



**BOGGABRI COAL MINE  
BIODIVERSITY COMPLIANCE  
AUDIT 2018**

**FINAL**

May 2018

# **BOGGABRI COAL MINE BIODIVERSITY COMPLIANCE AUDIT 2018**

## **FINAL**

Prepared by  
Umwelt (Australia) Pty Limited

Project Director: Travis Peake  
Project Manager: Travis Peake  
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**Newcastle**

75 York Street  
Teralba NSW 2284

Ph. 02 4950 5322

[www.umwelt.com.au](http://www.umwelt.com.au)



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# Table of Contents

<b>1.0</b>	<b>Introduction</b>	<b>1</b>
1.1	Compliance Audit Objectives	1
1.2	Compliance Audit Scope	1
1.3	Compliance Audit Criteria	2
1.4	Limitations	2
<b>2.0</b>	<b>Compliance Audit Methodology</b>	<b>4</b>
2.1	Preliminary Document Review	4
2.2	Site Interviews and Inspections	4
2.2.1	Opening Meeting	4
2.2.2	Compliance Audit Interviews	5
2.2.3	Data Collection and Verification	5
2.2.4	Site Inspection	5
2.2.5	Closing Meeting	6
2.3	Reporting	6
2.4	Definitions	7
<b>3.0</b>	<b>Compliance Audit Findings</b>	<b>9</b>
3.1	Agency and Community Consultation	9
3.2	Past Audits and Responses to Recommendations	10
3.3	Project Approval (PA09_0182) Non-compliances	11
3.3.1	Schedule 3, Condition 43 (b)	11
	<b>Schedule 3, Condition 50 (b)</b>	12
3.3.2	Schedule 3, Condition 54	14
3.4	Observations from Review of the Unapproved Biodiversity Management Plan	14
	Schedule 3, Condition 49	14
3.4.1	Schedule 3, Condition 49	15
3.5	Management Plans	15
3.6	Incidents	17
3.7	Environmental Performance	17
3.7.1	Overall Performance	17
3.7.2	Review of Performance of Rehabilitation and Biodiversity Offsets Against Completion Criteria	18
3.8	Recommendations for Continual Improvement	22
<b>4.0</b>	<b>Conclusion</b>	<b>24</b>

## Figures

Figure 2.1	Risk Analysis Matrix (Table 1 from the <i>Independent Audit Guidelines</i> (DP&E 2015))	7
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## Tables

Table 2.1	Opening Meeting Attendees	4
Table 2.2	Personnel Interviewed During Compliance Audit	5
Table 2.3	Closing Meeting Attendees	6
Table 3.1	Summary of the government agencies and community members contacted during the audit process.	9

## Appendices

Appendix A	Independent Audit Certification Form
Appendix B	Project Approval Checklist
Appendix C	Photo Plates

# 1.0 Introduction

The Department of Planning and Environment (DP&E) approved Travis Peake, National Ecology Leader of Umwelt (Australia) Pty Limited (Umwelt), to conduct an Independent Biodiversity Audit (IBA) against the biodiversity conditions (Schedule 3, Conditions 39-54) of Boggabri Coal Mine's Project Approval. This report documents the findings of the audit.

Boggabri Coal Mine is owned and operated by Idemitsu Australia Resources Pty Ltd (Idemitsu) and is an open cut coal mining operation which commenced production in 2006.

The mine is located approximately 15 kilometres to the north-east of Boggabri in the north-west region of New South Wales (NSW). Project Approval (PA09\_0182) was granted for Boggabri Coal Mine by the Planning Assessment Commission (PAC) under delegation of the Minister for Planning on 18 July 2012.

The IBA was conducted by two Umwelt technical specialists leading the review of the biodiversity practices, being Travis Peake, National Ecology Leader, and Belinda Howe, Ecologist-Botanist. The Independent Audit Certification Form is attached as **Appendix A**.

The site component of the compliance audit was conducted on 6-8 March 2018.

This report, covering biodiversity issues, provides an outline of the compliance audit methodology and detailed findings. Where required, the report provides recommended actions for achieving compliance with the Project Approval. A discussion of the overall performance of the Boggabri Coal Mine as it relates to biodiversity is also provided in the report.

**Appendix B** includes a detailed checklist of the status of compliance with conditions of the Project Approval relating to biodiversity.

## 1.1 Compliance Audit Objectives

The key objectives for the biodiversity compliance audit for Boggabri Coal Mine were as follows:

- to review compliance with the conditions of the Project Approval relating to biodiversity (Schedule 3, Conditions 39-54); and
- to assess the environmental performance of the Boggabri Coal Mine operations and the ability of the Boggabri Coal Mine environmental management systems and controls specifically relating to biodiversity.

## 1.2 Compliance Audit Scope

The scope of the compliance audit was limited to biodiversity matters relating to the operation of Boggabri Coal Mine, including biodiversity offsets. The compliance audit scope included assessing compliance with the Project Approval conditions relating to biodiversity. This audit addresses the period since the last independent audit which took place in February 2015.

The assessment of compliance against the Project Approval conditions included compliance with the approved January 2015 biodiversity management plan (BMP) and biodiversity offset strategy (BOS), and approved October 2015 Rehabilitation Management Plan required by the conditions (refer to **Section 1.3**), and relevant commitments in the Environmental Assessments (EAs) for the mine.

The compliance audit scope also included undertaking an overall review of the performance of the mine as it relates to biodiversity, including the vegetation pre-clearance process.

### 1.3 Compliance Audit Criteria

The review assessed the level of compliance and the environmental performance of the Boggabri Coal Mine operations against the following:

- the Project Approval (PA09\_0182), as of March 2018; and
- Strategies, plans or programs relating to biodiversity issues, which have been prepared for the Project in accordance with the conditions of the Project Approval.

Plans, programs and strategies related to biodiversity issues required to be prepared by the Project Approval that was assessed as part of the compliance audit included:

- Leard Forest Mining Precinct Regional Biodiversity Strategy;
- Biodiversity Management Plan;
- aspects of the Rehabilitation Management Plan that relate to biodiversity;
- aspects of the Water Management Plan that relate to biodiversity, including:
  - Surface Water Management Plan, specifically in relation to performance criteria for impacts on stream and riparian vegetation health; and
  - Groundwater Management Plan, specifically in relation to a program to monitor the impacts of the Project on groundwater dependent ecosystems (GDEs) and riparian vegetation.

It is noted that a revised Biodiversity Management Plan (October 2017) has been prepared and submitted to DP&E in draft format. Late in the audit timeframe Umwelt was made aware of a further revised BMP dated December 2017. This document was submitted to OEH for their review in December 2017, and OEH's response (dated 13 April 2018) was made available to the auditors prior to the finalisation of this audit document. Therefore, as part of the formal scope of the audit Umwelt reviewed the October 2017 draft document along with the formal audit of the January 2015 approved document. The draft December 2018 document was only able to be reviewed in relation to Project Approval Schedule 3 Conditions 43 (b) and 50 (b).

### 1.4 Limitations

The findings of the compliance audit are based upon visual observations of the site and its vicinity, interviews with site personnel, interviews with government agencies and community organisations, and our interpretation of documentation provided by Boggabri Coal Mine.

Opinions presented herein apply to the site as it existed at the time of the audit and from information provided by site personnel and government agencies. Any changes to this information of which Umwelt is not aware and has not had the opportunity to evaluate therefore cannot be considered in this report.

The auditors have taken due care to consider all reasonably available information provided during the undertaking this audit and have taken this information to represent a fair and reasonable characterisation of the environmental status of the site, but recognise that any site assessment program is necessarily limited in scope and true site conditions may sometimes differ from those inferred from the available data.

## 2.0 Compliance Audit Methodology

The process for the biodiversity compliance audit involved a review of documentation and samples of records provided by Boggabri Coal, and a site inspection of the mining operations to determine the level of environmental performance and compliance of the Project in relation to biodiversity issues. The compliance audit process is described in more detail in **Sections 2.1 to 2.4**.

### 2.1 Preliminary Document Review

Prior to the compliance audit, documentation related to biodiversity issues was reviewed, including the Project Approval and EAs for the operation and the management plans that have been prepared in accordance with the Project Approval. In addition, other compliance related correspondence and records were reviewed.

### 2.2 Site Interviews and Inspections

#### 2.2.1 Opening Meeting

The opening meeting was held at the Boggabri Coal Mine main office commencing at 2 pm on 6 March 2018. The list of participants is provided in **Table 2.1**.

**Table 2.1 – Opening Meeting Attendees**

Opening Meeting	Organisation	Title
Daniel Martin	Boggabri Coal	Environmental Superintendent
Peter Forbes	Boggabri Coal	Health Safety and Environment Manager
Mikaela Richardson	Boggabri Coal	Environmental Advisor
Alex Cockeril	WSP	Ecology National Team Executive
Travis Peake	Umwelt	Technical Specialist – Biodiversity
Belinda Howe	Umwelt	Technical Specialist – Biodiversity

The compliance audit team was introduced and the scope of their responsibilities was conveyed to the mine personnel. The purpose, depth and scope of the compliance audit were outlined. The methods to be used by the team to conduct the compliance audit were explained. It was stated that the compliance audit team would be interviewing personnel, reviewing site management plans, examining records and conducting a site inspection in order to address specific compliance requirements. Staff from Boggabri Coal, and their biodiversity consultant, participated appropriately, offering assistance to personnel and provision of information, and assisting in the development of a site inspection itinerary. All parts of the site and biodiversity offset sites that were requested to be inspected were able to be accessed.

## 2.2.2 Compliance Audit Interviews

During the on-site component of the review, interviews were conducted with the Boggabri Coal Mine staff and contractors identified in **Table 2.2**.

**Table 2.2 – Personnel Interviewed During Compliance Audit**

Name	Area of Operations
Alex Cockeril	WSP Ecology National Team Executive
Daniel Martin	Environmental Superintendent (Boggabri Coal Mine)
Troy Jennings	WSP Ecology – Supervising tree clearing
Aaron Clack	Surveyor (Boggabri Coal Mine)
John Mitchell	Projects Supervisor

## 2.2.3 Data Collection and Verification

Where possible, documents and data relating to biodiversity issues collected during the compliance audit process were reviewed whilst on-site. A number of documents relating to biodiversity issues were provided to the compliance audit team prior to the on-site component of the compliance audit. Several documents that were not available during the on-site component of the compliance audit were provided following the site inspection.

All information relating to biodiversity issues obtained during the compliance audit process was verified by the technical specialists where possible. For example, statements made by site personnel were verified by viewing documentation and/or site inspections where possible. Where suitable verification could not be provided, this has been identified in the compliance audit findings.

## 2.2.4 Site Inspection

The site inspection of Boggabri Coal Mine was undertaken on 6-8 March 2018. The following locations were inspected by the biodiversity technical specialists:

- current clearing operations, including nearby bushland where habitat trees had been surveyed and marked;
- salvaged fauna habitat stockpile sites;
- 250 metre vegetated corridor;
- mine rehabilitation;
- water storage areas;
- an overview of the biodiversity offset areas with field inspections of selected, representative offset areas and viewings of the works being conducted within them.

## 2.2.5 Closing Meeting

The list of participants is provided in **Table 2.3**.

**Table 2.3– Closing Meeting Attendees**

Closing Meeting	Organisation	Title
Daniel Martin	Boggabri Coal	Environmental Superintendent
Peter Forbes	Boggabri Coal	Health Safety and Environment Manager
Mikaela Richardson	Boggabri Coal	Environmental Advisor
Alex Cockeril	WSP	Ecology National Team Executive
Travis Peake	Umwelt	Technical Specialist – Biodiversity
Belinda Howe	Umwelt	Technical Specialist – Biodiversity

The objectives of this meeting were to discuss any outstanding matters, present preliminary findings and outline the process for finalising the compliance audit report.

## 2.3 Reporting

Following the completion of the site compliance audit, the Project Approval compliance checklists for biodiversity issues were completed and compliance audit notes were reviewed in order to compile a list of outstanding matters to be noted in the compliance audit report. This report was prepared to provide an overview of the status of compliance by reference to the relevant compliance documentation and any other observations of the technical specialists during the site inspections and interviews. This report has been prepared primarily on an exception basis, highlighting any areas where action or improvement is required.

Assessments of the level of impact of non-compliances were undertaken using the Risk Analysis Matrix outlined in the Independent Audit Guidelines (DP&E 2015) which assesses the likelihood of an impact occurring and the estimated level of impact to produce an overall score of high, moderate or low.

Risk level	Colour code	Description
<b>High</b>		Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
<b>Medium</b>		Non-compliance with: <ul style="list-style-type: none"> <li>potential for serious environmental consequences, but is unlikely to occur; or</li> <li>potential for moderate environmental consequences, but is likely to occur</li> </ul>
<b>Low</b>		Non-compliance with: <ul style="list-style-type: none"> <li>potential for moderate environmental consequences, but is unlikely to occur; or</li> <li>potential for low environmental consequences, but is likely to occur</li> </ul>
<b>Administrative non-compliance</b>		Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions)

Figure 2.1 Risk Analysis Matrix (Table 1 from the *Independent Audit Guidelines (DP&E 2015)*)

## 2.4 Definitions

The reporting of results from the compliance audit was determined based on the following definitions.

### Compliance

Where the auditor has collected sufficient verifiable evidence to demonstrate that the intent and all elements of the requirement of the regulatory approval have been complied with within the scope of the audit.

### Non-Compliance

Where the auditor has collected sufficient verifiable evidence to demonstrate that the intent of one or more specific elements of the regulatory approval have not been complied with within the scope of the audit.

### Administrative Non-Compliance

A technical non-compliance with a regulatory approval that would not impact on performance and that is considered minor in nature (e.g. report submitted but not on the due date, failed monitor or late monitoring session). This would not apply to performance-related aspects (e.g. exceedance of a noise limit) or where a requirement had not been met at all (e.g. noise management plan not prepared and submitted for approval).

## Not verified

Where the auditor has not been able to collect sufficient verifiable evidence to demonstrate that the intent and all elements of the requirement of the regulatory approval have been complied with within the scope of the audit. In the absence of sufficient verification the auditor may in some instances be able to verify by other means (visual inspection, personal communication, etc.) that a requirement has been met. In such a situation, the requirement should still be assessed as not verified. However, the auditor could note in the report that they have no reasons to believe that the operation is non-compliant with that requirement.

## Observation

Observations are recorded where the audit identified issues of concern which do not strictly relate to the scope of the audit or assessment of compliance. Further observations are considered to be indicators of potential non-compliances or areas where performance may be improved.

## Not Applicable

A condition or requirement has an activation or timing requirement which had not been triggered or completed at the time of the compliance audit and therefore a determination of compliance could not be made.

For each non-compliance, the *likelihood* of harm occurring as certain, likely or unlikely was estimated and the following ratings were applied as per the Risk Analysis Matrix outlined in *Draft Guidelines – Independent Environmental Audits of Mining Projects* (DP&I 2014):

### - High

Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence.

### - Medium

Non-compliance with:

- potential for serious environmental consequences, but is unlikely to occur; or
- potential for moderate environmental consequences, but is likely to occur.

### - Low

Non-compliance with:

- potential for moderate environmental consequences, but is unlikely to occur; or
- potential for low environmental consequences, but is likely to occur

## 3.0 Compliance Audit Findings

The key findings of the biodiversity aspect of the compliance audit are presented in this section. A detailed assessment of compliance with biodiversity aspects of the Project Approval and management plans is provided as checklists in **Appendix B** and photos from the site visit are attached in **Appendix C**.

Specific findings of the biodiversity aspect of the compliance audit in relation to Project Approval, management plans, and environmental performance are provided in **Sections 3.1 to 3.8** with a conclusion in regard to the biodiversity component of the compliance audit provided in **Section 4.0**.

### 3.1 Agency and Community Consultation

A summary of the agencies and community members interviewed during the auditing process is summarised in **Table 3-1**. These personnel were contacted between dates 20/3/18 – 29/3/18.

**Table 3.1 Summary of the government agencies and community members contacted during the audit process.**

Organisation	Personnel	Outcomes
Office of Environment and Heritage	Renee Shepherd, Samantha Wynn	<p>OEH are currently reviewing the revised BMP</p> <p>Advised that the revised BMP is not in line with the Leard Forest Mining Precinct Regional Biodiversity Strategy</p> <p>Satisfied with the amount of communication between themselves and Boggabri Coal</p> <p>Stated that the BMP is a long document and would benefit from brevity wherever possible</p>
Department of Planning & Environment	Heidi Watters	<p>Advised Umwelt to only audit against approved (2015) BMP and not more recent unapproved versions</p> <p>Identified a single non-compliance incident of tree clearing above 35°C</p> <p>Have no major concerns in regards to compliance and Boggabri Coal</p>
Department of the Environment & Energy	Alex Hayes-Graham, Nicholas Scholar, Lachlan Farquhar	<p>Discussion of the relevant overlaps between EPBC approval conditions and State approval conditions</p> <p>Discussed that Boggabri Coal was compliant in DoEE's last annual audit</p> <p>DoEE gave a 2 year extension on Conservation Bonds (2019) in line with</p>

Organisation	Personnel	Outcomes
		State extensions
Division of Resources & Energy	John Trotter	No response, except confirmation that the correct email address had been used
Northwest Local Land Services	Sara Chapman	Identified LLS as not participating in environmental review
Chair of Community Consultative Committee	David Ross	<p>Overall impressed with the way Boggabri Coal interacts with the community</p> <p>Identified the abovementioned non-compliance incident of tree clearing above 35°C</p> <p>Concern that the end biodiversity values will not reflect what was previously there</p> <p>CCC wanted more ground cover species planted at rehabilitation sites</p> <p>Gave Umwelt contacts for all CCC members (all were contacted by Umwelt; two responded)</p>
Member Community Consultative Committee	Catherine Collyer	<p>Overall satisfied with Boggabri Coal's biodiversity performance and how they deal with community concern</p> <p>Identified the non-compliance incident of tree clearing above 35°C</p>
Member Community Consultative Committee	Anna Christie	<p>Overall satisfied with Boggabri Coal's biodiversity performance and how they deal with community concern</p> <p>Identified the non-compliance incident of tree clearing above 35°C</p> <p>Concerned that bird diversity counts in the analogue sites were not representative of the landscape (too low)</p>

### 3.2 Past Audits and Responses to Recommendations

Boggabri Coal has provided responses to the two audits that were carried out in 2014 and 2015 by Graham A Brown and Associates and Umwelt respectively. Boggabri has stated it has responded to all non-compliances from the audits. The response to both audit findings, as well as actions that have taken place in response, can be found in the 2014 and 2015 AMRs. Broadly Boggabri has revised its management plans in response to the audits' recommendations.

### 3.3 Project Approval (PA09\_0182) Non-compliances

Boggabri Coal was found to be operating broadly in compliance with the conditions of the Project Approval that related to biodiversity; however, three (3) non-compliances with conditions (or sub-elements of conditions) were identified where action is required to ensure compliance is achieved. A number of performance observations were also made.

A completed compliance checklist against the biodiversity requirements of the Project Approval is included in **Appendix B**. A summary of the non-compliance issues related to biodiversity aspects of the Project Approval is provided in this section.

#### 3.3.1 Schedule 3, Condition 43 (b)

##### Schedule 3, Condition 43 (b) – Non-compliance

The Proponent shall prepare and implement a revised Biodiversity Offset Strategy for the identified offset areas in Table 15 to the satisfaction of the Secretary. The revised Strategy must:

**(b) be consistent (as far as is possible) with the recommendations and objectives of the Leard Forest Mining Precinct Regional Biodiversity Strategy;**

The 2015 approved BMP was not required to address this condition as the Leard Forest Mining Precinct Regional Biodiversity Strategy had not been approved. The final approved version of the Leard Strategy (Stage 2) was issued in August 2017. While the current (unapproved) draft version of the Boggabri BMP (including the BOS) that has been assessed in other parts of this document is the October 2017 draft, late during the audit period Boggabri Coal provided the auditor with a December 2017 version.

As a result, it is the draft (unapproved) December 2017 BMP (incorporating the BOS) that is assessed for compliance or otherwise in relation to this condition. This version was submitted to OEH for their review in December 2017, and OEH's review comments were provided back to Boggabri Coal in April 2018.

Overall, this audit finds that there is a non-compliance with Condition 43 (b), as well as with Condition 50 (b) (see below). While Boggabri Coal have demonstrated consistency with much of the Leard Strategy, in relation to the BMP and the BOS, there are a number of aspects that are not adequately consistent. The way in which the BMP and BOS are constructed means that there is fairly significant overlap in how a range of commitments and actions across both the operational and non-operational site and biodiversity offsets are reported. The BOS itself is part of the BMP. Therefore, for simplicity, the elements that are regarded as being non-compliant are documented under Condition 50 (b) below.

##### **Risk Rating**

It is regarded that there is low potential for environmental consequences given that a previously approved BOS is in place, and that this is likely to occur.

The overall risk rating is 'Low'.

##### **Recommendation**

*It is recommended that Boggabri Coal revise their December 2017 version of the BOS to appropriately incorporate the recommendations and objectives of Stage 2 of the Leard Forest Mining Precinct Regional Biodiversity Strategy. This should take into account OEH's review (dated 13 April 2018), and also any specific site-based factors that justify a modification to the approach documented in the Leard Regional Strategy. This could include a staged approach to certain components, including monitoring/performance feedback outcomes.*

## Schedule 3, Condition 50 (b)

### Schedule 3, Condition 50 (b)

**The Proponent shall revise the Biodiversity Management Plan within 30 months of the date of this approval, or within 6 months after the approval of Stage 2 of the Leard Forest Mining Precinct Regional Biodiversity Strategy, whichever is sooner. The revised plan must:**

**(b) demonstrate consistency with any findings of Leard Forest Mining Precinct Regional Biodiversity Strategy;**

It is understood that there has been significant delay in the finalisation of the Leard Strategy (Stage 2). The reasons behind this are complex and are not necessarily the responsibility of Boggabri Coal. In relation to Condition 50 (b) it is taken that the second part of the time trigger (within 6 months of approval of Stage 2 of the Leard Forest Mining Precinct Regional Biodiversity Strategy) applies in relation to this audit. While the current (unapproved) draft version of the Boggabri BMP that has been assessed in other parts of this document is the October 2017 draft, late during the audit period Boggabri Coal provided the auditor with a December 2017 version. As a result, it is the draft December 2017 BMP that is assessed for compliance or otherwise in relation to this condition. There have been no further iterations of the BMP since then. This version was submitted to OEHL for review in December 2017, and OEHL's review comments were provided back to Boggabri Coal in April 2018.

As noted in Condition 43 (b) above the way in which the BMP and BOS are constructed means that there is a fairly significant overlap in how a range of commitments and actions across both the operational and non-operational site and biodiversity offsets are reported. The BOS itself is part of the BMP. Overall, this audit finds that there is a non-compliance with Condition 50 (b), as well as with Condition 43 (b) (see above). While Boggabri Coal have demonstrated consistency with much of the Leard Strategy, in relation to the BMP and the BOS, there are a number of aspects that are not adequately consistent. For simplicity, the elements that are regarded as being non-compliant against both Condition 43 (b) and Condition 50 (b) are documented under Condition 50 (b) below.

While the revised draft December 2017 BMP was submitted within 6 months of the Final Stage 2 Leard Strategy, and it has incorporated some elements of the recommendations of the Leard Regional Strategy, there are many recommended monitoring opportunities and completion criteria that have not been incorporated. There is also inadequate application of the SMART principles in the completion criteria of the biodiversity offset areas (BOAs). Sections of the Leard Regional Strategy that have not been incorporated (in part or fully) include:

### **Strategic Biodiversity Offset Monitoring Opportunities (table 2.2 of strategy):**

- 1.1 Natural regeneration:** Autumn/spring monitoring events are not included (this is the same for section 1.3 of the strategy).
- 2.1 Salvage of habitat resources:** no mention of monitoring the usage of salvaged habitat.
- 2.2 Habitat augmentation and nest box installation:** the BMP does not explain how it arrived at the 1 nest box per hectare measurement (in relation to the Leard Strategy requiring the number of hollows at the offset site to be at least as many as those number of utilised hollows that are removed from the impact site (the offset hollows can be natural hollows and/or nest boxes). There is also no mention of monitoring for signs of use by fauna.
- 5.1 Connected landscapes and broader regional corridors:** no mention of radio tracking, bird banding, or remote camera use to monitor fauna use of connected landscapes.

## **Strategic Biodiversity Performance Measures and Preliminary Completion Criteria (table 2.3 of strategy):**

Completion criteria for Strategic Focus Area 1 have not been adopted in the completion criteria of the BOAs.

- 2.1 Habitat augmentation and nest box installation:** completion criteria in the BMP only asks for provision of nest box installation – it does not require fauna to actually use the structures. The Leard Strategy requires 80% of the nest boxes installed to be utilised by native species.
- 5.1 Connected landscapes and broader regional corridors:** BMP has no completion criteria for the success of any habitat corridor.

### **Risk Rating:**

It is regarded that there is potential for low environmental consequences, and that this is likely to occur.

The overall risk rating is 'Low'.

### **Recommendation:**

*It is recommended that Boggabri Coal revises its draft December 2017 BMP to appropriately reflect the recommendations and objectives set out in Stage 2 of the Leard Regional Strategy (final August 2017). It is advised that particular attention is given to tables 2-1, 2-2, and 2-3 of the strategy when considering management plans, monitoring procedures, and completion criteria. This should take into account OEH's review (dated 13 April 2018), and also any specific site-based factors that justify a modification to the approach documented in the Leard Regional Strategy. This could include a staged approach to certain components, including monitoring/performance feedback outcomes.*

### 3.3.2 Schedule 3, Condition 54

#### Schedule 3, Condition 54 – Non-compliance

**The Proponent shall prepare a Eucalyptus Forestry Plantation Offset Strategy to the satisfaction of Forests NSW, within 12 months of the date of this approval. The Forestry Plantation Offset Strategy shall provide at least a minimum 168 ha plantation area (as committed in the EA), or alternative as agreed by Forests NSW. The Strategy shall identify proposed funding and management arrangements for the development and maintenance of the plantation offset. If there is a dispute over these requirements, either party may refer it to the Secretary for resolution, whose decision shall be final.**

Boggabri Coal submitted a Forestry Planation Offset Strategy in July 2013. This strategy was submitted to Forests NSW, and Boggabri Coal is waiting for a final response. It is understood that while the strategy has not been accepted, nor has it been rejected. As it has been approximately 5 years since the report was submitted, and more than 12 months since project approval, this approval condition is considered to be a non-compliance. Boggabri Coal has not been able to provide evidence of any communications with Forestry NSW, or any other government agencies, approving Boggabri Coal for an extension on this timeframe.

#### **Risk Rating:**

The non-compliance is regarded as having potential for low environmental consequences, and is likely to occur.

The overall risk rating is 'Low'.

#### **Recommendation:**

*It is recommended that Boggabri Coal seeks to continue to work with Forestry NSW to develop a Plantation Offset Strategy that both parties agree is mutually beneficial; or that if this is not possible the matter is referred to the Secretary for resolution.*

## 3.4 Observations from Review of the Unapproved Biodiversity Management Plan

There is currently a BMP in review and Umwelt has included this draft document in the IBA. There are two observations that have been noted in the audit of this BMP. The identification of these observations is therefore to be used by Boggabri Coal to adjust the draft BMP.

### Schedule 3, Condition 49

#### Schedule 3, Condition 49 (b) – Observation

**The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Director-General. This plan must:**

- (b) describe how the implementation of the biodiversity offset strategy would be integrated with the overall rehabilitation of the site;**

The BMP addresses this broadly in Section 7.18 Objective 18 — an integrated approach to biodiversity management. This includes an aim, broad management strategies, simple performance criterion and a medium-term timeframe. Table 7.3 identifies that this is to be undertaken with a frequency as required over the long-term. Although there is a large degree of consistency between the BMP (in relation to biodiversity offsets) and site rehabilitation, the document does not specifically address how the BOS would be integrated with the overall rehabilitation of the site.

This could be achieved through the provision of more specific actions/documentation, including mapping showing the final proposed BOA, site revegetation/retained vegetation and mine rehabilitation vegetation communities and suitable habitat for threatened fauna species.

**Risk Rating:**

While a risk rating is not strictly required for an Observation, it is noted that this matter is regarded as having the potential for low environmental consequences, but is likely to occur, therefore the overall risk rating is 'Low'.

**Recommendation:**

*It is recommended that the BMP be revised to include clear descriptions and appropriate details (including mapping) of how the Biodiversity Offset Strategy will be integrated with the overall rehabilitation of the site.*

### 3.4.1 Schedule 3, Condition 49

**Schedule 3, Condition 49 (e) – Observation**

**The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Director-General. This plan must:**

- (e) include a detailed description of the measures that would be implemented including the procedures to be implemented for:**
  - (xiv) translocating and/or propagating the threatened flora species *Tylophora linearis* located within the project disturbance boundary - including details of methods and timing of propagation trials and programs and investigations into assisted natural regeneration in mine site rehabilitation and biodiversity offset areas.**

While the October 2017 draft (unapproved) Management Plan (in review) does have a translocation plan, it does not mention assisted regeneration.

**Risk Rating:**

While a risk rating is not strictly required for an Observation, it is noted that there is potential for low environmental consequences, and this is likely to occur, therefore the overall risk rating is 'Low'.

**Recommendation:**

*It is recommended that Boggabri Coal modify the draft BMP to ensure the approval condition is fully addresses and, once approved, begin to enact the translocation plan.*

## 3.5 Management Plans

Boggabri Coal has developed a number of environmental management strategies, plans and monitoring programs for the Project related to biodiversity in accordance with the relevant requirements of the Project Approval. These documents address specific biodiversity impacts associated with the Project and reflect the requirements detailed in the Project Approval. The strategies and plans required to be prepared, and reviewed as part of the biodiversity aspect of the audit, include:

- Leard Forest Mining Precinct Regional Biodiversity Strategy;
- Biodiversity Management Plan;

- Rehabilitation Management Plan; and
- aspects of the Water Management Plan that relate to biodiversity, including:
  - Surface Water Management Plan, specifically in relation to performance criteria for impacts on stream and riparian vegetation health; and
  - Groundwater Management Plan, specifically in relation to a program to monitor the impacts of the Project on groundwater dependent ecosystems (GDEs) and riparian vegetation.

Overall, the audit found that the management strategies, plans and programs that had been prepared for the development were generally adequate and prepared in accordance with the relevant compliance requirements. The Project Approval conditions relating to biodiversity and water management were found to be adequately covered in the Surface Water Management Plan and Groundwater Management Plan (note that the review of these plans only focussed on the specific requirements relating to biodiversity). The majority of the management measures outlined in the Biodiversity Management Plan, in particular, are being undertaken in comprehensively or in some manner across the Boggabri site, as is both practically and temporally feasible. A range of commitments relating to tree-felling procedures, rehabilitation, access control and soil testing were found to be being carried out from the site inspection or through reporting requirements.

During the site inspection Umwelt observed that, in general, pre-clearing and Stage 1 and 2 clearing activities appeared to be undertaken as per the BMP requirements. Umwelt noted a departure from some measures including absence of implementation of the radio-tracking program.

The audit identified a number of areas in which the measures outlined in the management plans were not being implemented. Some of the key areas of non-conformance are discussed below.

Condition 49 (e-v) of Schedule 3 of the Project Approval requires that impacts to fauna on site be minimised. During a scheduled tree clearing event, clearing took place above the 35°C temperature limit. This is discussed further in **Section 3.6**.

Condition 49 (b) requires the proponent to describe how the implementation of the biodiversity offset strategy would be integrated with the overall rehabilitation of the site. Although this is addressed to some degree, there is little detail. It is recommended that the BMP provide detail on how the biodiversity offset strategy will be consistent with the overall rehabilitation of the site, including figures showing the final proposed BOA, site revegetation/retained vegetation and mine rehabilitation vegetation communities and suitable habitats for threatened fauna species.

Future versions of the BMP could benefit from further editing to draw out specific plans, strategies and actions and show specifically how and where they address approval conditions. Using the same terminology as the approval, as well as the Leard Strategy, would also ensure that auditing, and implementing management actions, could be more readily facilitated, tracked and assessed.

A major short falling of the revised BMP (currently under review) is that it has not adequately incorporated the recommendations of Stage 2 of the Leard Forest Mining Precinct Regional Biodiversity Strategy.

## 3.6 Incidents

During the interview process, Umwelt was informed by DPE and CCC members that Boggabri Coal had an incident that resulted in failure to implement the approved BMP. The breach in compliance resulted when tree clearing operations occurred over the 35°C limit. Clearing above this temperature occurred for only ten minutes. Boggabri Coal self-reported to DPE and were issued with a caution and have since modified their procedures to minimise the risk of a reoccurrence of the event. It is understood from review of records and interviews that this is a very isolated, unusual event.

During the last biodiversity audit Boggabri Coal (2015) made the audit team aware of unapproved under-scrub clearing that took place on an occasion in 2014. Review of this incident is not in the scope of this audit, however Umwelt audited the restoration and management requirements provided to Boggabri Coal by DPE (and within the audit time period). Evidence sighted included a letter from Boggabri Coal to DPE (dated 29 May 2015) detailing the company's response and further commitments, as well as evidence gained through a visual inspection of the site. There is a rehabilitation plan in place for the cleared area and a visual inspection showed that the area was recovering well (although there is limited presence of some uncontrolled weed species) and that adequate fencing and signage was in place. Umwelt also notes that the offset requirement of 19.25 ha has been entirely met with 19.3 ha offset of suitable vegetation/habitat. The tree felling practices on site have been improved since the incident and as reported in this document are adequate, and monitoring of the site's recovery is being undertaken.

## 3.7 Environmental Performance

### 3.7.1 Overall Performance

The audit found that, overall, there was a generally good level of biodiversity performance at the Boggabri Mine site. In terms of on-site environmental management, site staff displayed a good understanding of the key biodiversity issues and were focused on implementing measures that would minimise impacts and achieve good biodiversity/environmental outcomes. A wide range of environmental management measures related to biodiversity were in place at the site, including a detailed and effective vegetation clearance procedure to minimise the impacts on key biodiversity features across the site.

Boggabri Coal did operate in a non-compliant manner when they cleared vegetation above the 35°C limit. They did not formally raise this issue during the audit process, Umwelt was informed during the interview process, however their response to the incident at the time is considered sound and they have modified their procedures to minimise the risk of this happening again.

Tree-clearing surveys and operations were found to be undertaken by experienced ecologists who had sound knowledge of the key ecological features of the site. The clearing protocols were implemented effectively and professionally with good communication and interactions between the ecologists and machinery operators. Completed Tree Clearing Reports were sighted from previous vegetation clearance events outlining the procedures undertaken, species recorded and any relevant results recorded. Site staff who participated in the clearing operations also had a sound working knowledge of the requirements and communicated such knowledge clearly and professionally.

The environmental management systems appear to be functioning in an effective manner. A review of the monitoring reports shows no concern that the rehabilitation and restoration efforts will fail, however it should be noted that much of this work is in its infancy, and in general the rehabilitation areas appear to be performing at least moderately well, although it is likely that they would benefit from some deliberate intervention (see **Section 3.7.2** below)

Boggabri's management systems include risk assessments, TARPs (in the Rehabilitation Management Plan), and monitoring and completion criteria (see section 3.4 for discussion on these criteria).

Due to the fact that a revised BMP (October 2017) has been submitted to the relevant government agencies Umwelt reviewed this unapproved version of the BMP as well as the approved (January 2015) version of the BMP. Key elements were largely the same but there were some changes.

### **3.7.2 Review of Performance of Rehabilitation and Biodiversity Offsets Against Completion Criteria**

#### **3.7.2.1 Schedule 3, Condition 53 (b) – Rehabilitation Performance**

##### **Background**

Boggabri is required to establish and maintain rehabilitation in accordance with project approval conditions the approved Rehabilitation Management Plan (approved version is October 2015). Section 4.1 of the RMP presents the overarching rehabilitation objectives for the site. The overarching rehabilitation objectives are supplemented by domain specific rehabilitation objectives which are described in Appendix A of the RMP. Section 5 of the RMP illustrates the rehabilitation domains for the site (Figure 5.1), while Table 5.1 lists the primary domains, landscape goals and final land use that are proposed. Table 9-3 of the BMP presents the biodiversity management completion criteria relating to mine rehabilitation.

In order to determine progress towards, or achievement of the completion criteria, averaged data from each stratification within the monitoring sites is proposed to be compared with the averaged benchmark data (Table 9-4 of the BMP). The benchmark figures are an average of measurements taken from quadrats within the Boggabri Coal project Boundary.

Table 6.1 of the RMP presents the description of the broad vegetation types that currently exist within the Project Boundary and are the proposed vegetation types to be rehabilitated within the post mining landscape. About 858 ha of shrubby woodland community are proposed to be rehabilitated on the steeper upper slopes with about 500 ha of grassy woodland proposed on the gently lower slope areas of the post mining landform. About 150 ha of riverine woodland are proposed to be rehabilitated within the existing and proposed drainage lines in the final landform. These are illustrated in Figure 6.1 of the RMP. The areas of native grassland for pasture are yet to be determined however include any remaining areas. Details on the vegetation communities to be rehabilitated within the mine disturbance boundary are provided in Table 6.2 of the RMP.

Section 6.3.1.4 describes the habitat creation that is proposed, requiring the provision of significant fauna habitat resources to encourage fauna use and functioning of the natural ecosystem, representative of the relevant analogue site. Materials salvaged during construction, such as hollow bearing trees or stags will be used as part of the rehabilitation in a manner which does not place fauna in danger of injury (i.e. hollow bearing trees/stags should not be placed next to the haulage route).

##### **Monitoring Results**

Biodiversity monitoring of rehabilitation areas is completed annually to assess the biodiversity status of rehabilitated areas to further guide rehabilitation methodologies, procedures and maintenance activities, in order to achieve site rehabilitation objectives. The monitoring reports on aspects of ecosystem establishment and ecosystem development.

The most recent rehabilitation monitoring report (May 2017), addressing the 2016 monitoring year, notes that rehabilitation monitoring for the reporting period was undertaken on 24 to the 28 October 2016 within four monitoring plots located within rehabilitation areas (refer to Table 8-2 of the report). The monitoring program involved bird surveys, invertebrate pitfall trap surveys, micro-bat surveys, Biobanking plots and vegetation transects.

BioBanking plots adhere to the methodology described in the Office of Environment and Heritage guideline (2014). In addition, the surveys include photographic monitoring to track changes in plant growth and ecology of the rehabilitated areas.

Section 6 of the 2016 mine rehabilitation area biodiversity monitoring report documents the results of the monitoring from that year, as well as previous years where relevant. These are also summarised in the 2016 AEMR (dated 31 March 2017). Results are reported for photographic monitoring, vegetation, salinity impacts on biodiversity, birds, bats and invertebrates. The 2016 monitoring report states that:

The rehabilitation area appears to also be reaching and in some circumstances exceeding the BioBanking benchmark values for Box Gum Woodland. The majority of rehabilitation monitoring sites now meet or exceed the native species richness as well as the overstorey and midstorey percentage foliage cover benchmarks (except for RH2011, which represents the youngest planted cohort of canopy species). However, the native grass groundcover is still yet to meet the benchmark values. Although large areas of the rehabilitation area contain bare ground, other native species (such as herbs, forbs and shrubs) are starting to reach the benchmark values.

Table 3.2 of the monitoring report presents a summary comparison of rehabilitation monitoring sites against Box Gum Woodland BioBanking benchmark values.

The exception to the strong benchmark-comparable values was the native grass groundcover percentage cover which is still yet to meet the benchmark values. The groundcover was predominantly comprised of bare ground however did have a moderate covering of other native species (such as herbs, forbs and shrubs). Additionally the Rhodes Grass (*Chloris gayana*\*) which originally occurred in high densities and dominated the groundcover at one site has decreased dramatically over the previous few years with only a few scattered individuals recorded during the 2016 survey.

For fauna groups the monitoring results were generally reasonably promising. For diurnal birds, the data indicate that the more structurally diverse analogue monitoring sites within the Leard State Forest remnant retained a slightly higher mean diurnal bird diversity than the mine rehabilitation area. Diurnal bird abundance is similar between the mine rehabilitation area and the larger Leard State Forest remnant between 2013 and 2016. Although the suite of diurnal birds actively using the mine rehabilitation area is encouraging, a low diversity of threatened woodland birds were recorded therein, likely due a deficiency in the structural complexity of available habitat, although one woodland specialist threatened species, the speckled warbler, was recorded.

Micro-bat species richness and activity (surrogate for abundance) were comparable to analogue sites.

Invertebrate diversity in the mine rehabilitation area was similar to that recorded in the larger Leard State Forest remnant. The results from the 2016 monitoring event in the mine rehabilitation area shows that the native species diversity and structure of the vegetation are progressing over time. In addition, threatened species of bird continue to be recorded from habitats available in the mine rehabilitation area.

## **Conclusion**

Overall the findings support the likelihood that the rehabilitation area, in its current coverage, is trending towards developing the structure and species diversity of the relevant vegetation types, as well as reasonable fauna presence/habitat utilisation for diurnal birds, micro-bats and invertebrates. The likely self-sustainability of the system is not necessarily well measured as yet. Evidence from the site inspection showed that there was regeneration of some tree species, including evidence of reproductive structures. It would be valuable to monitor and report on this more comprehensively in future.

Table 9.3 and 9.4 in the BMP put forward benchmarks and completion criteria for the following attributes, which do not appear to be formally measured in the rehabilitation monitoring report:

- Hollows
- Logs
- Regeneration
- Exotic plant cover.

These are briefly mentioned in Table 3.2 of the report. The inclusion of these (through more precise measurements) in the monitoring and reporting program would be valuable, particularly where efforts are made (see recommendations below) to improve recovery and sustainability through trialling certain applications.

## **Recommendations**

- It would be of value in future monitoring to report actual data for all 10 of the biometric values included in the completion criteria. Currently actual data is not reported for hollows, logs, regeneration and exotic plant cover.
- Further to the point above, to provide useful information on the likely long-term self-sustainability of the rehabilitated native ecosystem areas, it would be valuable to collect more detailed and widespread information on regeneration/recruitment of plant species. This would include information on second and third generation individuals (where such knowledge is practically attainable, such as for trees) and presence of reproductive structures. This will provide useful guidance in future years on any further measures that might be required to assist the long-term persistence of the revegetated vegetation and habitats.
- Undertaking trials of certain management approaches would be of value, again to provide valuable information on the likely long-term suitability of the rehabilitated areas for threatened species and self-sustainability. For example, trialling a number of areas for eucalypt thinning (where tree canopies are crowded and do not appear to naturally thin after 10 years) to ascertain if native ground cover and second and third generation trees and shrubs can be stimulated. This would need to be undertaken in careful consideration of the risk of weed invasion, particularly Rhodes grass. Furthermore, trialling the establishment of nest boxes placed on poles amongst established regeneration, to encourage further use of the rehabilitation by micro-bats, birds and arboreal mammals.

### 3.7.2.2 Schedule 3, Condition 53 (c) Biodiversity Offset Area Performance

#### Background

Boggabri is required to establish and maintain biodiversity offset sites in accordance with project approval conditions the approved Biodiversity Management Plan (approved version is January 2015), which incorporates Section 8 – Implementation of the Biodiversity Offset Strategy. Section 9 of the BMP deals with the monitoring, inspection and reporting program, and includes Table 9.7 which documents the completion criteria for biodiversity management within BOAs. Completion criteria have also been developed for each BOA (contained in Appendix E of the BMP). The criteria are directly linked to analogue sites sampled as part of the Biodiversity Monitoring Program. In order to demonstrate achievement of the completion criteria, specific environmental indicators (e.g. foliage cover) within each BOA will be expected to equal or exceed values obtained from analogue sites. Analogue sites used to reference environmental condition will represent the goal state of each biodiversity offset.

Four distinct management zones are recognised within the BOAs. These zones are classified according to environmental condition and the distinct suite of management measures required maintaining, enhancing or restoring biodiversity values within these areas. The four management zones comprise:

- Habitat management
- Habitat restoration
- Corridor enhancement
- Other lands for agriculture

The management of BOAs requires a combination of both passive (e.g. retaining fallen timber) and active (e.g. revegetation) measures. The type and extent of management measures required differ between the offset management zones (shown in Table 8-3 of the BMP). Management measures associated with the maintenance, enhancement and restoration of BOAs are described in Section 8.2.1 of the BMP. Specific measures for each BOA are provided in separate management plans, in Appendix E of the BMP.

#### Biodiversity Offset Monitoring Results

Biodiversity offset monitoring comprises vegetation, diurnal birds, nocturnal birds, microchiropteran bats and bi-annual surveys of nocturnal mammals. The reporting for the 2015 biodiversity offset monitoring event (reported in the 2016 Biodiversity Offset Area Monitoring Report dated March 2017, and the 2016 AEMR) was completed in August 2016 and is summarised below.

The 2015 biodiversity offset monitoring represents the first year of biodiversity monitoring completed on all ten of the BOAs for the Project. The 2015 event followed the 2012 and 2014 baseline monitoring survey, which highlighted the baseline biodiversity values associated with the five BOAs outlined in the BOS. Since the 2012 and 2014 monitoring events, the BOS has been updated with five additional BOAs that create direct linkages or key stepping stones for a regional east-west wildlife corridor. The ten BOAs contain large patches of remnant vegetation and high quality habitats adjoining existing vegetated lands.

The 20156 monitoring report presents the results of monitoring and includes a comparison against benchmarks (for most biometric values) and also a comparison of Habitat Management Zone data (taken to be the benchmark for fauna) and the Habitat Restoration Zones for vegetation, diurnal bird and micro-bat data. Reporting of biometric benchmark data in the monitoring report is limited to 6 of the 10 biometric attributes, with results for hollows, logs, regeneration and exotic plant cover summarised as is done in the rehabilitation monitoring report (see **Section 3.6.2.1** above).

The 2015 biodiversity offset monitoring event represents the first year of monitoring to encapsulate all ten BOAs that form part of the BOS. Given it represents the baseline monitoring session for five of the ten BOAs, the 2015 monitoring event has been treated as a baseline monitoring session for all ten BOAs. The 2016 AEMR states that this will provide a more ecologically and statistically robust ecological monitoring program leading into the future.

### **Conclusion**

The biodiversity offset areas and the monitoring program are in their infancy in relation to their management, restoration and improvement of biodiversity values. To date biodiversity monitoring has focussed on establishing good baseline data against which future changes can be compared. It is only in the last year of monitoring that all biodiversity offset areas have been able to be monitoring in totality. As such, it is not possible in this audit to undertake a meaningful assessment of the performance of management and restoration in the off-site Biodiversity Offset Strategy areas completed to date against the completion criteria in the BMP. This will however be possible at the next audit 3 years from now. It should be noted that the site inspection revealed that, overall, native plantings in the BOAs were establishing well. There was one (relatively small) area of several hectares in the Wirrilah BOA that had performed poorly, and this was being investigated by Boggabri Coal. Overall this comprised a small area of failure compared against a significant area of (preliminary) successful establishment. Habitat Management Areas that were inspected appeared to be in suitable condition for management actions rather than requiring significant restoration actions, and weed and pest control (for the older offset sites) appeared to be suitable.

### **Recommendations**

- It would be of value in future monitoring to report actual data for all 10 of the biometric values included in the completion criteria. Currently actual data is not reported for hollows, logs, regeneration and exotic plant cover.
- Trialling different forms of planting other than strip-based tubestock is encouraged. It is understood that there must be a careful balance between meeting restoration objectives and financial cost. However, in some areas it is recommended that patch planting is trialled, where the prospects for in-filling between patches through natural regeneration/recruitment are high.

## **3.8 Recommendations for Continual Improvement**

As per Schedule 3, Condition 53 (b-e) Umwelt is required to assess the performance of the on-site rehabilitation areas and off-site biodiversity offset areas against their performance and completion criteria. Umwelt notes that the biodiversity offset areas are in their infancy and most of the completion criteria cannot have been met at this stage. As such the auditors also cannot make strong predictions on whether these areas are 'trending towards being met', although there was no strong evidence to suggest that the trends of recovery-re-establishment in these areas was other than one that was positive. It is a similar case for mine rehabilitation, although in some cases there are substantial areas of plantings that are now well over 5 years old and approaching 10 years old. In the rehabilitation areas, however, there appears to be a distinct possibility that the rehabilitated woodland could become 'locked up' and this could lead to a lengthening of time required for the development of floristically and structurally more complex vegetation community and habitat. At this stage nest boxes are not proposed to be established until tree girth is large enough to sport next boxes. In the BOAs it is possible that completed revegetation works could be intensive than they need be. It might be possible to apply a 'less dense' application of tube stock to much larger areas of derive native grassland and, through natural regeneration and recruitment, 'infill' the areas where planting is not undertaken. If successful, this could lead to significant cost savings and enable the mine to direct biodiversity management resources elsewhere.

It is recommended that Boggabri Coal consider implementing the following:

- Trial some thinning of dense eucalypts in woodland rehabilitation to stimulate the growth of those remaining and also to stimulate general flora species diversity and establishment.
- Establish nest boxes (targeting those fauna species that are the subject of Condition 45) in the rehabilitation area to provide more structural and habitat diversity to encourage occupation by threatened fauna species.
- Trial some 'clump' or 'pocket' plantings in the biodiversity offset areas. Rather than broadscale planting in rows, seek to introduce some habitat heterogeneity through the establishment of clumps with unplanted spaces in between that are available for eucalypt etc recruitment from the clumps.
- Dedicate small but appreciable portions of BOAs and the rehabilitation area to these trials and undertake appropriate monitoring over several years to detect if any positive differences result.

While Boggabri Coal has largely been compliant with its approval conditions there is room for improvement, as follows:

- Rehabilitation and restoration efforts would be improved if there was a chain of custody for the movement of habitat and soil stockpiles. This would involve recording the removal location, date and condition of the salvaged material; the area the salvaged material was stored and for how long; the date and location of where the salvaged material is eventually placed. The TARP in the Rehabilitation Management Plan should be adapted and included into the BMP. Stage 2 of the Leard Forest Regional Strategy includes a TARP that would be easily adapted for Boggabri Coal.
- As stated in **Section 3.4** Stage 2 of the Leard Forest Regional Strategy has not been implemented fully. Many aspects of the BMP are not in line with stage 2 of the strategy; completion criteria are broad, and hard to measure and without reasonable timeframes; performance criteria are simple; and overall it does not follow the SMART principles. It is recommended that Boggabri Coal incorporate tables 2.1-2.3 of Stage 2 of the regional strategy into section 6 and 7 of the BMP.
- It is recommended that broad scale mapping of how the BOA restoration areas and the project rehabilitation areas fit together is created. This would optimally include the differing vegetation communities being established and the key habitat corridors being produced.

## 4.0 Conclusion

The biodiversity aspect of the audit found several non-compliances and an administrative non-compliance with the Project Approval that apply to the Boggabri Coal Mine. Many of these issues were of a more technical nature relating to formal compliance management, including in particular appropriate documentation. Overall on-site environmental management performance of the site was found to be generally good to very good, with excellent knowledge amongst staff and relevant contractors.

The BMP and RMP are generally comprehensive documents which mostly comply with the approval conditions. However in a small number of cases there are non-compliances and observations.

All non-compliances can be readily addressed through improved documentation and practice where relevant.

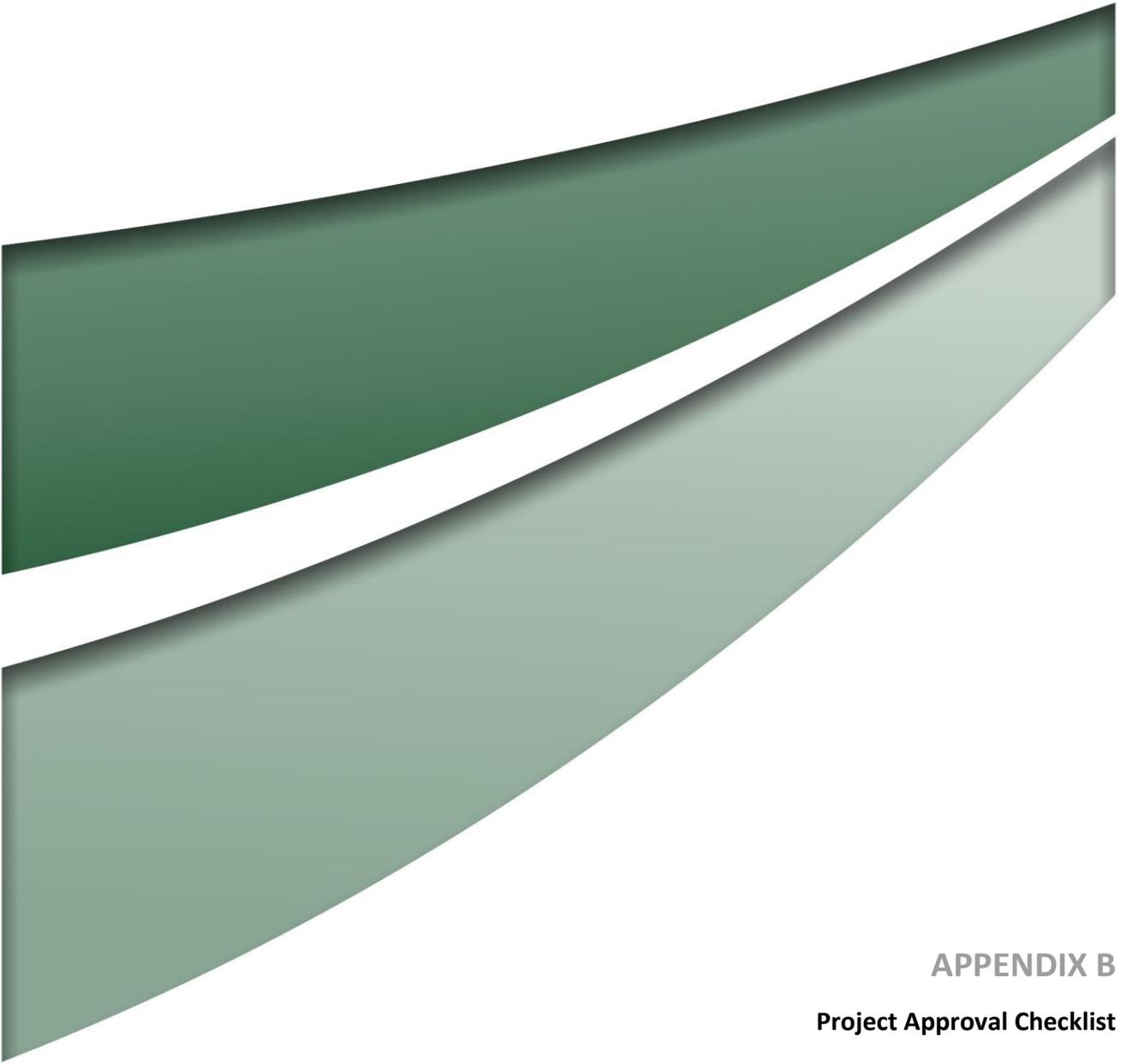


**APPENDIX A**

**Independent Audit Certification Form**

# Appendix A Independent Audit Certification Form

<b>Independent Audit Certification Form</b>	
Development Name	Boggabri Coal Mine
Development Consent No.	09_0182
Description of Development	Independent Biodiversity Audit
Development Address	386 Leard Forest Road, Boggabri New South Wales 2382
Operator	Idemitsu
Operator Address	Level 1 60 Albert Street Brisbane QLD 4000
<b>Independent Audit</b>	
Title of Audit	Boggabri Coal Mine Independent Biodiversity Audit
<p><i>I certify that I have undertaken the independent audit and prepared the contents of the attached independent audit report and to the best of my knowledge:</i></p> <ul style="list-style-type: none"> <li><i>The audit has been undertaken in accordance with relevant approval condition(s) and in accordance with the auditing standard AS/NZS ISO 19011:2014 and Post Approval Guidelines – Independent Audits</i></li> <li><i>The findings of the audit are reported truthfully, accurately and completely;</i></li> <li><i>I have exercised due diligence and professional judgement in conducting the audit;</i></li> <li><i>I have acted professionally, in an unbiased manner and did not allow undue influence to limit or over-ride objectivity in conducting the audit;</i></li> <li><i>I am not related to any owner or operator of the development as an employer, business partner, employee, sharing a common employer, having a contractual arrangement outside the audit, spouse, partner, sibling, parent, or child;</i></li> <li><i>I do not have any pecuniary interest in the audited development, including where there is a reasonable likelihood or expectation of financial gain or loss to me or to a person to whom I am closely related (i.e. immediate family);</i></li> <li><i>Neither I nor my employer have provided consultancy services for the audited development that were subject to this audit except as otherwise declared to the lead regulator prior to the audit; and</i></li> <li><i>I have not accepted, nor intend to accept any inducement, commission, gift or any other benefit (apart from fair payment) from any owner or operator of the development, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.</i></li> </ul> <p>Note.</p> <p>a) <i>The Independent Audit is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.</i></p> <p>b) <i>The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or \$22,000, or both).</i></p>	
Signature	
Name of Lead / Principal Auditor	Travis Peake
Address	75 York Street, Teralba NSW 2284
Email Address	tpeake@umwelt.com.au
Auditor Certification (if relevant)	
Date:	15/05/2018



**APPENDIX B**

**Project Approval Checklist**

# DRAFT

Project Approval No 09\_0182  
Approval Dated 18 July 2012

Schedule	Condition No.	Requirement	Compliance C/NC/ANC/NA/V	Evidence Sighted	Comments	Further Evidence Required	Observations	Risk Assessment
	39	The Proponent shall implement the Biodiversity Offset Strategy described in the EA, summarised in Table 15 and shown conceptually in Appendix 7, to the satisfaction of the Secretary.	C	Biodiversity Offset Strategy (2017), approved in 2017. Site visit conducted March 2018 sighted offset properties and the works being done in each management area.				
	<b>Leard Forest Mining Precinct Regional Biodiversity Strategy</b>							
		The Proponent shall commission and fund the preparation of a Leard Forest Mining Precinct Regional Biodiversity Strategy, jointly with all other coal mines within the Precinct. The Strategy shall be coordinated through the Department (refer condition 42 below) and prepared by suitably qualified, experienced and independent person/s whose appointment has been endorsed by OEH and subsequently approved by the Secretary, in the following stages:	C	Sighted tax invoices dated 29/01/2013, 28/02/2013 and 20/05/2013 for the Stage 1 Leard State Forest Precinct Regional Biodiversity Strategy Report to Eco Logical Australia.  Correspondence with Steve O'Donoghue from DPE confirms that Stage 1 was funded by Boggabri with Boggabri being approved first prior to the approvals for Maules Creek and Tarrawonga.				
		<u>Stage 1 – Scoping Stage</u> A scoping report for development of the Strategy must be submitted, within 6 months of the date of this approval, for endorsement by OEH and subsequent approval by the Secretary. The Secretary may extend NSW Government 24 Department of Planning and Environment this period with the agreement of OEH. The scoping report must:	ANC	Stage 1 report was not submitted for endorsement by the Secretary by 18 January 2013 as required by this condition, however a letter from DPE was sighted dated 19/12/12 granting an extension until the end of July 2013. Sighted draft Stage 1 Scoping Report (Eco Logical May 2013) provided to DPE via email on 5/6/13.  Sighted Stage 1 Scoping Report (Umwelt 2015).				ANC-late submission of report.
	40	(a) include terms of reference, scope and objectives for the Strategy, including recommendations for the Strategy's geographic extent;	C	Sighted final Stage 1 Scoping Report (Umwelt 2015) which has the Terms of Reference in Section 2.0 and proposed geographic extent in Section 4.0.				
		(b) identify the ongoing functions and members of the working group (see condition 41 of Schedule 3);	C	Sighted final Stage 1 Scoping Report (Umwelt 2015) which has the Working Group outlined in Section 6.2.				
		(c) include a project management plan of the Strategy, with a time schedule, indicative dates for working group meetings, review and milestones for completion;	C	Sighted final Stage 1 Scoping Report (Umwelt 2015) which has the time schedule outlined in Section 8.0, including workgroup meeting dates, reviews and other proposed milestones.				
		(d) include a funding program for the development of the Strategy, including provision of adequate resources for the participation of working group members; and	C	Sighted final Stage 1 Scoping Report (Umwelt 2015) which has the Project Funding outlined in Section 7.0.				
		(e) include a consultation/communications program for the Strategy.	C	Sighted final Stage 1 Scoping Report (Umwelt 2015) which has the Consultation and Communications Program outlined in Section 6.3.				
		<i>Note: The broad terms of reference must be guided by the Planning Assessment Commission (PAC) merit review for the Boggabri Coal Mine (February 2012) - Recommendation 1 for the development of a regional biodiversity strategy.</i>	C	Evidenced by 'Leard Forest Regional Biodiversity Strategy Stage 1 - Scoping Report' (Umwelt 2015).				
		<u>Stage 2 – Strategy Development</u> The Strategy must be developed in accordance with the approved Scoping Stage report and submitted for endorsement by OEH and subsequent approval by the Secretary within 18 months of the date of this approval. The Secretary may extend this period with agreement of OEH.	C	Sighted 'Leard Forest Regional Biodiversity Strategy Stage 2 - Strategy Report' (Umwelt 2017).  This strategy was not submitted within the 18 month timeframe. Approvals of extension granted by DPE have been sighted.				
		<u>Stage 3 - Strategy Review</u> The Strategy must be reviewed by the end of December 2018, following completion of audits of the rehabilitation and Biodiversity Offset Areas required to be undertaken under approvals for coal mines within the Precinct. The Review shall be conducted by suitably qualified, experienced and independent person/s whose appointment has been endorsed by OEH and approved by the Secretary. Any modifications to the Strategy arising from the review must be endorsed by OEH prior to approval by the Secretary.	NA	Not Triggered				
	41	The Strategy shall be prepared in collaboration with a working group containing (subject to the outcomes of the Stage 1 – Scoping Stage) representatives of the Department, OEH, DRE, North West LLS, Council and DoEE and the other Leard Forest Mining Precinct mines; which shall be chaired by a suitably qualified, experienced and independent person whose appointment has been approved by the Secretary.	C	Sighted 'Leard Forest Regional Biodiversity Strategy Stage 2 - Strategy Report' (Umwelt 2017).				
	42	The cost of preparing the Strategy, including the independent chairperson and a co-ordinator to be employed by the Department shall be shared equitably between the coal mines in the Leard Forest Mining Precinct on the basis of the approved clearing of remnant vegetation (including native grassland) by the mines, based on the following arrangements:	C	Noted				
		(a) Stage 1 is to be initially funded by the Proponent, with appropriate adjustments made following the determination of the Maules Creek Coal and Tarrawonga Coal Projects and as per approved funding arrangements finalised under the Stage 1 Scoping Report;	C	Correspondence with Steve O'Donoghue from DPE confirms that Stage 1 was funded by Boggabri with Boggabri being approved first prior to the approvals for Maules Creek and Tarrawonga.				
		(b) Stage 2 is to be funded by all Leard Forest Mining Precinct mines based on the arrangements approved under the Stage 1 Scoping Report; and	C	Email correspondence sighted between Steve O'Donoghue and the Leard Forest Mining Precinct mines that confirms payment allocations.				
		(c) Stage 3 is to be funded by all Leard Forest Mining Precinct mines based on recommendations in the approved Stage 2 Leard Forest Mining Precinct Regional Biodiversity Strategy.	NA	Not Triggered				
		<i>Note: Based on predicted clearing of native vegetation provided in the EA documents for the three projects within the Leard Forest Mining Precinct the proposed funding split would equate to total contributions of 36% from Boggabri (clearing of 1,385 ha), 54% from Maules Creek (clearing of 2,078ha) and 10% from Tarrawonga (clearing of 397 ha). This funding arrangement may change depending upon the determination outcomes of individual projects and can be further refined in the Stage 1 Scoping Stage.</i>		Noted				
	43	The Proponent shall prepare and implement a revised Biodiversity Offset Strategy for the identified offset areas in Table 15 to the satisfaction of the Secretary. The revised Strategy must:		Approval letter sighted				
		(a) not reduce the size or quality of the proposed offset areas;	C					
		(b) be consistent (as far as is possible) with the recommendations and objectives of the Leard Forest Mining Precinct Regional Biodiversity Strategy;	NC	Leard Forest Regional Biodiversity Strategy Stage Two Report, Revised (unapproved) BMP December 2017. The approved BMP, incorporating the BOS, would not need to be in accordance with the Leard Strategy because this strategy was released after the BMP's approval. The audit has therefore assessed Boggabri's response to the Leard Strategy by reviewing the December 2017 draft BMP (incorporating the BOS). This was submitted to OEH for review in December 2017. OEH provided comments in April 2018.	The unapproved BMP (December 2017), incorporating the BOS, is expected to be in accordance with the Leard Strategy as it was submitted to OEH for review (in December 2017) after the final Leard Strategy was released (August 2017). While the revised BMP (December 2017), including the BOS, has incorporated some elements of the recommendations of the Leard Regional Strategy, there are a number of recommended management actions and completion criteria that have not been incorporated. There is also an improvement opportunity to apply SMART principles to this process to assist in driving the required outcomes. OEH's response (13 April 2018) to the draft December BMP (including the BOS) should also be considered by Boggabri Coal.			Low- There is an approved BOS in use so there is a low chance of harm occurring.
		(c) be prepared in consultation with OEH, North West LLS, CCC, DPI and DoEE;	C	Stated in Biodiversity Offset Strategy (2017) that consultation had taken place. Interviews that took place during the auditing confirmed all parties were satisfied with the level of communication.				

	(d) identify the land to be acquired for the additional offset area of 1,000 ha in Table 15;	C	Biodiversity Offset Strategy 2017.			
	(e) identify the land to be acquired for the modification 3 offset area of 103 ha, the modification 4 offset area of 132 ha and the modification 5 offset area of 106 ha as in Table 15;	C	Biodiversity Offset Strategy 2017.			
	(f) identify the special lease/Crown reserve land subject to a funding/management agreement with DPI, and if this land area is less than the identified 441 ha, then the Proponent must identify substitute areas that would provide an equivalent increase in biodiversity values; and	C	Biodiversity Offset Strategy 2017 and Appendix A Section 1.2.3 of the same document.			
	(g) be submitted within 30 months of the date of this approval, or within 6 months of the approval of Stage 2 of the Leard Forest Mining Precinct Regional Biodiversity Strategy (whichever is sooner) for endorsement by OEI and subsequent approval by the Secretary.	C	Extension letter from DPE sighted. Submitted on time.			
	For the White Box - Yellow Box - Blakeley's Red Gum Grassy Woodland Endangered Ecological Community the Proponent shall:					
44	(a) ensure that the Biodiversity Offset Strategy and Rehabilitation Strategy are focused on protection, rehabilitation, re-establishment and long-term maintenance of viable stands of this community;	C	"Protection, rehabilitation, re-establishment and long-term maintenance of viable stands of the community" are referred to both directly and indirectly in the BMP and RMP.	Appendices E and F of the approved BMP do discuss "protection, rehabilitation, re-establishment and long-term maintenance...". The September 2014 RMP provided better guidance in Section 1.3 than the current RMP. It is recommended that both the RMP and BMP more clearly identify how each plan is "focused on protection, rehabilitation, re-establishment and long-term maintenance of viable stands of..." the Box-Gum Woodland community.		
	(b) investigate in consultation with OEI and the North West LLS, all factors likely to enhance or impede the effective long-term restoration of degraded remnants of this EEC in offset areas or regeneration of this EEC on disturbed areas (both offset areas and the site);	C	Stated in section 1.4.2 of 2015 and 2017 (approved and revised) Biodiversity Management Plan. No proof of correspondence sighted however communications with OEI confirm they are satisfied with the level of consultation.  Table F-2 in Appendix F of the Biodiversity management Plan (both 2015 and 2017 versions) lists factors likely to impede and enhance re-establishment and restoration.			
	(c) within 24 months of the date of this approval (and if possible in conjunction with Stage 2 of the Leard Forest Mining Precinct Regional Biodiversity Strategy), submit a report of this investigation and provide an implementation plan to maximise the prospects for rehabilitation and regeneration of this EEC on the offset areas and the site, for approval by the Secretary; and	C	Appendix E of the approved and revised Biodiversity Management Plan			
	(d) incorporate the approved Implementation plan into the revised Biodiversity Management Plan, required under condition 50.	C	Sighted in Appendix F of Biodiversity Management Plan (both 2015 and 2017 versions)			
45	For all threatened species on site, the proponent shall ensure that the Biodiversity Offset Strategy and Rehabilitation Strategy are focused on protection, rehabilitation and long-term maintenance of viable stands of suitable habitat for these species.	C	"Protection, rehabilitation and long-term maintenance of viable stands of suitable habitat for these species" are referred to both directly and indirectly in the BMP and RMP.	It is recommended that both the RMP and BMP more clearly identify how each plan is "focused on protection, rehabilitation and long-term maintenance of suitable habitat for these species."		
	<i>Note: the threatened fauna species on site include Regent Honey Eater, Speckled Warbler, Swift Parrot, Brown Treecreeper, Diamond Firetail, Grey-crowned Babbler, Hooded Robin, Little Lorikeet, Varied Sittella, Black Chinned Honeyeater, Painted Honeyeater, Pied Honeyeater, Little Eagle, Spotted Harrier, Black Necked Stork, Square Tailed Kite, Turquoise Parrot, Barking Owl, Masked Owl, Superb Parrot, Eastern False Pipistrelle, Greater Long-eared Bat, Yellow-bellied Sheath Tail Bat, Eastern Cave Bat, Eastern Bent-wing Bat, Large-eared Pied Bat, Little Pied Bat, Spotted-tailed Quoll, Squirrel Glider and Koala.</i>		Noted			
46	The Proponent shall:					
	(a) investigate, in consultation with OEI and the North West LLS, all factors likely to enhance or impede the effective long-term provision of suitable habitat(s) for the following species: Brown Treecreeper, Hooded Robin, Black-chinned Honeyeater, Painted Honeyeater, Pied Honeyeater, Grey-crowned Babbler, Speckled Warbler, Diamond Firetail, Varied Sittella, Regent Honeyeater, Eastern False Pipistrelle, Greater Long-eared Bat, Yellow-bellied Sheath Tail Bat;	C	Stated in section 1.4.2 of 2015 and 2017 Biodiversity Management Plan. No proof of correspondence sighted however communications with OEI confirm they are satisfied with the level of consultation.  Table F-2 in Appendix F of the Biodiversity management Plan (both 2015 and 2017 versions) lists factors likely to impede and enhance re-establishment and restoration.			
	(b) within 24 months of the date of this approval (and if possible, in conjunction with Stage 2 of the Leard Forest Mining Precinct Regional Biodiversity Strategy), submit a report of this investigation and provide an implementation plan to ensure delivery of suitable areas of viable habitat for the species included in (a) above, for approval by the Secretary; and	C	Appendix F of approved and revised Biodiversity Management Plan			
	(c) incorporate the approved implementation plan into the revised Biodiversity Management Plan, required under condition 50.	C	Sighted in Appendix F of Biodiversity Management Plan (both 2015 and 2017 versions)			
	<i>Note: the species listed in (a) are those identified in the Secretary's Assessment Report as likely to be impacted by the project.</i>		Noted			
<b>Long Term Security of Offset</b>						
47	The Proponent shall make suitable arrangements to provide appropriate long-term security for the offset areas:					
	(a) For the areas included in Table 15 as owned, under option or committed by the Proponent, the long-term security shall be provided by way of the Proponent entering into a conservation agreement or agreements pursuant to section 69B of the National Parks and Wildlife Act 1974, recording the obligations assumed by the Proponent under the conditions of this approval in relation to these offset areas, and registering the agreement(s) pursuant to section 69F of the National Parks and Wildlife Act 1974. The conservation agreement(s) must be registered by December 2014 unless agreed otherwise by the Secretary after consultation with Chief Executive of OEI. The conservation agreements must remain in force in perpetuity.	NA	Not triggered, Extension approval letter sighted (the process must begin within 3 months of the approval of the revised BMP)			
	(b) For the areas included in Table 15 as Crown Reserve Land and Additional Land managed for Corridor Enhancement, the long-term security shall be provided by a form of binding agreement acceptable to the Secretary that records the obligations assumed by the Proponent under the conditions of this approval in relation to these offset areas. These agreements must be in force within 12 months of the approval of Stage 2 of the Leard Forest Mining Precinct Regional Biodiversity Strategy, or other date agreed by the Secretary, to the satisfaction of the Secretary.	NA	Not triggered; August 2018.			
<b>Long Term Security of Offset</b>						
48	Offset areas are to be managed primarily for the purposes of compensating for biodiversity impacts of the project and improving regional biodiversity outcomes. However, to the extent that limited agricultural production on the lots purchased for offsets is compatible with these objectives, the Biodiversity Management Plan and other conditions of this approval, the Proponent shall:					
	(a) include in the Biodiversity Management Plan an agricultural suitability assessment of surplus land on the offset properties, in particular for the proposed corridor enhancement zones; and	C	Sighted in Appendix H of Biodiversity Management Plan (both 2015 and 2017 versions).			
	(b) maintain the agricultural productivity of the surplus areas.	C	Sighted in Appendix H of Biodiversity Management Plan and Section 7 (both 2015 and 2017 versions).			
	The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must:					
	(a) be prepared in consultation with OEI, DoEE, CCC and the North West LLS, and be submitted to the Secretary for approval within 6 months of the date of this approval;	C	Stated in both 2015 and 2017 BMP. None of these agencies stated that Boggabri Coal was lacking in communication on this issue.			

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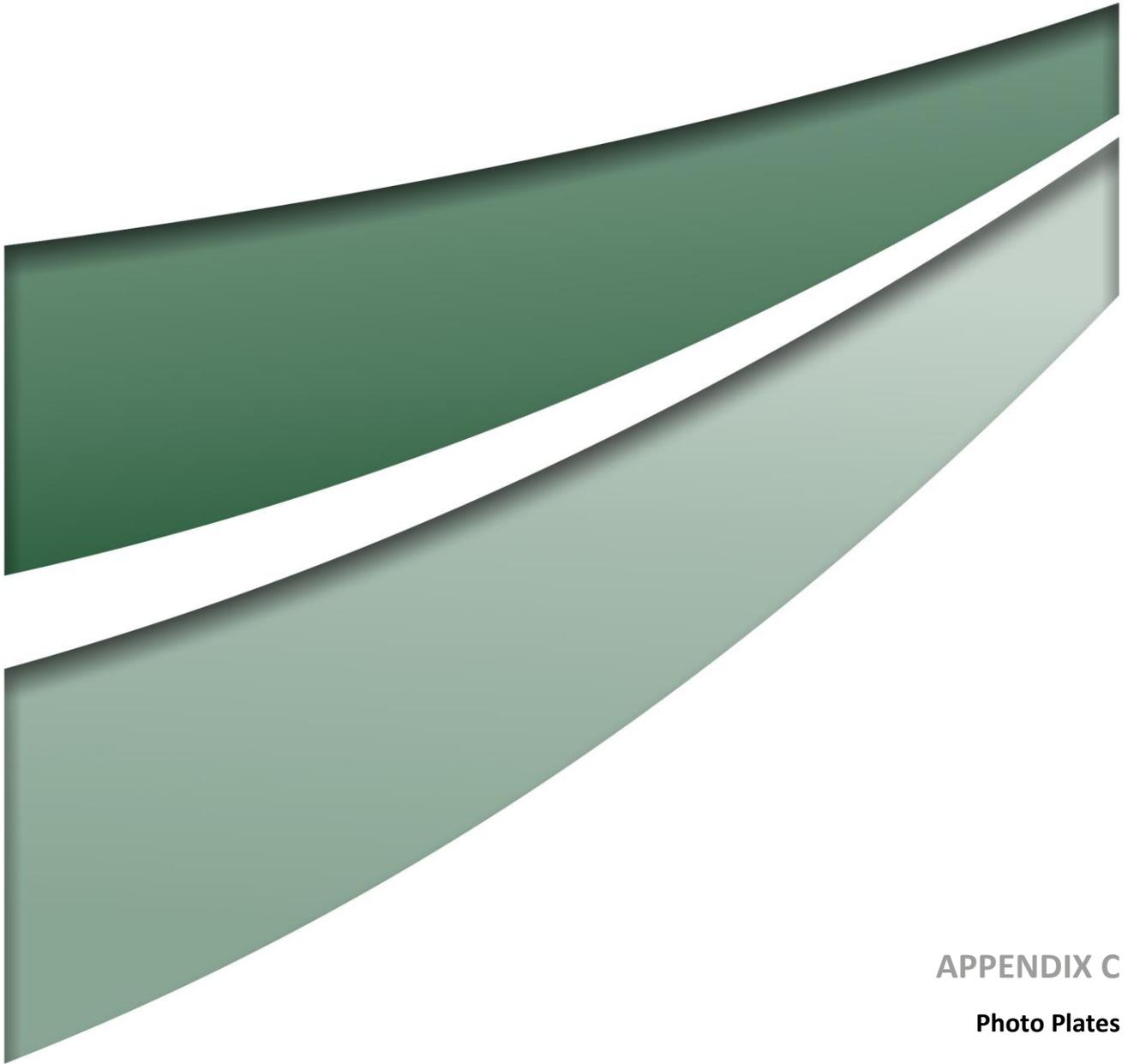
<p>(b) describe how the implementation of the biodiversity offset strategy would be integrated with the overall rehabilitation of the site;</p>	O	<p>BMP refers to "Objective 16 - An Integrated Approach to Biodiversity Management." The aim of this is to "achieve the overarching biodiversity management objectives for the Project through the integration of the RMP and BMP." To achieve this the document lists the following management strategies: a) "the management measures provided in the RMP and BMP are consistent and allow an integrated approach to biodiversity management"; and b) "where feasible develop strategies to cover both the Project Boundary and BOAs (e.g. the weed and pest management strategy)" It provides the following performance criteria:                      - "management measures are planned and implemented consistently within the                      - rehabilitation sites, surrounding areas within the Project Boundary and BOAs."</p>	<p>It is recommended that the BMP provide specific detail on how the biodiversity offset strategy will be consistent with the overall rehabilitation of the site, including figures showing the final proposed BOA, site revegetation/retained vegetation and mine rehabilitation vegetation communities, and suitable habitat for threatened fauna species.</p>		<p>Low- there is a moderate level of impact if the overall BOS is not integrated with the overall rehabilitation of the site. The overall risk is considered low due to the content of the BOS.</p>
<p>(c) describe the short, medium, and long term measures that would be implemented to:</p>					
<p>(i) manage the remnant vegetation and habitat on the site and in the offset area/s (if and when applicable); and</p>	C	<p>Sighted in Section 7 and Table 7.1 of the Biodiversity Management Plan (both 2015 and 2017 versions).</p>			
<p>(ii) implement the biodiversity offset strategy (if and when applicable), including detailed performance and completion criteria;</p>	C	<p>Sighted in Section 7 and Table 7.1 of the Biodiversity Management Plan (both 2015 and 2017 versions).</p>			
<p>(d) include detailed performance and completion criteria for evaluating the performance of the biodiversity offset strategy, and triggering remedial action (if necessary);</p>	C	<p>Sighted in Section 7 and Table 7.1 of the BMP and Appendix G Risk Management and Contingency.</p>	<p>Section 7 and Table 7.1 of the Biodiversity Management Plan (both 2015 and 2017 versions) outline monitoring and performance and completion criteria. The Table in Appendix G provides an assessment of risks to biodiversity offsets and planned contingency measures.</p>		
<p>(e) include a detailed description of the measures that would be implemented including the procedures to be implemented for:</p>					
<p>(i) enhancing the quality of existing vegetation and fauna habitat;</p>	C	<p>Sighted in Section 7 of the approved Biodiversity Management Plan and section 6 of the revised Biodiversity Management Plan and the Rehabilitation Management Plan (2015).</p>			
<p>(ii) restoring native vegetation and fauna habitat on the biodiversity areas and rehabilitation area through focusing on assisted natural regeneration, targeted vegetation establishment and the introduction of naturally scarce fauna habitat features;</p>	C	<p>Sighted in Section 7 of the approved Biodiversity Management Plan and section 6 of the revised Biodiversity Management Plan and the Rehabilitation Management Plan (2015).</p>			
<p>(iii) maximising the salvage of resources within the approved disturbance area - including vegetative, top and sub-soils and cultural heritage resources - for beneficial reuse in the enhancement of the biodiversity areas or rehabilitation area;</p>	C	<p>Sighted in Biodiversity Management Plan Section 7.2 and 7.3 of the approved Biodiversity Management Plan and section 6.2 and 6.3 of the revised Biodiversity Management Plan. Salvage piles of top and sub soils as well as habitat trees were sighted during the site visit of the auditing process.</p>	<p>Soil stockpiles are being used in the project rehabilitation areas. Some stag trees have been erected in rehabilitation areas along with other salvaged habitat materials.                       Salvaged habitat materials have been placed in some areas of the Namoi offset and no others. The other offset areas, having only recently been acquired or only recently planted, aren't expected to be ready for salvaged material.                       In regards to the rehabilitation areas (within project boundary) it is believed that more salvaged habitat could be added to these areas.</p>		
<p>(iv) collecting and propagating seed;</p>	C	<p>Section 7.9 of 2015 and Section 6.9 of 2017 Biodiversity management Plan. Seed collection and treatment reports sighted.</p>			
<p>(v) minimising the impacts on fauna on site, including undertaking pre-clearance surveys;</p>	C	<p>Sighted in Appendix B of 2015 and 2017 Biodiversity Management Plan. Tree clearing surveys observed during site visit. Everything was done according to the approved procedure.</p>			
<p>(vi) improving the connectivity and corridor function of the offset areas to provide an east/west corridor to the Namoi River and demonstrating that this corridor is enhanced and maintained;</p>	C	<p>Sighted in Section 2 of 2015 and 2017 Biodiversity Management Plan and in Biodiversity Offset Strategy (2017).</p>			
<p>(vii) managing any potential conflicts between the proposed restoration works in the biodiversity areas and any Aboriginal heritage values (both cultural and archaeological);</p>	C	<p>Sighted in Section 7.19 of 2015 and Section 6.19 of 2017 Biodiversity Management Plan and the Cultural Heritage Management Plan.</p>			
<p>(viii) managing salinity;</p>	C	<p>Sighted in Section 7.6 of 2015 and Section 6.6 of 2017 Biodiversity Management Plan.</p>			
<p>(ix) controlling weeds and feral pests;</p>	C	<p>Sighted in Section 7.10 of 2015 and Section 6.10 of 2017 Biodiversity Management Plan. AMR 2016 Section 4.7</p>			
<p>(x) controlling erosion;</p>	C	<p>Sighted section 8.2 of the 2015 and section 7.2 of the 2017 Biodiversity Management Plan that provides a listing of measures to be taken to manage soil erosion in the Biodiversity Offset Areas. Section 7.18 of the 2015 and 6.18 2017 Biodiversity Management Plan for within project erosion control.</p>			
<p>(xi) managing grazing and agriculture on site;</p>	C	<p>Sighted in Section 7.11 of 2015 and Section 6.11 of 2017 Biodiversity Management Plan.</p>			
<p>(xii) controlling access;</p>	C	<p>Sighted in Section 7.12 of 2015 and section 6.12 of the 2017 Biodiversity Management Plan.</p>			
<p>(xiii) bushfire management; and</p>	C	<p>Sighted in Section 7.14 of 2015 and section 6.14 of the 2017 Biodiversity Management Plan.</p>			
<p>(xiv) translocating and/or propagating the threatened flora species <i>Tylophora linearis</i> located within the project disturbance boundary - including details of methods and timing of propagation trials and programs and investigations into assisted natural regeneration in mine site rehabilitation and biodiversity offset areas.</p>	O	<p>No mention of translocation plan in 2015 Biodiversity Management Plan. This Biodiversity Management Plan would not have this translocation plan as the need for this plan was added to the project approval after this report was approved.</p>	<p>The 2017 Management Plan (in review) does have a translocation plan. This translocation plan does not mention assisted natural regeneration. This is a potential non-compliance if this issue is not resolved in the BMP that is under revision.</p>		<p>Should this issue not be resolved the risk rating would be:                      Low - potential for low environmental consequences, but is likely to occur. There is no approved translocation plan in place and the plan that is under review does not address assisted natural regeneration. Assisted natural regeneration is important for the species to recover.</p>
<p>(f) include a seasonally-based program to monitor and report on the effectiveness of these measures, and progress against the detailed performance and completion criteria;</p>	C	<p>Sighted in Section 8 of 2015 and section 7 of the 2017 Biodiversity Management Plan.</p>			
<p>(g) identify the potential risks to the successful implementation of the biodiversity offset strategy, and include a description of the contingency measures that would be implemented to mitigate against these risks; and</p>	C	<p>Sighted in Appendix F of 2015 and 2017 Biodiversity Management Plan.</p>			
<p>(h) include details of who would be responsible for monitoring, reviewing, and implementing the plan.</p>	C	<p>Sighted in Section 9 of 2015 Biodiversity Management Plan and Section 8 of the 2017 Biodiversity Management Plan.</p>			
<p>Note: The Biodiversity Management Plan and Rehabilitation Management Plan need to be substantially integrated for achieving biodiversity objectives for the rehabilitated mine-site.</p>		<p>Noted.</p>			

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	The Proponent shall revise the Biodiversity Management Plan within 30 months of the date of this approval, or within 6 months after the approval of Stage 2 of the Leard Forest Mining Precinct Regional Biodiversity Strategy, whichever is sooner. The revised plan must:					
	(a) be prepared in consultation with OEH, DoEE, DPI, the CCC and the North West LLS;	C	Stated in the 2017 Biodiversity Management Plan. None of these agencies stated that Boggabri Coal was lacking in communication on this issue.			
50	(b) demonstrate consistency with any findings of Leard Forest Mining Precinct Regional Biodiversity Strategy; and	NC	Leard Forest Regional Biodiversity Strategy Stage Two Report, Revised (unapproved) BMP December 2017. The approved BMP would not need to be in accordance with the Leard Strategy because this strategy was released after the BMP's approval. The audit has therefore assessed Boggabri's response to the Leard Strategy by reviewing the December 2017 draft BMP. This was submitted to OEH for review in December 2017. OEH provided comments in April 2018.	The unapproved BMP (December 2017) is expected to be in accordance with the Leard Strategy as it was submitted to OEH for review (in December 2017) after the final Leard Strategy was released (August 2017). While the revised BMP (December 2017) has incorporated some elements of the recommendations of the Leard Regional Strategy, there are a number of recommended management actions and completion criteria that have not been incorporated. There is also an improvement opportunity to apply SMART principles to this process to assist in driving the required outcomes. OEH's response (13 April 2018) to the draft December BMP should also be considered by Boggabri Coal.		Low - Potential for low environmental consequences and is likely to occur.
	(c) include any implementation plans arising from the studies required under conditions 44 and 46 of this approval; to the satisfaction of the Secretary.	C	Sighted in Appendix F of 2015 and 2017 Biodiversity Management Plan.			
<b>Vegetated Corridor between Boggabri and Maules Creek Coal Projects</b>						
	For the vegetated buffer corridor required to be retained and protected between the projects under Condition 7 of Schedule 2 of this approval the Proponent shall:					
51	(a) use its best endeavours to work cooperatively with the Proponent of the Maules Creek Coal Project to enhance the functioning of the area as a biodiversity corridor; and	C	BTM Complex minutes sighted. Vegetated corridor is discussed in most meetings			
	(b) include in the Biodiversity Management Plan the details as to how impacts on the corridor are to be minimised, to the satisfaction of the Secretary.	C	Sighted in Section 6.15 of 2015 and 2017 Biodiversity Management Plan.			
<b>Conservation Bond</b>						
	Within 36 months of the date of this approval or within 6 months of the approval of the revised Biodiversity Management Plan required under condition 50 of Schedule 3 (whichever is sooner) the Proponent shall lodge a Conservation and Biodiversity Bond with the Department to ensure that the biodiversity offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan. The sum of the bond shall be determined by:	NA	Not triggered, extension approval letter sighted (the process must begin within 3 months of the approval of the revised BMP)			
	(a) calculating the full cost of implementing the biodiversity offset strategy (other than land acquisition costs); and	NA	As above			
	(b) employing a suitably qualified quantity surveyor to verify the calculated costs, to the satisfaction of the Secretary.	NA	As above			
52	If the offset strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Secretary, the Secretary will release the bond. If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan. The Secretary will call in all or part of the conservation bond, and arrange for the satisfactory completion of the relevant works. With the agreement of the Secretary. This bond may be combined with rehabilitation security deposit administered by DRE.		Noted.			
	<i>Note: Alternative funding arrangements for long term management of the Biodiversity Offset Strategy, such as provision of capital and management funding as agreed by OEH as part of a BioBanking Agreement or transfer to conservation reserve estate can be used to reduce the liability of the conservation and biodiversity bond.</i>		Noted.			
	By the end of December 2017 and then every 5 years, unless the Secretary agrees otherwise, the Proponent shall commission suitably qualified, experienced and independent person/s, whose appointment has been approved by the Secretary, to undertake an audit of the revegetation of the rehabilitation area, management and restoration within the Biodiversity Offset Strategy areas to the satisfaction of the Secretary. This audit must:					
	a) include consultation with OEH, North West LLS, DPI, DoEE, CCC and DRE;		All mentioned agencies were contacted by Umwelt in March 2018. Some parties did not respond to attempts to make contact.			
	b) assess the performance of the revegetation in the rehabilitation area completed to date against the completion criteria in the Rehabilitation Management Plan;					
	c) assess the performance of management and restoration in the off-site Biodiversity Offset Strategy areas completed to date against the completion criteria in the Biodiversity Management Plan;					
	d) identify any measures that should be implemented to improve the performance of rehabilitation, management and restoration within the rehabilitation and biodiversity offset areas; and					
	e) if the completion criteria have not been met, or are not adequately trending towards being met, determine the likely ecological value of the rehabilitation and restoration once completed, and recommend additional measures to augment the Biodiversity Offset Strategy to ensure that it adequately offsets the project's impacts on biodiversity.					
	If the audit recommends the implementation of additional measures to augment the Biodiversity Offset Strategy in accordance with (e) above, then within 6 months of the completion of the audit the Proponent shall revise the Biodiversity Offset Strategy, in consultation with the Department, OEH and DoEE, and to the satisfaction of the Secretary.	NA				
<b>Forestry Plantation Offset Strategy</b>						
54	The Proponent shall prepare a Eucalyptus Forestry Plantation Offset Strategy to the satisfaction of Forests NSW, within 12 months of the date of this approval. The Forestry Plantation Offset Strategy shall provide at least a minimum 168 ha plantation area (as committed in the EA), or alternative as agreed by Forests NSW. The Strategy shall identify proposed funding and management arrangements for the development and maintenance of the plantation offset. If there is a dispute over these requirements, either party may refer it to the Secretary for resolution, whose decision shall be final.	NC	Boggabri Coal Mine submitted this strategy to Forests NSW. Have sighted email from Dr Jan Green submitting the first Forestry Plantation Offset Strategy. The strategy has been neither accepted nor formally rejected. Boggabri have not demonstrated that any approvals have been granted for an extension to this condition.			Low- As the land that is to be used as a forestry development, a delay in this strategy is seen to have low impact on the environment.

Compliant	41
Non-Compliant	3
Administrative non-compliance	1
Observation	2
Not Applicable	8

Please note a reference to the 2017 BMP refers to the revised BMP that is currently in review by government agencies (as of 6/4/2018)



**APPENDIX C**

**Photo Plates**



**Photo 1 – Boundary marking end of approved clearing area**



**Photo 2 – Vegetation clearing – Stage 1 underscrubbing and grubbing showing signage**



**Photo 3 – Vegetation clearing –  
Stage 1 underscrubbing and grubbing showing marked habitat trees**



**Photo 4 – Tree clearing Procedures available in staff break room**



**Photo 5 – Temporary salvaged habitat tree stockpile**



**Photo 6 – Temporary salvaged habitat tree stockpile**



**Photo 7 – Mine rehabilitation**



**Photo 8 – evidence of use of salvaged habitat in rehabilitation area.**



**Photo 9 –Example of protective fencing of vegetated corridor**



**Photo 10 – Example of signage marking area that was illegally cleared**



**Photo 11 – Example of age class of plantings at BOAs**



**Newcastle**

75 York Street  
Teralba NSW 2284

Ph. 02 4950 5322

**Perth**

PO Box 783  
West Perth WA 6872  
First Floor  
7 Havelock Street  
West Perth WA 6005

Ph. 1300 793 267

**Canberra**

PO Box 6135  
56 Bluebell Street  
O'Connor ACT 2602

Ph. 02 6262 9484

**Sydney**

50 York Street  
Sydney NSW 2000

Ph. 1300 793 267

**Brisbane**

Level 11  
500 Queen Street  
Brisbane QLD 4000

Ph. 1300 793 267