



MOOLARBEN COAL PROJECT COMPLIANCE REPORT

EPBC 2007/3297

EPBC 2013/6926

EPBC 2008/4444


Project Name	Moolarben Coal Complex
Approval Holder	Moolarben Coal Mines Pty Ltd Moolarben Coal Operations Pty Ltd
EPBC Reference	2007/3297 2013/6926 2008/4444
Approved Actions	<p>The establishment of a coal mine and associated infrastructure 40 kilometres east of Mudgee to generate approximately 10Mtpa of product coal and as described in the referral received under the Act on 16 February 2007(EPBC 2007/3297);</p> <p>To modify and extend the Moolarben Coal Project (Stage 1), approximately 40km north east of Mudgee, NSW. (EPBC 2013/6926).</p> <p>To develop a new open cut coal mine and two underground coal mines, 40 km north-east of Mudgee, NSW and as described in the referral received under the EPBC Act on 9 September 2008 and the request for variation received under the EPBC Act on 27 February 2012.</p>
Reporting Period	1 January 2018 to 31 December 2018
Version	1 – Issued to Department of Environment
Declaration of Accuracy	
<p>In making this declaration, I am aware that sections 490 and 491 of the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.</p>	
Signature of authorised reporting officer	
Name of authorised reporting officer	Graham Chase
Title of authorised reporting officer	Environment and Community Manager
Date	29 March 2019
Organisation Name	Moolarben Coal Operations Pty Ltd
Organisation ACN	077 939 569

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INTRODUCTION

The Moolarben Coal Complex is located in the Western Coalfield of New South Wales (NSW) approximately 40 kilometres (km) north of Mudgee to the south east of Ulan. The Moolarben Coal Complex is located within the Mid-Western Regional Local Government Area (LGA). Figure 1 depicts the regional location of the Biodiversity Offsets and the Moolarben Coal Complex.

Moolarben Coal Operations Pty Ltd (MCO) is the operator of the Moolarben Coal Complex on behalf of the Moolarben Joint Venture (Moolarben Coal Mines Pty Ltd [MCM], Sojitz Moolarben Resources Pty Ltd and a consortium of Korean power companies). MCO and MCM are wholly owned subsidiaries of Yancoal Australia Limited (Yancoal).

Current mining operations undertaken across MCC have approval until 31 December 2038. All mining operations are conducted in accordance with NSW Project Approval (05_0117) (Moolarben Coal Project Stage 1) as modified, and NSW Project Approval (08_0135) (Moolarben Coal Project Stage 2) as modified.

The current mining operations are undertaken in accordance with Approval Decisions (EPBC 2007/3297), (EPBC 2013/6926) and (EPBC 2008/4444) under the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act).

This report details activities and compliance with EPBC 2007/3297, EPBC 2013/6926 and EPBC 2008/4444 for the period 1 January 2018 to 31 December 2018.

1.0 DESCRIPTION OF ACTIVITIES

During the reporting period the following activities have been undertaken:

- Land preparation and disturbance in accordance with the VCPLMP, including pre-clearance surveys, salvage of habitat features, fauna management.
- Collection of locally sourced native seed.
- Offset area management including Fencing, access, weed and vertebrate pest management.
- Monitoring in accordance with the Biodiversity Offset Management Plan (BOMP), Landscape Management Plan (LMP) and Rehabilitation Management Plan (RMP).
- Progression of offsets security.

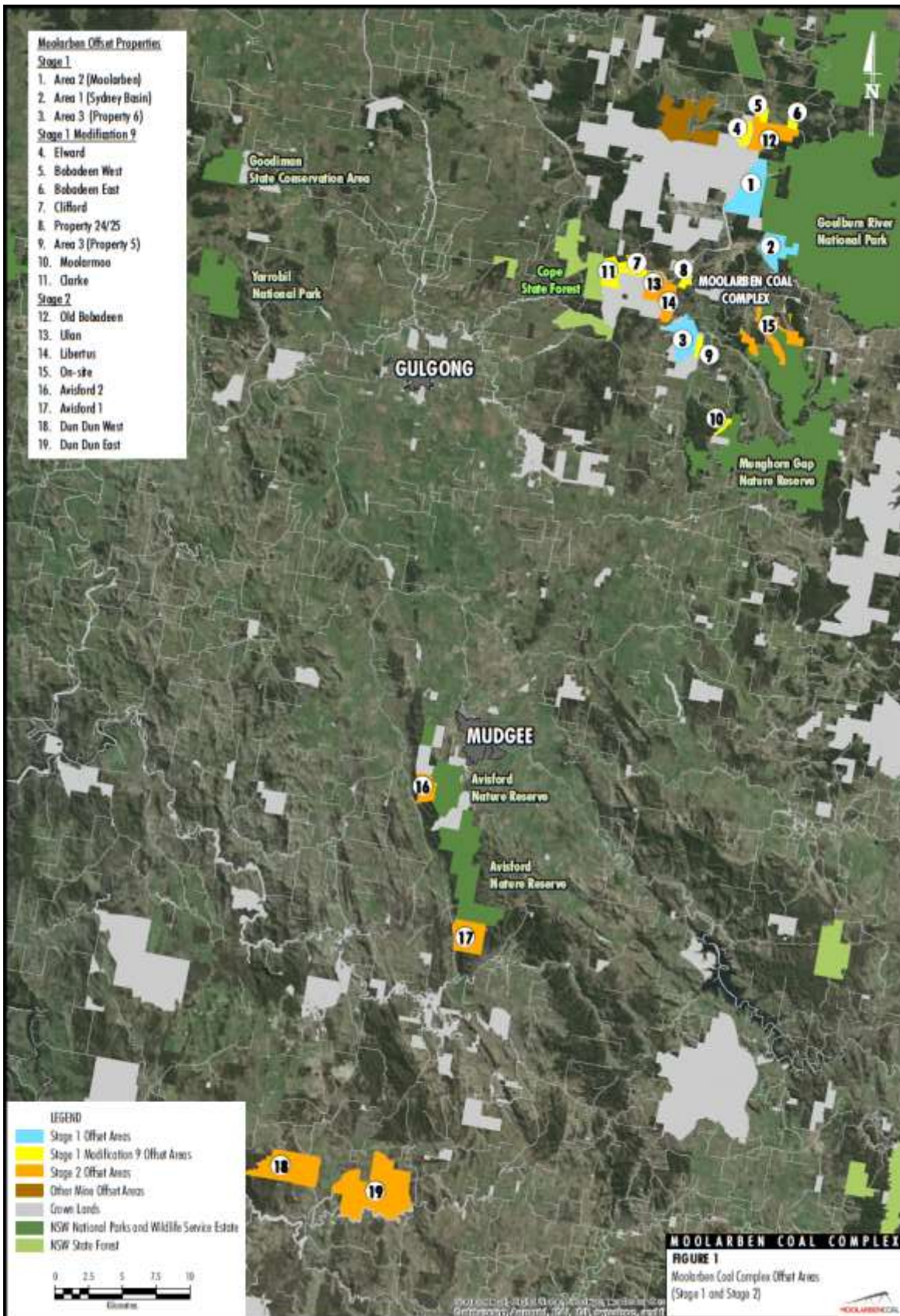


FIGURE1: Regional Location of Biodiversity Offset Areas

2.0 COMPLIANCE TABLES (2007/3297) (2008/4444) (2013/6926)

Condition Number	Condition	Compliance ¹	Evidence/Comments
EPBC 2007/3297			
1	<p>In order to protect the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland listed ecological community, the person taking the action shall make suitable arrangements within 12 months of this approval to:</p> <p>(a) Transfer at least 130 hectares of the White Box-Yellow Box-Blakely's Red Gum Woodland and Derived Native Grassland listed ecological community to the NSW Minister for Climate Change Environment and Water offset, on a "like for like" basis, the 65 hectares that would be cleared by the project at an offset ratio of 2:1; and</p> <p>(b) Provide the NSW Department of Environment and Climate Change (DECC) with funds (which at the discretion of DECC may include an in-kind contribution) to cover any reasonable costs associated with the transfer and ongoing management of this land.</p>	Compliant	Completed prior to period.
2	<p>In order to protect the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland listed ecological community, the person taking the action shall in accordance with the Rehabilitation and Offset Management Plan (See Condition 3 below):</p> <p>(a) Revegetate at least 38 hectares of disturbed land on the "Red Hills" property with Yellow Box-White Box-Blakely's Red Gum vegetation;</p> <p>(b) Revegetate at least 143 hectares of cleared land on the "Red Hills" property with suitable native vegetation to improve wildlife corridor linkages;</p> <p>(c) Conserve and enhance at least 1262 hectares of existing native vegetation onsite; and</p> <p>(d) Make suitable arrangements to protect these offset areas from development in the long term, to the satisfaction of the Minister for the Environment and Water Resources (the Minister).</p>	Compliant	<p>Revegetation works were commenced in a prior period.</p> <p>MCO continues to conserve Area 1, Area 2 and Area 3.</p> <p>Offset security mechanism has previously been endorsed by the DotEE and the NSW DPE. Offsets security terms were being reviewed by the NSW Department of Planning and Environment at the end of the period.</p> <p>MCO continues to progress offset security.</p>
3	<p>In order to protect the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland listed ecological community, the person taking action shall prepare and implement a detailed Rehabilitation and Offsets Management Plan for the project to the satisfaction of the Minister for the Environment and Water Resources. The proponent shall progressively rehabilitate the site to the satisfaction of Minister for the Environment and Water Resources and the NSW Department of Primary Industries, in general accordance with the proposed Rehabilitation and Offset Management Plan. The rehabilitation and Offset Management Plan must include:</p> <p>(a) The rehabilitation objectives for the site, vegetation offsets and landscaping;</p> <p>(b) A description of the short, medium and long-term measures that would be implemented to:</p> <ul style="list-style-type: none"> • Rehabilitate the site 	Compliant	<p>The Landscape Management Plan was approved 25 November 2013.</p> <p>This report, refer to Appendix B</p>

Condition Number	Condition	Compliance ¹	Evidence/Comments
	<ul style="list-style-type: none"> • Implement the vegetation offsets; and • Landscape the environmental bunds; <p>(c) Performance and completion criteria for the rehabilitation of the site, implementation of the vegetation offsets, and landscaping of the environmental bunds;</p> <p>(d) A detailed description of the measures that would be implemented over the next 3 years including the progressive rehabilitation of mining areas and progressive implementation of the vegetation offset areas referred to in Condition 2.</p> <p>(e) A program to monitor the effectiveness of these measures, and progress against the performance and completion criteria (see (c) above);</p> <p>(f) A description of the potential risks to successful rehabilitation and/or revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and</p> <p>(g) Details of who would be responsible for monitoring, reviewing, and implementing the plan.</p> <p>Coal mining operations must not commence until the plan has been approved. The approved plan must be implemented.</p>		
4	The person taking the action must publish a report on their website addressing compliance with each of the conditions of this approval, by 31 March for the preceding calendar year. Annual reports must be published until the Minister is satisfied that the person taking the action has complied with all conditions of the approval. Documentary evidence providing proof of the date of publication must be provided to the Department at the same time as the compliance report is published.	Compliant	This report.
5	Upon the direction of the Minister, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister'. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister	Compliant	Noted.
6	If the Minister believes that it is necessary or desirable for the better protection of the listed threatened species and ecological communities to do so, the Minister may request that the person taking the action make specified revisions to the plans, reports or management strategies approved pursuant to paragraphs 1, 2 and 3, and submit the revised plan, report or strategy for the Minister's approval. The person taking the action must comply with any such request. The revised approve plan, report or strategy must be implemented.	Compliant	Noted
7	If at any time after 5 years from the date of this approval, the Minister notifies the person taking the action in writing that the Minister is not satisfied that there has been substantial commencement of coal mining operations, the action must not thereafter be commenced without the written agreement of the Minister.	Compliant	Noted

Condition Number	Condition	Compliance ¹	Evidence/Comments
EPBC 2008/4444			
1	The approval holder must not clear more than 1, 534 hectares of native vegetation within the defined footprint at Schedule 1.	Compliant	At the end of the period only 509 Ha of the approved 1,534 Ha of native vegetation within the defined footprint had been disturbed.
2	<p>To mitigate the impacts of the proposal on the Large-eared Pied Bat, Southern Long-eared Bat, Regent Honeyeater, Swift Parrot and the Spotted-tail Quoll, the approval holder must prepare and submit, prior to the proposed date of commencement of the action, a mine site Vegetation Clearance Protocol and Landscape Management plan (VCPLMP) for the Minister’s written approval. The VCPLMP must;</p> <p>a. Delineate areas to be cleared, describe pre-clearance survey methods, specify actions to minimise fauna impacts and detail vegetation clearance procedures.</p> <p>b. Require collection and stockpiling of habitat features important to threatened fauna species for reinstatement in rehabilitation areas.</p> <p>c. Require use of native, locally sourced seed for propagation for rehabilitation activates.</p> <p>d. Specify a two stage clearing protocol where non-habitat trees are cleared 24 hours prior to any habitat trees are cleared, to encourage fauna to move out of an area.</p> <p>The approval holder must not commence until the VCPLMP is approved by the Minister. The approved VCPLMP must be implemented.</p>	Compliant	<p>VCPLMP was approved by the minister on 29 May 2015.</p> <p>Action commenced 2 August 2015.</p> <p>The VCPLMP continues to be implemented.</p>
3	<p>To compensate for the loss of 123.3 hectares of the White Box-Yellow Box-Blakely’s Red Gum Grassy Woodland and Derived Native Grassland (WBGW) ecological community and 902 hectares of habitat for EPBC listed threatened species, the approval holder must prepare and submit (within 3 months after the approval), a Biodiversity Offset Management Plan (BOMP) for the proposed EPBC Offset Areas, for the Minister’s written approval. The BOMP must;</p> <p>a. Identify those lands described as the Offset Areas at Schedule 2 (Figures 1-7) of this notice that are necessary to achieve the outcomes required by the Environmental Offsets Policy 2012. This must include offset attributes, shapefiles, textile descriptions and maps to clearly define the location and boundaries of the offset area (s).</p> <p>b. Provide a survey and description of the current condition (prior to any management activities) of the offset areas identified in Condition 3a.</p> <p>c. Detail management actions and regeneration and revegetation strategies to be undertaken on the offset areas to improve the ecological quality of these areas, including:</p> <p>I. a description and timeframe of measures that would be implemented to improve the condition of the ecological communities on the site;</p> <p>II. Performance and completion criteria for evaluating the management of the offset area, and criteria for triggering remedial action;</p> <p>III. a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;</p>	Compliant	<p>EPBC 2008-4444 was approved on 18 May 2015.</p> <p>Following approval MCO submitted the Biodiversity Offset Management Plan (BOMP) for EPBC 2008-4444 on The DotEE provided their review in September 2015, and in response MCO issued an updated BOMP and reconciliation of comments in March 2016. DotEE provided additional comments in November 2016 which included details of DotEEs change in expectations for the BOMP. This included a change in BOMP structure and content.</p> <p>At this point MCO reconsidered its approach. As MCO has a number of management plans that cover the various Biodiversity offsets and their associated approval requirements, MCO had previously sought to develop the</p>

Condition Number	Condition	Compliance ¹	Evidence/Comments
	<p>IV. a description of potential risks to the successful implementation of the plan, a description of the measures that will be implemented to mitigate against these risks and a description of the contingency measures that will be implemented if defines triggers arise; and</p> <p>V. details of who would be responsible for monitoring, reviewing, and implementing the plan.</p> <p>The approved BOMP must be published on the approval holder's internet website, within 1 month of being approved and for a period of 5 years thereafter. The approved BOMP must be implemented.</p>		<p>specific BOMPs with the view to later compile a single Complex Wide management plan. Given DotEEs feedback, MCO decided to progress with a complex wide BOMP the cover all state approvals and all EPBC approvals. MCO discussed the approach of developing a single Biodiversity Offset Management Plan (Complex Wide BOMP). The intention has been to develop the BOMP following the confirmation of the relevant Covenant Terms for the offset consistent with the agreed approach with the NSW DPE.</p> <p>MCO wrote to DoE (18/12/2017) requesting extension time due to continued delay finalising the covenant terms.</p> <p>The extended time taken to finalise the Covenants Terms has resulted in an associated impact on the timing of the Complex Wide BOMP.</p> <p>A draft complex wide BOMP was submitted by MCO to the DotEE for consultation on the 30th of November 2018. MCO continues to progress the Complex Wide BOMP.</p>
4	<p>To compensate for the loss of 123.3 hectares of the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBGW) ecological community and 902 hectares of habitat for EPBC listed threatened species, within 24 months of the date of this approval, the approval holder must secure the lands identified as the Offset Areas at Schedule 2 (Figures 1-7) of this notice as a biodiversity offset by a legal instrument under relevant nature conservation legislation on the title of the land. This instrument must:</p> <ul style="list-style-type: none"> a. Provide for the protection of the land in perpetuity; b. Prevent any future development activities, including mining and mineral extraction; c. Ensure the active management of the land; and d. Be provided to the Department within 3 months of it being issued, as evidence of compliance with this condition. 	Non-Compliant	<p>MCO is currently committed to secure the 8 EPBC2008/4444 Offset properties. Of the 8 offsets, 1 has been transferred to the National Parks Estate and 1 secured through a Conservation Agreement. 6 are to be secured through covenants on title. The process of finalising the covenatns is currently in progress.</p> <p>The Offset security mechanisms have been approved by the NSW DPE on 2 March 2016, with the Commonwealth</p>

Condition Number	Condition	Compliance ¹	Evidence/Comments
			DotEE approving Covenants in December 2014. MCO submitted draft Covenant Terms to the NSW DPE on 23 November 2015, based on covenant terms approved by the same department in 18 December 2014. Following feedback from DPE and further consultation, MCO provided updated Covenants in September 2018 and is waiting for a feedback from the NSW DPE.
5	The approval holder must undertake management and monitoring of water resources in accordance with this project approval for Application Number 08-0135 issued by the NSW Planning Assessment Commission under the Environmental Planning and Assessment Act 1979 (NSW) on 30 January 2015.	Compliant	Moolarben Complex Water Management Plan. MCO 2018 Annual Review
6	Upon request, the approval holder shall supply the groundwater monitoring data for the Moolarben Coal Project to the Department, NSW Government agencies, Operators of the Ulan and/or Wilpinjong mines or other adjacent mine operators. A protocol for the supply of the data will be included in the project's Water Management Plan.	Compliant	Section 5.5 of the Moolarben Complex Water Management Plan
7	The approval holder must make available for the Minister on request, all plans or programs and any review of plans or programs produced pursuant to Condition 5.	Compliant	Noted No requests received during the 2018 reporting period
8	Within 30 days after the commencement of the action, the approval holder must advise the Department in writing of the actual date of commencement.	Compliant	Completed in a previous period. Action commenced 2 August 2015 . Notification in writing sent on 13 August 2015
9	The approval holder must maintain accurate records substantiating all activities associated with or relevant to these conditions of approval, including measures taken to implement the BOMP and VCPLMP, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.	Compliant	Noted
10	The approval holder must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of the BOMP and VCPLMP as specified in the conditions, by 31 March for the preceding calendar year. Documentary evidence providing proof of the date of publication must be provided to the Department at the same time as the compliance report is published.	Compliant	This report.

Condition Number	Condition	Compliance ¹	Evidence/Comments
11	Non-compliance with any of the conditions of this approval must be reported to the Department within 2 business days of becoming aware of the non-compliance.	Compliant	Noted
12	Upon the direction of the Minister, the approval holder must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.	Not Applicable	Noted
13	If the approval holder wishes to carry out any activity otherwise than in accordance with the Plans as specified in the conditions, the approval holder must submit to the Department for the Minister's written approval a revised version of that Plan. The approval holder must not commence the varied activity until the Minister has approved the varied Plan in writing. The Minister will not approve a varied plan unless the revised Plan would result in an equivalent or improved environmental outcome over time. If the Minister approves the revised Plan, that Plan must be implemented in place of the Plan originally approved.	Not Applicable	Noted
14	If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and ecological communities to do so, the Minister may request that the approval holder make specified revisions to the Plan specified in the conditions and submit the revised Plan for the Minister's written approval. The approval holder must comply with any such request. The revised approved Plan must be implemented. Unless the Minister has approved the revised Plan then the approval holder must continue to implement the plan originally approved.	Not Applicable	Noted
15	If, at any time after 5 years from the date of this approval, the approval holder has not substantially commenced the action, then the approval holder must not substantially commence the action without the written agreement of the Minister.	Compliant	Action commenced 2 August 2015 .
EPBC 2013/6926			
1	The approval holder must not clear more than 171.4 hectares of native vegetation within the defined footprint at Schedule 1, Figures 1 and 2.	Compliant	At the end of the period 121 Ha of the approved 178 Ha of native vegetation within the defined footprint had been disturbed.
2	To assist in mitigating the impacts of the proposal on the Large-eared Pied Bat, Southern Long-eared Bat, Regent Honeyeater, Swift Parrot, Potted-tail Quoll and the Koala, the approval holder must prepare and submit a mine site Vegetation Clearance Protocol and Landscape Management Plan (VCPLMP) for	Compliant	VCPLMP was approved by the minister on 17 December 2014 . The VCPLMP continues to be implemented.

Condition Number	Condition	Compliance ¹	Evidence/Comments
	<p>the Minister's written approval. The VCPLMP must;</p> <p>a. Delineate areas to be cleared, describe pre-clearance survey methods, specify actions to minimise fauna impacts and details vegetation clearance procedures.</p> <p>b. Require collection and stockpiling of habitat features important to threatened fauna species for reinstatement in rehabilitation areas.</p> <p>c. Require use of native, locally sourced seed for propagation for rehabilitation activities.</p> <p>d. Specify a two stage clearing protocol where non-habitat trees are cleared 24 hours prior to any habitat trees in their proximity being cleared, to encourage fauna to move out of an area.</p> <p>e. Include a revegetation strategy to improve connectivity between isolated vegetation patches (including between Munghorn Gap Nature Reserve, Goulburn River National Park and Dexter Mountain).</p>		
3	<p>The approval holder must not commence until the VCPLMP is approved by the Minister. The approved VCPLMP must be implemented.</p>	Compliant	<p>VCPLMP was approved by the minister on 17 December 2014. Action commenced on 23 December 2014. The VCPLMP continues to be implemented.</p>
4	<p>To compensate for the loss of 16.5 hectares of the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBGW) ecological community and 171.4 hectares of habitat for EPBC listed threatened species, the approval holder must prepare and submit a Biodiversity Offset Management Plan (BOMP) for the proposed EPBC offset sites, for the Minister's written approval. The BOMP must;</p> <p>a. Identify those lands described as the Offset Areas at Schedule 2 (Figures 1-5) of this notice that are necessary to achieve the outcomes required by the Environmental Offsets Policy 2012 (or subsequent published revisions). This must include offset attributes, shapefiles, textual descriptions and maps clearly define the location and boundaries of the offset area(s).</p> <p>b. Provide a survey and description of the current condition (prior to any management activities) of the offset areas identified in Condition 4a.</p> <p>c. Details management actions and regeneration and revegetation strategies to be undertaken on the offset areas to improve the ecological quality of these areas, including:</p> <p>(i) A description and timeframe of measures that would be implemented to improve the condition of the ecological communities on the site;</p> <p>(ii) Performance and completion criteria for evaluating the management of the offset area, and criteria triggering remedial action;</p> <p>(iii) A program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;</p> <p>(iv) A description of potential risks to the successful implementation of the plan, a description of the measures that will be implemented to mitigate against these risks and a description of the contingency</p>	Compliant	<p>A Biodiversity Offset Management Plan (BOMP) was approved by the minister on 17 December 2014. The requirements of this conditions are addressed in the below section of the BOMP:</p> <p>a) Section 2 and Appendix 1 b) Section 3 c) Sections 4, 5, 6 & 7.</p>

Condition Number	Condition	Compliance ¹	Evidence/Comments
	measures that will be implemented if defined triggers arise; and (v) Details of who would be responsible for monitoring, reviewing, and implementing the plan.		
5	The approval holder must not commence the action until the BOMP is approved by the Minister. The approval BOMP must be published on an internet web site approved by the Department, within 1 month of being approved and for a period of 5 years thereafter. The approved BOMP must be implemented.	Compliant	A Biodiversity Offset Management Plan (BOMP) was approved by the minister on 17 December 2014 . Action commenced on 23 December 2014 The BOMP is located on MCO's website. (www.moolarbencoal.com.au) The BOMP continues to be implemented.
6	To compensate for the loss of 16.5 hectares of the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBGW) ecological community and 171.4 hectares of habitat for EPBC listed threatened species, the approval holder must secure the lands identified as the Offset Areas at Schedule 2 (Figures 1-5) of this notice as a biodiversity offset by a legal instrument under relevant nature conservation legislation on the title of the land. This instrument must: a. Provide for the protection of the land in perpetuity; b. Prevent any future development activities, including mining and mineral extraction; and c. ensure the active management of the land. The approval holder must not commence the action until the Department has approved the proposed instrument in writing.	Compliant	Offsets listed in the EPBC 2013-6926 approval are all under the control of Moolarben. Moolarben continues to progress the security of these offsets in perpetuity and is currently waiting on a feedback from the NSW DPE. The lands are actively managed and monitored, including fencing, weed and pest animal control and planting has been undertaken. The Department approved the protection mechanism for offsets under EPBC 2013-6926 on 17 December 2014 .
7	The approval holder must provide evidence to the Department of their compliance with Condition 6, along with offset attributes, shapefiles and textual descriptions and maps to clearly define the location and boundaries of the offset sites, prior to the commencement of the action.	Compliant	Completed in a previous period. Evidence including shapefiles provided on 1 December 2014 .
8	Within 30 days after the commencement of the action, the approval holder must advise the Department in writing of the actual date of commencement.	Compliant	Completed in a previous period. Notification in writing sent on 20 January 2015
9	The approval holder must maintain accurate records substantiating all activities associated with or relevant to these conditions of approval, including measures take to implement the BOMP and VCPLMP, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with Section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may be publicised through the general media.	Compliant	Noted

Condition Number	Condition	Compliance ¹	Evidence/Comments
10	The approval holder must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of the BOMP and VCPLMP as specified in the conditions, by 31 March for the preceding calendar year. Documentary evidence providing proof of the date of publication must be provided to the Department at the same time as the compliance report is published.	Compliant	This report.
11	Non-compliance with any of the conditions of this approval must be reported to the Department within 2 business days of becoming aware of the non-compliance.	Compliant	Noted
12	Upon the direction of the Minister, the approval holder must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must be address the criteria to the satisfaction of the Minister.	Not Applicable	Noted
13	If the approval holder wishes to carry out any activity otherwise than in accordance with the Plan as specified in the conditions, the approval holder must submit to the Department for the Minister's written approval a revised version of the Plan. The approval holder must not commence the varied activity until the Minister has approved the varied Plan in writing. The Minister will not approve a varied Plan unless the revised Plan would result in an equivalent or improved environmental outcome over time. If the Minister approves the revised Plan, that Plan must be implemented in place of the Plan originally approved.	Not Applicable	Noted
14	If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and ecological communities to do so, the Minister may request that the approval holder make specified revisions to the Plan specified in the conditions and submit the revised Plan for the Minister's written approval. The approval holder must comply with any such request. The revised approved Plan must be implemented. Unless the Minister has approved the revised Plan then the approval holder must continue to implement the Plan originally approved.	Not Applicable	Noted
15	If, at any time after 5 years from the date of this approval, the approval holder has not substantially commenced the action, then the approval holder must not substantially commence the action without the written agreement of the Minister.	Compliant	Action commenced 23 December 2014

¹ Definitions:

<u>Compliant</u>	'Compliance' is achieved when all the requirements of a condition have been met, including the implementation of management plans or other measures required by those conditions.
<u>Non-compliant</u>	requirements of a condition or elements of a condition, including the implementation of management plans and other measures have not been met.
<u>Not applicable</u>	requirements of a condition or elements of a condition fall outside of the scope of the current reporting period. For example, a condition which applies to an activity that has not yet commenced.

APPENDIX A – Moolarben Coal Annual Summaries –Biodiversity Offset Area (BOA) Flora and Fauna Monitoring

Stage 1 and EPBC (2007/3297) offset areas monitoring

Floristic monitoring undertaken within the Stage 1 BOAs during autumn and spring 2018 recorded:

- 130 species across BOA 1 (including 119 native species, six exotic species and four species unable to be identified as native or exotic)
- 94 species across BOA 2 (including 82 native species, six exotic species and six species unable to be identified as native or exotic)
- 130 species across BOA 3 (including 115 native species, 10 exotic species and five species unable to be identified as native or exotic).

Monitoring results within MZ1 sites were variable, NSD and NGC performed the best within the MZ1 sites, with 52% of the sites surveyed exceeding their benchmark value for NSD, and 43% of the sites surveyed exceeding their benchmark range for NGC. NMC was the lowest performing attribute within the MZ1 sites, with 39% of sites meeting the benchmark range.

Monitoring results within MZ2 sites were also variable, with NSD generally above the benchmark value or improved from previous year's results, and NGC (grass, shrubs and other) generally above the benchmark range or improving. NTC and NMC continue to be the worst performing structural attributes at each of the MZ2 sites, with no sites meeting the NTC benchmark range and one site meeting the NMC benchmark range.

Fauna monitoring results within the Stage 1 BOAs are similar to previous years. Fauna sites within MZ1 recorded higher numbers of woodland/remnant indicator bird species (70% of sites) and also recorded higher abundance of woodland/remnant indicator bird species at 90% of sites. MZ2 fauna site results were variable, with equal DNG and woodland/remnant indicator bird species at three sites, a higher number of DNG indicator bird species at two sites and a higher number of woodland/remnant indicator bird species at two sites. Abundance of DNG indicator bird species was highest at five sites and equal to woodland/remnant indicator bird species at one site.

Fauna sites within MZ1 recorded higher DNG indicator microbat species numbers, and also recorded higher abundance of DNG indicator microbat species. MZ2 fauna sites were similar, also recording higher DNG indicator microbat species numbers and higher abundance of DNG indicator microbat species.

Stage 1 Mod 9 and EPBC (2013/6929) offset areas monitoring.

Species richness ranged during the 2018 monitoring period from 73 at the Clarkes BOA (68 native species, two exotic species, and three that could not be identified as native or exotic) to 177 at the Bobadeen BOA (130 native species, 47 exotic species, and 21 that could not be identified as native or exotic).

Mod 9 MZ1 site monitoring results were variable, NSD and NGC performed the best within the MZ1 sites, with 59% of the sites surveyed meeting or exceeding their benchmark value for NSD, and 77% of the sites surveyed meeting or exceeding their benchmark range for NGC. NMC performed the lowest within the MZ1 sites, with 24% of sites meeting the benchmark range.

MZ2 sites within the MOD 9 BOAs had varying results, with NGC (grass, shrubs and other) generally above the benchmark range or improving (89% of sites). NSD and NTC were the lowest performing structural

attributes at each of the MZ2 sites, with only one site meeting the NTC benchmark range and only five sites meeting the NMC benchmark range.

Across the MZ1 fauna monitoring sites, 58% had higher richness and abundance of woodland/remnant indicator birds than DNG indicator birds. Conversely, 80% of MZ2 sites had greater richness of DNG indicator bird species than woodland/remnant indicator bird species, and 60% of sites had a higher abundance of DNG indicator birds. None of the Mod 9 sites recorded all five of either suite of indicator birds, with the most recorded at one site being three indicator bird species (woodland/remnant indicator species at Mod9_Fa1 (MZ1), and Mod9_Fa4 and Mod9_Fa5 (MZ2) at Bobadeen).

Analysis of indicator bat species across the MZ1 sites showed 67% of sites had higher species richness of DNG indicators than woodland/remnant indicators. Four MZ1 sites recorded no woodland/remnant indicator microbats (Mod9_Fa13 (Clarkes), Mod9_Fa15, Mod9_Fa16 (Clifford), and Mod9_Fa19 (Property 24 & 25)). Indicator microbat results varied considerably at MZ2 sites; 30% of sites had greater woodland/remnant indicator microbat species richness than DNG indicator species richness, though abundance of DNG indicator microbats was generally higher (40% of sites).

The presence and activity of birds and microbats at the BOAs is likely to be affected by continuing dry conditions by limiting food resources, and would be expected to respond well to rainfall. It is expected that MZ2 fauna sites will move towards being dominated by woodland/remnant indicator bird and microbat species as the structural attributes within each site diversify and fauna habitat becomes available.

Stage 2 and EPBC (2008/4444) offset areas monitoring.

Floristic monitoring undertaken within the Stage 2 BOAs during autumn and spring 2018 recorded:

- 259 species at Dun Dun East (including 182 native species, 60 exotic species and 17 species unable to be identified as native or exotic)
- 89 species across Libertus BOA (including 74 native species, 10 exotic species and five species unable to be identified as native or exotic)
- 181 species across the Nori (Dun Dun West) BOA (including 134 native species, 29 exotic species and 18 species unable to be identified as native or exotic)
- 158 species across the Old Bobadeen BOA (including 91 native species, 47 exotic species and 20 species unable to be identified as native or exotic)
- 191 species across the Onsite Offset BOA (including 137 native species, 37 exotic species and 17 species unable to be identified as native or exotic)
- 118 species across the Ulan 18 BOA (including 83 native species, 25 exotic species and 10 species unable to be identified as native or exotic).

2018 was the second year of monitoring for Stage 2, and therefore benchmark data was still being collected. Generally across the Stage 2 BOAs, the dry conditions that have been experienced during much of 2018 have impacted results, with general trends across the Stage 2 BOAs being down on 2017 monitoring results. These downward trends are particularly evident within the NGC, which is more likely to be impacted by dry conditions than the mid-storey and canopy. Furthermore, the groundcover was impacted by native herbivores and feral animals grazing pressure.

MZ1 sites within the Stage 2 BOAs showed a general decrease across all structural attributes. Overall, NSD and NGC performed the best within the MZ1 sites, with 69% of the sites surveyed exceeding their preliminary benchmark value for both NSD and NGC. NMC performed the worst within the MZ1 sites, with 27% of sites meeting the preliminary benchmark range.

Monitoring results within the Stage 2 BOA MZ2 sites were variable, with NSD generally above the preliminary benchmark value (28% of sites) or showing an increase since 2017 (54% of sites), and NGC generally above the benchmark range (46% of sites) or showing an increase since 2017 (13% of sites). MZ2 sites continued to be below the benchmark range for NTC and NMC with all sites yet to meet the NTC benchmark and one site meeting the NMC preliminary benchmark.

Analysis of floristic data within the Stage 2 BOAs from 2017 to 2018 has shown the results have been variable across the two monitoring periods. As 2018 is only the second year of monitoring for Stage 2, benchmark values are still being determined.

Fauna sites within MZ1 recorded higher numbers of woodland/remnant indicator bird species (53% of sites) and also recorded higher abundance of woodland/remnant indicator bird species at 59% of sites. Fauna sites within MZ2 recorded higher number of DNG indicator bird species (88% of sites) and also recorded higher abundance of DNG indicator bird species at 88% of sites.

Fauna sites within MZ1 recorded higher numbers of DNG indicator microbat species at 41% of sites and higher abundance of DNG indicator microbat species at 53% of sites. Fauna sites within MZ2 recorded higher numbers of DNG indicator microbat species at 59% of sites and higher abundance of DNG indicator microbat species at 65% of sites.

These results are likely to be reflective of the current bird and microbat habitat available within each site, with sites containing more woodland/remnant indicator bird and microbat species likely to have a higher structural diversity and more fauna habitat resources available. Over time, MZ2 sites would be expected to measure increases in woodland/remnant indicator bird and microbat species as the structural attributes within each site diversify and fauna habitat becomes available.

2.1.1 ACTIONS FOR NEXT REPORTING PERIOD

During the next period activities to be undertaken include review of management plans and revision where necessary, continued monitoring, revegetation planning, fencing, track and fire trail works, weed and feral animal control works and maintenance of property security.

APPENDIX B – Moolarben Coal Annual Summaries –Rehab Flora and Fauna Monitoring

2.2 REHABILITATION MONITORING

MCO undertakes a monitoring program of rehabilitation areas generally in accordance with the LMP. The monitoring program includes landscape function analysis, floristic monitoring, vegetation structure and growth, fauna monitoring and visual monitoring.

2.2.1 ECOSYSTEM FUNCTION ANALYSIS

Landscape Function Analysis

LFA assessment allows for the calculation of a Landscape Organisation Index (LO), reflecting the proportion of a transect occupied by patches. Patches are defined by soil surface elements, such as perennial ground cover, litter, logs or rocks that help retain soil and other resources at a site. A higher LO index implies a more stable transect that is less prone to erosion and resource loss.

LO ranged from 0.5 (site R4) to 1.0 (site R10 & R17), with the average LO across all rehabilitation sites being 0.8. This contrasts to an LO range of 0.834 and 0.996 for analogue sites (average LO 0.931) (**Figure 1**). Litter (62.9%) and bare soil (22.1%) were the dominant inter-patch/patch types across the rehabilitation sites.

Analogue sites were dominated by litter (41.3%) and ground cover (40.7%). Box Gum Shrubby Woodland analogue sites (A1a, A1b and A1c) had less than 5% bare soil, with the LO dominated by ground cover (65.4%). The Sedimentary Ironbark Forest analogue sites (A5a and A5b) were dominated by litter (58.2%), with bare soil ranging from 5.1% to 16.6%. While there is a trend of decreasing bare soil at the majority of monitoring sites, at this stage bare soil is much higher at the rehabilitation sites compared to target Box Gum Shrubby Woodland analogues.

Trees/shrubs, and microhabitat features such as logs and rocks, continue to contribute to a limited proportion of the rehabilitation landscape. The average contribution of each of these patch types was consistently less than 1%. Cryptogams were only present within one rehabilitation site (R10 – 27.4%) while they constituted between 3.8% and 22.8% of the total landscape in sites A5a and A5b respectively. This result is to be expected considering the long period of time that is required for these features to establish.



Figure 1: Landscape Organisation for each LFA transect, spring 2018 (analogues: spring 2014)

Floristic Monitoring

During autumn 2018, all Box Gum Woodland rehabilitation floristic plots exhibited a higher number of native species than exotic. Native species richness ranged from 13 to 30 species, with exotic species richness ranging from 0 to 9 species. During spring 2018, native species richness ranged from 23 to 31 species, with exotic species richness ranging from two to six species (**Figure 2**). Species richness decreased in some monitoring and analogue sites. Species richness has generally increased over the recent years with some variations relating to seasonal conditions.

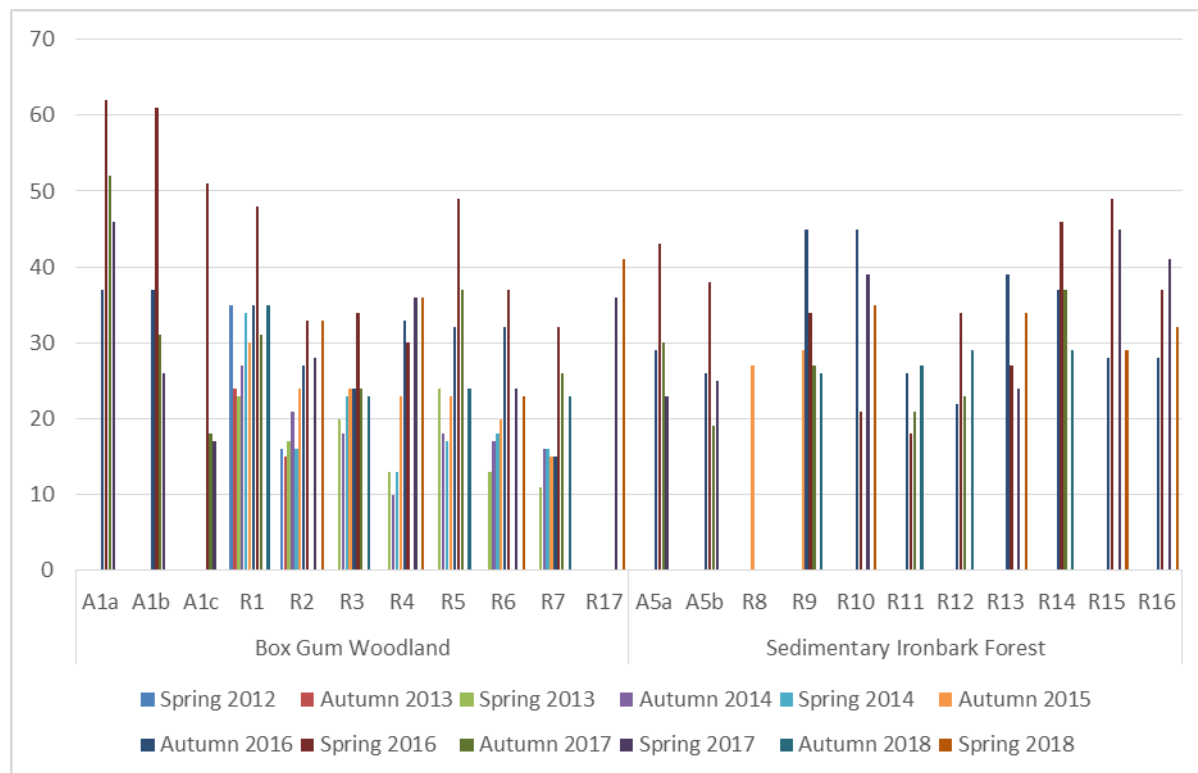


Figure 2: Species Richness (autumn 2013 – spring 2018)

Vegetation Structure and Growth

At both the Box Gum Woodland and Sedimentary Ironbark Forest sites, the lowest height of the upper strata continues to be less than that seen at their respective analogue sites. This trend is consistent with the age of the rehabilitation. The minimum heights of the upper strata has generally shown an increase demonstrating that these species are continuing to establish within the rehabilitation area.

As with spring 2017, spring 2018 monitoring indicated that the upper and mid layers of the rehabilitation was dominated by *Acacia* species, including *Acacia linearifolia* (Narrow-leaved Wattle), *Acacia spectabilis* (Mudgee Wattle), *Acacia polybotrya* and *Acacia verniciflua* (Varnish Wattle). Eucalypts (*E. punctata* and *Eucalyptus spp.*) were recorded in the upper and mid-storey of seven of the eight Box Gum Shrubby Woodland rehabilitation sites and five of the eight sites within the Sedimentary Ironbark Rehabilitation area.

Fauna Monitoring

A total of 58 native and one exotic fauna species were recorded during spring 2018, including four threatened species Spotted Harrier (*Circus assimilis*), *Nyctophilus corbeni* (Corben's Long-eared Bat), *Chalinolobus dwyeri* (Large-eared Pied Bat) and *Miniopterus orianae oceanensis* (Eastern Bentwing-bat). The increasing species richness trend over the last five years of monitoring is shown in **Figure 3**. A record number of microbat species were recorded at Anabat sites, and bird species richness was well above the historical average for the third year in a row.

Birds were the most abundant class of fauna identified during spring 2018, with 38 native species recorded during the survey. This included 10 species that were not recorded within OC1 during the 2017 monitoring.

The presence of obligate woodland bird species such as honeyeaters, and a higher species richness, indicates that sections of the rehabilitation are maturing and are more advanced in their transition toward functioning woodland ecosystems. The presence of both grassland and woodland species across multiple sites may be reflective of the highly heterogeneous, mosaic nature of vegetation structure and development throughout the rehabilitation area.

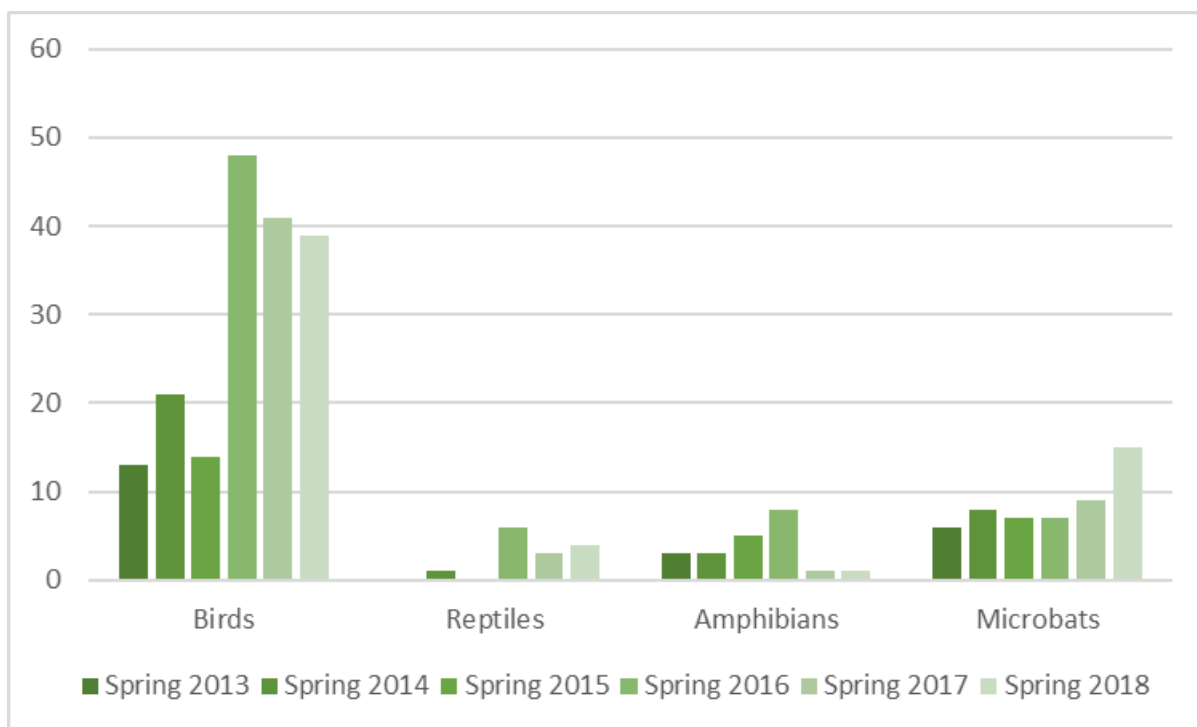


Figure 3: Comparison of target fauna species

Visual Monitoring

Weeds (exotic plants excluding cover crop species) during spring 2018 were generally observed as occurrences of individual plants or small patches rather than strong infestations. The Priority Weeds *Eragrostis curvula* (African Lovegrass), *Hypericum perforatum* (St John’s wort) and *Senecio madagascariensis* (Fireweed) were scattered throughout open areas of OC1 where canopy species have not yet established well.

Visual monitoring undertaken during spring 2018 observed isolated areas of moderate erosion particularly on steeper areas.

Noticeable growth of eucalypts was observed throughout areas of the February 2012 rehabilitation area. The association between higher eucalypt densities and microhabitat features such as LWD, or along sheltered gentle gully areas, was similarly observed in a number of other areas throughout the OC1 rehabilitation.

Assessment of Rehabilitation Performance Indicators

Analysis of the Box Gum Woodland and Sedimentary Ironbark Forest rehabilitation against the RMP Performance Indicators (and vegetation structure indicators) is presented in **Table 1** and **Table 2**.

Table 1: Box Gum Shrubby Woodland rehabilitation assessment

Objective: Establish native vegetation comparable to Box Gum Shrubby Woodland communities including stands of <i>Allocasuarina</i> spp. Monitoring Sites and Year established	Completion Criteria (by years 5-7)			
	Species composition targets			Vegetation structure targets
	Presence of one to three overstorey species from Box Gum Shrubby Woodland	Presence of at least four native ground cover species that are present at analogue sites	*Presence of stands of <i>Allocasuarina</i> spp.	Indicator species plant densities trending towards plant densities of analogue sites
November 2010 R1	Yes	Yes	Yes	Whilst overstorey species from the Box Gum Woodland communities are present, the current structure lacks a <i>Eucalyptus</i> canopy, upper layer is <i>Acacia</i> spp. dominated, and native groundcover is in very low densities.
November 2010 R2	Yes	Yes		
February 2012 R3	Yes	Yes		
February 2012 R4	Yes	Yes		
February 2012 R5	Yes	Yes		
February 2012 R6	Yes	No		
February 2012 R7	Yes	No		
December 2014 R17	Yes	Yes		

*Stands of *Allocasuarina* spp. are only required to be present with in the rehab area not within each monitoring site

Table 2: Sedimentary Ironbark Forest rehabilitation assessment

Objective: Establish native vegetation comparable to Sedimentary Ironbark Forest communities including stands of <i>Allocasuarina</i> spp. Monitoring Sites and Year established	Completion Criteria (by years 5-7)			
	Species composition targets			Vegetation structure targets
	Presence of two to three overstorey species from Sedimentary Ironbark Forest	Presence of at least four native ground cover species that are present at analogue sites	*Presence of stands of <i>Allocasuarina</i> spp.	Indicator species plant densities trending towards plant densities of analogue sites
February 2013 R9	Yes	Yes	Yes	Whilst overstorey species from the Sedimentary ironbark communities are present, the current structure lacks a <i>Eucalyptus</i> canopy, upper layer is <i>Acacia</i> spp. dominated, and native groundcover is in very low densities.
March 2012 R10	Yes	Yes		
March 2012 R11	No	Yes		
March 2012 R12	No	Yes		
November 2012 R13	Yes	Yes		
November 2012 R14	Yes	Yes		
March 2012 R15	No	Yes		
November 2012 R16	Yes	Yes		

*Stands of *Allocasuarina* spp. are only required to be present with in the rehab area not within each monitoring site