectly impacted.</p>
Weeping Myall Woodlands ecological community	<p>An upper limit of 0.1 hectares of direct impacts will occur.</p> <p>This community is unlikely to be significantly impacted by the project despite being recorded on site, as over 99 percent of the community in the study area will not be directly or indirectly impacted.</p>

(e) **Identify** 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.

The BOS provided in the RTS states that consideration of offsets for MNES is only required where there is a residual significant impact after avoidance and mitigation measures have been implemented. Section 2.4 of the BOS states that the proposed partial rehabilitation and mitigation measures such as the Ecological Scouting Framework (ESF) and the nil-tenure feral animal control strategy will result in it being unlikely that there will be a significant adverse

impact on MNES as a result of the project. The BOS goes on to state that despite this, MNES have been assessed and offsets determined under the NSW Biodiversity Offsets Policy for Major Projects.

The BOS does not discuss how the ESF and feral animal control strategy will benefit MNES.

The ESF is a mechanism to minimise impact to MNES, as the proponent states that it is not possible to totally avoid all endangered ecological communities (EECs) (Chapter 5 page 108 of RTS). Note that the footprint is conceptual, and that the final footprint will undergo ground-truthing with the ESF guiding avoidance. Clearing will be recorded against the stated upper limit of clearing for each plant community type (PCT).

It is unlikely that the nil-tenure feral animal control strategy proposed will provide a benefit to all MNES. The limited timeframe of the feral animal control strategy (20 years rather than in-perpetuity like land-based offsets) may result in a return to pre-control feral animal levels following its cessation. The proposed partial rehabilitation is also unlikely to provide benefit to all MNES.

The lack of clarity regarding the offsetting of impacts to MNES will be addressed in the updated BOS. The draft conditions of consent for the project state that all offsetting proposals must be fully described in the BOS, which must be prepared in consultation with DoEE and the Biodiversity and Conservation Division (BCD). The draft conditions of consent also require that the BOS be prepared in accordance with the NSW Biodiversity Offsets Policy for Major Projects.

## 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.*

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(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 FBA and provides an offset specifically for the entity impacted.*

The development does not have a defined footprint. Calculations of impact are based on a worst-case scenario. The impacts have been assessed using the FBA, and subsequent biodiversity credit requirements have been calculated using the BBAM-C.

Avoidance and minimisation are under-pinned by a Field Development Protocol (summarised on page 121 of the EIA in Appendix J1 (1 of 2) in the EIS) and Ecological Scouting Framework (Appendix G of EIA in Appendix J1 (2 of 2) in the EIS).

A draft BOS has been prepared but no specific like-for-like land-based offsets have been identified.

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

A draft BOS has been developed but no detail has been included to verify how ecosystem and species credit obligations will be met. The proponent states that the Biodiversity Offset Package in the draft BOS (despite its lack of detail) is likely to satisfy EPBC Act offset requirements. However, a variation from the requirements of the offsets policy is proposed without first taking all reasonable steps to secure like-for-like offsets. This proposal does not conform to the NSW Biodiversity Offsets Policy for Major Projects.

Given the lack of detail, BCD is unable to comment on the adequacy of the draft BOS as presented within the RTS.

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(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 OEI 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.*

An assessment of significance under the EPBC Act was undertaken for the listed threatened species and communities in Appendix K of the EIA in Appendix J1 (2 of 2) of the EIS. The assessment determined that the project will not result in a significant impact to any listed entity, as summarised in (1d) above. Despite this, apart from the Weeping Myall Woodlands ecological community which has an upper limit of clearing of 0.1 hectares, BCD considers that the project will likely have a significant impact on the listed threatened species and communities due to the likelihood of direct and indirect impacts occurring, the area to be cleared, and the 20-year timeframe that the project will occur over. Strong evidence has not been provided by the proponent to justify a not-significant outcome.

BCD acknowledges that the draft BOS in Appendix F of the RTS states the biodiversity credit liability for impacted PCTs (ecosystem credits) and species credit species. The draft BOS does not provide details on how the credit obligation will be specifically retired. BCD notes that the draft conditions of consent require that a BOS be prepared in consultation with BCD and DoEE, and that it will describe how threatened species and communities listed under the EPBC Act would be suitably offset.

(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*

- Endangered Ecological Communities – Table 11 page 42, Appendix J2 – Biodiversity Assessment Report (herein referenced as the ‘BAR’)
- Summary of vegetation zones within development site – Table 12 page 43 - Appendix J2 – BAR
- Ecosystem species predicted within development site – Table 14 page 55 - Appendix J2 – BAR
- Likelihood of occurrence of species credit species within development site – Table 16 page 61 – 65, Appendix J2 – BAR
- Threatened flora species targeted during field survey – Table 17 page 67, Appendix J2 – BAR
- Estimated abundance of known threatened flora candidate species – Table 36 page 85 - Appendix J2 – BAR
- Estimated area of occupancy / habitat of known threatened flora candidate species – Table 37 page 86 - Appendix J2 – BAR
- Description and habitat of known threatened flora candidate species – Table 38 page 86 - Appendix J2 – BAR
- Avoidance of direct impacts – Table 41 page 102 - Appendix J2 – BAR
- Major Projects Assessment (Version 4.1) – Flora Species Credits Required – Table 56 page 130 - Appendix J2 – BAR
- Major Projects Assessment (Version 4.1) – Fauna Species Credits Required – Table 57 page 130 - Appendix J2 – BAR
- Threatened flora species targeted during field survey – Table 7 page 31, Appendix J1 – Ecological Impact Assessment 1 of 2 (herein referenced as ‘EIA’)
- Fauna survey timing – Table 9 page 37 - Appendix J1 – EIA 1 of 2
- Fauna targeted by each survey method – Table 11 page 39 - Appendix J1 – EIA 1 of 2
- Summary of Plant Community Types identified in the study area – Table 33 page 89 - Appendix J1 – EIA 1 of 2
- Endangered Ecological Communities – Table 34 page 91-92, Appendix J1 – EIA 1 of 2
- Threatened terrestrial fauna species recorded – Section 5.4.2 page 105, Appendix J1 – EIA 1 of 2
- EPBC Act key threatening processes – Section 6.9.3 page 137, Appendix J1 – EIA 1 of 2
- Direct Impacts: threatened flora individuals – Table 41 page 126 - Appendix J1 – EIA 1 of 2
- Direct Impacts: threatened flora habitat – Table 42 page 126 - Appendix J1 – EIA 1 of 2

- Cumulative impact: threatened flora – Table 44 page 135 - Appendix J1 – EIA 1 of 2
- Threatened ecological communities, flora, fauna and migratory species known, considered likely or have potential to be in the study area – Table 45 page 138-141, Appendix J1 – EIA 1 of 2
- Regional vegetation communities (RVCs) in the study area and the minimum number of plots required under the BioBanking methodology – Table A3 page 7 – 8, Appendix A of Appendix J1 – EIA 2 of 2
- Threatened fauna predicted and known habitat associations – Table A5 page 12 - Appendix A of Appendix J1 – EIA 2 of 2
- Impacts: vegetation communities - Table A6 page 15, Appendix A of Appendix J1 – EIA 2 of 2
- Indirect and total impact: fauna habitat - Table A9 page 22, Appendix A of Appendix J1 – EIA 2 of 2
- Cumulative impact: fauna habitat - Table A11 page 26, Appendix A of Appendix J1 – EIA 2 of 2
- Endangered ecological communities – Table 4 page 20 - Appendix J1 – EIA 2 of 2
- Plant Community Types mapped within the study area – Table 6 page 46 – 51 – Appendix E of Appendix J1 – EIA 2 of 2
- Threatened ecological community assessment: comparison with legal descriptions – Table F1 page 1 - Appendix F (Vegetation Mapping) of Appendix J1 – EIA 2 of 2
- Summary of Plant Community Types identified in the study area – Table 2 Page 14 - Appendix F (Threatened Ecological Community Assessment) of Appendix J1 – EIA 2 of 2
- Number of individuals of each species observed in each vegetation type in 2012 – Table 4 page 5 - Appendix F (Threatened Flora Modelling) of Appendix J1 – EIA 2 of 2
- Likelihood table – Appendix I of Appendix J1 – EIA 2 of 2
- Species requiring survey and survey time matrix – Table 1 page 6 - Biodiversity Offset Strategy (herein referenced as 'BOS') in Appendix J1 – EIA 2 of 2
- 'Species credit' species assessed – Table 2 page 8 - BOS in Appendix J1 – EIA 2 of 2
- Major Projects Assessment (Version 4.1) – Flora Species Credits Required – Table 4 page 3 - BOS in Appendix J1 – EIA 2 of 2
- Major Projects Assessment (Version 4.1) – Fauna Species Credits Required – Table 5 page 3 - BOS in Appendix J1 – EIA 2 of 2
- Threats to threatened fauna species know or with potential to occur in the study area – Table 15 page 45 – 50, BOS in Appendix J1 – EIA 2 of 2
- Management actions that benefit threatened fauna species known or with the potential to occur in the study area – Table 16 page 51 – 54, BOS in Appendix J1 – EIA 2 of 2
- Threats to threatened flora species know or with potential to occur in the study area – Table 17 page 55 – 57, BOS in Appendix J1 – EIA 2 of 2
- Threatened flora species targeted during field surveys – Table 15-3 page 15-7 - Chapter 15 of the Environmental Impact Statement (herein referenced as the 'EIS')– Terrestrial Ecology
- Targeted threatened fauna and migratory bird surveys – Table 15-6 page 15-12, Chapter 15 of the EIS– Terrestrial Ecology
- Threatened flora recorded in the project area (terrestrial) – Table 15-11 page 15-21, Chapter 15 of the EIS – Terrestrial Ecology
- Endangered ecological communities recorded in the project area (terrestrial) – Table 15-12 page 15-22, Chapter 15 of the EIS – Terrestrial Ecology
- Threatened and migratory fauna known or predicted to occur in the project area (terrestrial) – Table 15-14 page 15-30, Chapter 15 of the EIS – Terrestrial Ecology
- Key threatening processes – Table 15-21 page 15-50, Chapter 15 of the EIS – Terrestrial Ecology
- Environmental risk assessment – Table 15-22 page 15-56, Chapter 15 of the EIS – Terrestrial Ecology



- Terrestrial ecology residual risks – Table 15-23 page 15-61, Chapter 15 of the EIS – Terrestrial Ecology
- Threatening processes – fauna – Table 10 page 20 – Response to Submissions Report, BOS
- Disturbance limits vegetation communities and habitat – Table 8-1 page 25 - Appendix C (Field Development Protocol) of the Response to Submissions Report
- Disturbance limits Pilliga mouse habitat – Table 8-2 page 27 - Appendix C (Field Development Protocol) of the Response to Submissions Report
- Disturbance limits threatened flora – Table 8-3 page 28 - Appendix C (Field Development Protocol) of the Response to Submissions Report

**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
Brigalow ( <i>Acacia harpophylla</i> dominant and co-dominant)	N	PCT35 - Brigalow – Belah open forest/woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion.	Yes	19.3	1303.5	As the final footprint has not been determined, clearing will not exceed the upper limit as described in the draft BOS. PCTs have been mapped, but actual impacts will not be confirmed until ground-truthing is undertaken during clearing. No further information is required.	Table 4 of BOS in Appendix F of RTS (pg 1)
Weeping Myall Woodlands	N	PCT27 – Weeping Myall open woodland of the Darling Riverine Plains and Brigalow Belt South Bioregions.	Yes	0.1	5	As the final footprint has not been determined, clearing will not exceed the upper limit as described in the BOS. PCTs have been mapped, but actual impacts will not be confirmed until ground-truthing is undertaken during clearing. No further information is required.	Table 4 of BOS in Appendix F of RTS (pg 1)

- (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 FBA.
- (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	SC		Yes. Habitat polygons are based on the PCT that they are known to be associated with.	48	4,255	The methodology to determine impact was developed in consultation with BCD. BCD is satisfied with the defined impact.	Table 6, BOS in Appendix F of RTS (pg 7)
Koala	SC		As above.	989	30,454	As above.	Table 6, BOS in Appendix F of RTS (pg 7)
<i>Bertya opposens</i>	SC		No. No habitat polygons have been created. Number of individuals has been calculated by extrapolating survey data across PCTs that contain known habitat.	10,309 individuals	144,326	Despite not having a defined footprint, the impacts to flora species credit species were calculated in accordance with the FBA. No further information is required to determine extent of impact.	Table 5, BOS in Appendix F of RTS (pg 6)
<i>Lepidium aschersonii</i>	SC		As above.	77,691 individuals	1,087,674	As above.	
<i>Lepidium monoplocoides</i>	SC			1,116 individuals	16,740		
<i>Rulingia procumbens</i>	SC			3,716 individuals	55,740		
<i>Tylophora linearis</i>	SC			513 individuals	7,722		
Spotted-tailed quoll	EC	PCT 399 (BVT - NA 255) PCT 408 (BVT - NA 279) PCT 379 (BVT - NA 294) PCT 402 (BVT - NA 307) PCT 398 (BVT - NA 314)	Table A5 in Appendix A of Appendix J1 (2 of 2) of the EIA identifies habitat associations (grassy woodland,	988.8  (Taken from Table A7 in Appendix A of	59,068	As these species are ecosystem credit species only, the impact is determined by the PCT they are associated with.	

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
		PCT 404 (BVT - NA 326) PCT 401 (BVT - NA 338) PCT 425 (BVT - NA 363) PCT 406 (BVT - NA 389) PCT 405 (BVT - NA 390) PCT 418 (BVT - NA 409)	heathy woodland etc) rather than PCTs for threatened fauna. Habitat polygons are not required for ecosystem species.	Appendix J1 (2 of 2) of the EIA which lists the foraging habitat directly impacted by the project). No corresponding credits are listed.		This impact has been calculated in accordance with the FBA. The EIS does not state the ecosystem credits associated with this species. BCD has calculated the credits by reviewing the PCTs this species is associated with in the BBAM-C.	
South-eastern Long-eared Bat	EC	PCT 55 (BVT - NA 102) PCT 35 (BVT - NA 117) PCT 202 (BVT - NA 141) PCT 88 (BVT - NA 179) PCT 399 (BVT - NA 255) PCT 408 (BVT - NA 279) PCT 256 (BVT - NA 292) PCT 379 (BVT - NA 294) PCT 402 (BVT - NA 307) PCT 398 (BVT - NA 314) PCT 397 (BVT - NA 324) PCT 404 (BVT - NA 326) PCT 401 (BVT - NA 338) PCT 425 (BVT - NA 363) PCT 406 (BVT - NA 389) PCT 405 (BVT - NA 390)	As above.	885.0  Explanation as above.	65,847	As above.	Table A5 and A7 in Appendix A of Appendix J1 (2 of 2) in EIA (pg 12- 20)
Pilliga Mouse	EC	PCT 141 (BVT - NA 121) PCT 35 (BVT - NA 117) PCT 399 (BVT - NA 255) PCT 408 (BVT - NA 279) PCT 379 (BVT - NA 294) PCT 402 (BVT - NA 307) PCT 398 (BVT - NA 314) PCT 397 (BVT - NA 324)	As above.	889.3  Explanation as above.	62,533		

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
		PCT 404 (BVT - NA 326) PCT 401 (BVT - NA 338) PCT 425 (BVT - NA 363) PCT 406 (BVT - NA 389) PCT 405 (BVT - NA 390) PCT 418 (BVT - NA 409)					

- (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 FBA.
- (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

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**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 FBA 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.

Avoidance and minimisation within the project are under-pinned by a Field Development Protocol (FDP) and Ecological Scouting Framework (ESF). This includes a desktop assessment of areas of ecological sensitivity, in-field micro-siting by identifying and avoiding biodiversity values, and post-field micro-siting positioning infrastructure in areas of lowest environmental impact.

The proponent states that it is not possible to completely avoid all EECs. The ESF prioritises the avoidance and minimisation of impacts to EECs and threatened species. Furthermore, the areas of impact stated in the draft BOS in the RTS are considered to be the upper limits of clearing expected for the project.

Additional avoidance and minimisation measures described include:

- placement of seismic infrastructure in previously cleared areas where possible
- placement of water and gas processing facilities outside of the forest to minimise clearing
- co-location of linear infrastructure with existing roads and access tracks where possible

The assessment of significance of EPBC Act-listed threatened species and communities (Appendix K of the EIA) describes avoidance and minimisation measures for each entity in a cursory manner.

Relevant references:

- Section 6.2 of EIA (page 121 in Appendix J1 (1 of 2) in the EIS) describes avoidance and minimisation measures. These measures are described in greater details in Section 6 of the BAR (page 102 in Appendix J2 in the EIS), including:
  - 6.1.1 Avoidance of direct impacts. Table 41 (page 102)
  - 6.1.2 Site selection. Table 42 (page 103)
  - 6.1.3 Planning. Table 43 (page 105)
  - 6.1.4 Design alterations (page 106)
  - 6.1.5 Field development protocol. Table 44 (page 106)
  - 6.1.6 Ecological scouting framework (page 107)
- Table 38 of EIA (pg 121 in Appendix J1 (1 of 2) in the EIS) summarises the Field Development Protocol.
- Appendix G of EIA (Appendix J1 (2 of 2) in the EIS) describes the Ecological Scouting Framework.
- Appendix K of the EIA in Appendix J1 (2 of 2) of the EIS.

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**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.

Given the conceptual nature of the project, the proponent has identified an upper limit of clearing and therefore an upper limit of impact to MNES. The proponent has indicated that the actual amount of clearing is likely to be less than what has been identified. BCD is satisfied that the ESF and FDP will provide a framework for the avoidance and minimisation of impacts. BCD is also satisfied that the draft conditions of consent require that BCD will be consulted during the development of the Field Development Protocol, allowing further input into relevant avoidance and minimisation measures. In addition, BCD and DoEE will be consulted during the preparation of the Biodiversity Management Plan (BMP). The BMP must contain measures to minimise the amount of clearing, and minimise impacts on fauna through pre-clearance surveys and minimising impacts in key breeding seasons.

Tracking and annual reporting of impacts against individual PCTs will be implemented through the submission of the Annual Reports.

Relevant references are the same as those provided in (3) above.

#### 4. Offsetting

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(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 FBA

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

**No specific like-for-like land-based offsets that conform to the NSW Biodiversity Offsets Policy for Major Projects have been identified in the BOS.**

While the proponent has advised that suitable land-based offsets are available to retire all credit obligations, details of land-based offsets have not yet been provided for review and confirmation. If the biodiversity credit obligation is fulfilled in accordance with the NSW Biodiversity Offsets Policy for Major Projects offsets policy then no residual impacts will occur.

Given that the draft BOS does not include specific details, BCD is unable to comment on whether the offsets will provide a like-for-like outcome.

The biodiversity credit obligation has been calculated using the FBA and the BBAM-C, based on a maximum area of clearing. The actual footprint of clearing has not been delineated.

The draft conditions of consent require that the BOS must be prepared consistent with the NSW Biodiversity Offsets Policy for Major Projects, and that it must describe how biodiversity credits will be identified, secured and retired.

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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.

BCD has expressed concerns regarding the lack of a footprint in which to assess impacts to biodiversity value - rather a maximum area of impact has been established. The proponent has maintained that the actual final impact is likely to be less than what has been identified in the environmental assessment.

BCD has identified instances where floristic data collected by the proponent does not match the vegetation mapping for the project site. BCD has requested that impact areas are ground-truthed to determine whether the PCTs that are present conform to the mapping. The Annual Review required to be prepared by the proponent will report on the actual versus proposed surface disturbance, capturing any such discrepancies.

The proponent has not provided adequate justification for the inclusion of three flora species and one fauna species as species that respond positively to disturbance. BCD has therefore questioned the validity of being able to use rehabilitation to offset part of the credit obligation for these species. BCD is satisfied that the draft conditions of consent require that the proponent must demonstrate (to the satisfaction of BCD) that the species are suitable for ecological rehabilitation.

The proponent has proposed that up to 30 percent of the credit obligation could be met by implementing a 20-year nil-tenure pest animal control program. Insufficient evidence has been provided to justify how the control

program will lead to long-term biodiversity benefits given that it is a 20-year program compared to in-perpetuity land-based offsets.



**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 FBA	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
Brigalow ( <i>Acacia harpophylla</i> dominant and co-dominant)	1303.5	Currently there is an understanding that "Phase 2" credits will be retired via land-based credits. Credit retirement for Phase 2 credits will be detailed in the BOS which is yet to be finalised.  Phase 2 credits: 1303.5	Credit retirement for "residual" credits will be detailed in the BOS which is yet to be finalised.  No residual credits apply to this entity.	Offsets have been calculated in accordance with the FBA, however the lack of a final footprint has resulted in an upper limit of clearing being identified, which final impacts cannot exceed. The draft BOS does not conform to the NSW Biodiversity Offsets Policy for Major Projects given that the draft BOS does not contain details on how the offset obligation will be met. The current proposal to offset 30 per cent of the offset liability using supplementary or compensatory measures does not conform to the NSW Biodiversity Offsets Policy for Major Projects.	Table 4 of BOS in Appendix F of RTS (pg 1)  Biodiversity offset package in BOS in Appendix F of RTS (pg 11-35)
Weeping Myall Woodlands	5	Explanation as above.  Phase 2 credits: 5	Explanation as above.  No residual credits apply to this entity.		
Regent honeyeater	4,255	Explanation as above.  Phase 2 credits: 3,035	Explanation as above.  Residual credits: 1,220		
Koala	30,454	Explanation as above.  Phase 2 credits: 22,005	Explanation as above.  Residual credits: 8,449		Table 6, BOS in Appendix F of RTS (pg 7)  Biodiversity offset package in BOS in Appendix F of RTS (pg 11-35)

A	B	C	D	E	F
Threatened species or EEC (listed under the EPBC Act)	Credits required as calculated by the FBA	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
Spotted-tailed quoll	Ecosystem credit species. Credits not calculated. Will be captured through appropriate PCTs.	Explanation as above.  Phase 2 credits: 41,348	Explanation as above.  Residual credits: 17,720		Table A5 in Appendix A of Appendix J1 (2 of 2) in EIA (pg 12)
South-eastern long-eared bat	Ecosystem credit species. Credits not calculated. Will be captured through appropriate PCTs.	Explanation as above.  Phase 2 credits: 46,093	Explanation as above.  Residual credits: 19,754		Biodiversity offset package in BOS in Appendix F of RTS (pg 11-35)
Pilliga mouse	Ecosystem credit species. Credits not calculated. Will be captured through appropriate PCTs.	Explanation as above.  Phase 2 credits: 43,773	Explanation as above.  Residual credits: 18,760		
<i>Bertya opposens</i>	144,326	Explanation as above.  Phase 2 credits: 101,028	Explanation as above.  Residual credits: 43,298		Table 5, BOS in Appendix F of RTS (pg 6)
<i>Lepidium monoplocoides</i>	16,740	Explanation as above.  Phase 2 credits: 11,718	Explanation as above.  Residual credits: 5,022		Biodiversity offset package in BOS in Appendix F of RTS (pg 11-35)

A	B	C	D	E	F
Threatened species or EEC (listed under the EPBC Act)	Credits required as calculated by the FBA	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
<i>Rulingia procumbens</i>	55,740	Explanation as above.  Phase 2 credits: 39,018	Explanation as above.  Residual credits: 16,722		
<i>Tylophora linearis</i>	7,722	Explanation as above.  Phase 2 credits: 5,721	Explanation as above.  Residual credits: 2,001		

- (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 FBA 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 FBA, such as rehabilitation of impacted areas or regrowth vegetation.
- (E) **Comment** on the adequacy of the proposed offset in meeting requirements of the FBA 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.

## Appendix 1. Narrabri Gas Project Bilateral – National Plans

Name of plan	Relevant matters	Key considerations in EIS/BAR	Reference in EIS/BAR
<b>Brigalow</b>			
No adopted Recovery Plan	N/A		
Approved Conservation Advice for the Brigalow ( <i>Acacia harpophylla</i> dominant and co-dominant) ecological community.	Protect and conserve remnant and regrowth areas of the ecological community. Prevent clearance of this endangered ecological community and of nearby native vegetation including buffer zones and connecting corridors.	An upper limit of 19.3 ha has been set on clearing.	Draft Biodiversity Offset Strategy in Appendix F of RTS.
	Where further clearance is unavoidable: - mitigate the severity of impacts (e.g. avoid higher quality areas, avoid dissection of patches, act to minimise hydrological disruption and the spread of weeds); and, - offsetting should consider the location and emulate qualities of affected patches.	Ecological sensitivity analysis undertaken. Ecological scouting framework to be used in micro-siting of infrastructure. Biodiversity offset strategy developed.	Section 6 of the Biodiversity Assessment Report (Appendix J2) of the EIA. Draft Biodiversity Offset Strategy in Appendix F of RTS.
	Manage foxes and cats (as well as feral pigs) using a coordinated approach, preferably among groups of neighbours and across regions.	Proposed feral animal control program in BOS not supported by BCD. Pest animal control will be required on land-based offsets and on the development site under the BMP.	Section 3.2.3 of the Draft Biodiversity Offset Strategy in Appendix F of RTS.
<b>Weeping Myall Woodlands</b>			
No adopted Recovery Plan	N/A		
Approved Conservation Advice for Weeping Myall Woodlands ecological community.	Protecting remnants of the listed ecological community through the development of conservation agreements and covenants.	An upper limit of 0.1 ha has been set on clearing.	Draft Biodiversity Offset Strategy in Appendix F of RTS.
<b>Spotted-tailed quoll</b>			
National Recovery Plan for the Spotted-tailed Quoll ( <i>Dasyurus maculatus</i> )	Action 1.2 - Undertake field surveys and mapping in areas where the distribution and status of populations are poorly known.	Targeted surveys undertaken as part of environmental assessment. No quolls detected.	Section 5.3.3 of the BAR (Appendix J2) of the EIA.

Threat abatement plan for predation by feral cats.	No actions relevant to Narrabri Gas project.	Proposed feral animal control program in BOS not supported by BCD. Pest animal control will be required on land-based offsets and on the development site under the BMP.	Section 3.2.3 of the Draft Biodiversity Offset Strategy in Appendix F of RTS.
Threat abatement plan for predation by the European red fox.	No actions relevant to Narrabri Gas project.	Proposed feral animal control program in BOS not supported by BCD. Pest animal control will be required on land-based offsets and on the development site under the BMP.	Section 3.2.3 of the Draft Biodiversity Offset Strategy in Appendix F of RTS.
<b>Koala</b>			
No adopted Recovery Plan or Threat Abatement Plan	N/A	A proposed koala research proposal will include targeted surveys for koala across 500,000 ha of the Pilliga forest and modelling of density estimates.	Appendix C of the Draft Biodiversity Offset Strategy in Appendix F of RTS.
Approved Conservation Advice for <i>Phascolarctos cinereus</i> (combined populations of Queensland, New South Wales and the Australian Capital Territory)	Investigate formal conservation arrangements, management agreements and covenants on private land, and for Crown and private land investigate and/or secure inclusion in reserve tenure if possible.	The yet un-identified stewardship sites may contain koala populations. These sites will have in-perpetuity conservation agreements placed on the land title.	Section 3.1 of the Draft Biodiversity Offset Strategy in Appendix F of RTS.
<b>South-eastern long-eared bat</b>			
No adopted Recovery Plan or Threat Abatement Plan	N/A		
Conservation Advice <i>Nyctophilus corbeni</i> south-eastern long-eared bat	No actions relevant to Narrabri Gas project.		
<b>Pilliga mouse</b>			
No adopted Recovery Plan	N/A		
Approved Conservation Advice	Manage threats to areas of vegetation that contain populations of the Pilliga Mouse.		

for <i>Pseudomys pilligaensis</i> (Pilliga Mouse).	Prevent clearing of habitat, such as nesting sites.	Ecological scouting framework prioritises avoidance of Pilliga mouse habitat in micro-siting of infrastructure.	Section 6 of the Biodiversity Assessment Report (Appendix J2) of the EIA.
	Develop and implement a management plan for the control and eradication of feral predators within the local region.	Proposed feral animal control program in BOS not supported by BCD. Pest animal control will be required on land-based offsets and on the development site under the BMP.	Section 3.2.3 of the Draft Biodiversity Offset Strategy in Appendix F of RTS.
Threat abatement plan for predation by feral cats.	No actions relevant to Narrabri Gas project.		
Threat abatement plan for predation, habitat degradation, competition and disease transmission by feral pigs	Action 1.2 - Implement feral pig control in priority areas, combining national priorities and local knowledge into on-ground action.	Proposed feral animal control program not supported by BCD. Pilliga not identified as a priority area. Pest animal control will be required on land-based offsets and on the development site under the BMP.	
<b>Regent Honeyeater</b>			
National Recovery Plan for the Regent Honeyeater ( <i>Anthochaera phrygia</i> )	Strategy 1 - Improve the extent and quality of regent honeyeater habitat.	Clearing will reduce extent of habitat by 48 ha. The yet un-identified stewardship sites may contain regent honeyeaters. Note that if the proponent requests a statement of reasonable equivalence for BAM credits, regent honeyeater credits will no longer be required to be retired.	Appendix C of the Draft Biodiversity Offset Strategy in Appendix F of RTS.
Threat abatement plan for competition and land degradation by rabbits.	Action 1.1 - Determine regional priority areas for rabbit control by focussing effort on areas where rabbits have the greatest impact on threatened species and/or ecological communities.	Proposed feral animal control program in BOS not supported by BCD. Pilliga not identified as a regional priority area. Pest animal control will be required on land-based offsets and on the development site under the BMP.	Section 3.2.3 of the Draft Biodiversity Offset Strategy in Appendix F of RTS.
<b><i>Bertya opponens</i></b>			
<i>Bertya</i> sp. Cobar-Coolabah (Recovery Plan)	No actions relevant to the Narrabri Gas Project		

Conservation Advice <i>Bertya opposens.</i>	No actions relevant to the Narrabri Gas Project		
<b><i>Lepidium aschersonii</i></b>			
National Recovery Plan for the Spiny Peppercress <i>Lepidium aschersonii</i>	Action 1.1- Undertake surveys to determine the area and extent of populations, the number, size and structure of populations, and inference or estimation of population change.	Targeted surveys and modelling undertaken to determine potential impact on threatened <i>Lepidium</i> species.	Appendix H of the RTS <i>Supplementary targeted surveys for Spiny Peppercress and Winged Peppercress and revision of upper disturbance limits.</i>
	Action 3.1- Protect populations on public land.	An upper limit of 77,691 individuals has been set on clearing.	Appendix H of the RTS.
	Action 3.3 - Control threats from livestock and feral animals.	Proposed feral animal control program in BOS not supported by BCD. Pest animal control will be required on land-based offsets and on the development site under the BMP.	Section 3.2.3 of the Draft Biodiversity Offset Strategy in Appendix F of RTS.
Threat abatement plan for competition and land degradation by rabbits	Action 1.1 - Determine regional priority areas for rabbit control by focussing effort on areas where rabbits have the greatest impact on threatened species and/or ecological communities.	Proposed feral animal control program in BOS not supported by BCD. Pilliga not identified as a regional priority area.	Section 3.2.3 of the Draft Biodiversity Offset Strategy in Appendix F of RTS.
Threat abatement plan for predation, habitat degradation, competition and disease transmission by feral pigs	Action 1.2- Implement feral pig control in priority areas, combining national priorities and local knowledge into on-ground action.	Pest animal control will be required on land-based offsets and on the development site under the BMP.	
<b><i>Lepidium monoplocoides</i></b>			
National Recovery Plan for the Winged Peppercress <i>Lepidium monoplocoides</i>	Action 1.1 - Undertake surveys to determine the area and extent of populations, the number, size and structure of populations, and inference or estimation of population change.	Targeted surveys and modelling undertaken to determine potential impact on threatened <i>Lepidium</i> species.	Appendix H of the RTS <i>Supplementary targeted surveys for Spiny Peppercress and Winged Peppercress and revision of upper disturbance limits</i>
	Action 3.1 - Protect populations on public land.	An upper limit of 1,116 individuals has been set on clearing	Appendix H of the RTS
	Action 3.3 - Control threats from grazing.	Proposed feral animal control program in BOS not supported by BCD.	Section 3.2.3 of the Draft Biodiversity Offset Strategy in Appendix F of RTS.

		Pest animal control will be required on land-based offsets and on the development site under the BMP.	
Threat abatement plan for competition and land degradation by rabbits	Action 1.1 - Determine regional priority areas for rabbit control by focussing effort on areas where rabbits have the greatest impact on threatened species and/or ecological communities.	Proposed feral animal control program not supported by BCD. Pilliga not identified as a regional priority area.	Section 3.2.3 of the Draft Biodiversity Offset Strategy in Appendix F of RTS.
Threat abatement plan for predation, habitat degradation, competition and disease transmission by feral pigs	Action 1.2 - Implement feral pig control in priority areas, combining national priorities and local knowledge into on-ground action.	Pest animal control will be required on land-based offsets and on the development site under the BMP.	
<b><i>Commersonia procumbens</i></b>			
No adopted Recovery Plan or Threat Abatement Plan	N/A		
Approved Conservation Advice for <i>Rulingia procumbens</i>	Identify and manage roadside populations to ensure road widening and maintenance activities (or other infrastructure or development activities) involving substrate or vegetation disturbance in areas where <i>R. procumbens</i> occurs, do not adversely impact on known populations.	An upper limit of 3,716 individuals has been set on clearing.	Appendix H of the RTS.
	Investigate further formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate inclusion in reserve tenure if possible.	The yet un-identified stewardship sites may contain <i>C. procumbens</i> populations. These sites will have in-perpetuity conservation agreements on the land title.	Section 3.1 of the Draft Biodiversity Offset Strategy in Appendix F of RTS.
<b><i>Tylophora linearis</i></b>			
No adopted Recovery Plan or Threat Abatement Plan	N/A		
Approved Conservation Advice for <i>Tylophora linearis</i>	Ensure track widening and maintenance activities (or other infrastructure or development activities) involving substrate or vegetation disturbance in areas where <i>T. linearis</i> occurs do not adversely impact on known populations.	An upper limit of 513 individuals has been set on clearing.	Appendix H of the RTS.