

BENGALLA MINING COMPANY



Bengalla Mine (EPBC APPROVAL 2012/6378)

2021 ANNUAL COMPLIANCE REPORT



Prepared by:
BENGALLA MINING COMPANY PTY LIMITED
Locked Bag 5
MUSWELLBROOK NSW 2333
March 2022





TABLE OF CONTENTS

1	INTRODUCTION	3
1.1	Background	3
1.2	Purpose and Scope.....	3
1.3	Clearing Activities in 2021.....	4
1.4	Weed and Pest Management in 2021.....	5
1.5	Compliance Report	7
1.6	Conclusion	15
Appendix A	Biodiversity Management Plan Commitments	
Appendix B	Biodiversity Offset Management Plan Commitments	
Appendix C	Annual Clearing Report 2021	
Appendix D	Weeds and Pest Management	

LIST OF TABLES

Table 1 Staged Clearing Approach	4
Table 2 BMC Compliance Status against Conditions of EPBC Approval for 2021	7

LIST OF FIGURES

Figure 1 - Vegetation Communities.....	6
---	----------



BENGALLA MINE

ANNUAL COMPLIANCE REPORT FOR EPBC APPROVAL 2012/6378

1 INTRODUCTION

1.1 Background

Bengalla Mining Company Pty Limited (BMC) operates the Bengalla Mine (Bengalla) on behalf of the Bengalla Joint Venture (comprising New Hope Bengalla Pty Ltd as to 8/10 share and Taipower Bengalla Pty Limited as to 2/10 share). Bengalla is located 130 km north-west of Newcastle and 4 km west of the township of Muswellbrook.

Bengalla commenced operations in 1998 and is approved to extract up to 15 Million tonnes per annum of run of mine coal until 2039.

On 3 March 2015, State Significant Development Consent (SSD-5170) for the Bengalla Continuation of Mining Project was granted by the Secretary of what was then the NSW Department of Planning and Environment (DPE)¹ under the *Environmental Planning and Assessment Act 1979* NSW.

On 27 May 2015, BMC was granted *Environment Protection and Biodiversity Conservation Act 1999* Cth (EPBC Act) Approval 2012/6378 (the EPBC Approval).

Both of the EPBC Approval and SSD-5170 (as originally granted) are supported by the '*Continuation of Bengalla Mine Environmental Impact Statement*' (Hansen Bailey, 2013) (EIS) and *Continuation of Bengalla Mine Response to Submissions* (Hansen Bailey, 2014) (RTS).

The Biodiversity Offset Management Plan (BOMP) has been developed to meet relevant requirements under the EPBC Approval and SSD-5170. The current version of the BOMP was approved by what was then the Commonwealth Department of Environment and Energy (DoEE)² on 8 March 2017 and by DPE on 18 August 2017.

The Biodiversity Management Plan (BDMP) has also been developed to meet relevant requirements under the EPBC Approval and SSD-5170. The current version of the BDMP was approved by DPE on 18 August 2017 and by DoEE on 20 September 2017. The BDMP incorporates the Vegetation Clearance Protocol and Landscape Management Plan (VCPLMP) referred to in the EPBC Approval.

1.2 Purpose and Scope

This report has been prepared in accordance with Condition 12 of the EPBC Approval which states:

"By the end of March each year, 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 VCLMP as specified in the conditions. 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.

Note: The Annual Review required under NSW Approval condition 4 (of Schedule 5) may be used to satisfy this condition if it meets the above content and submission requirements."

This report applies to the period 1 January 2021 to 31 December 2021 (Reporting Period).

¹ Now the Department of Planning, Industry and Environment (DPIE).

² Now the Department of Agriculture, Water and the Environment (DAWE).

This report is published as a stand-alone report and will also form an Appendix to the 2021 Annual Review for Bengalla required under SSD-5170 Schedule 5 Condition 4.

1.3 Clearing Activities in 2021

Table 1 is a reproduction of Figure 6 from the BDMP. It provides details of the staged clearing approach undertaken at Bengalla.

Table 1
Staged Clearing Approach

Stage	Actions
Pre-Clearing Survey	<ul style="list-style-type: none"> Performed within one month of clearing All fauna, flora and <i>Cymbidium canaliculatum</i> recorded Vegetation health assessed and documented Habitat features marked and flagged Fauna captured and relocated
Clearing – Stage 1	<ul style="list-style-type: none"> Removal of all vegetation other than habitat trees Habitat features left standing overnight
Clearing – Stage 2	<ul style="list-style-type: none"> A final pre-clearing inspection will be conducted to identify and capture any fauna Habitat trees lightly shaken by machinery prior to felling Appropriate machinery used to fell the tree Any <i>Cymbidium canaliculatum</i> (Tiger Orchid) translocated Remaining fauna captured and relocated Felled habitat trees left overnight and then appropriate sections are removed and relocated to a storage location, rehabilitation areas or disposed

The Bengalla Mine Annual Clearing Report for 2021 is presented in **Appendix C** and contains details about the procedures and results for all pre-clearing and clearing activities completed at Bengalla during the Reporting Period.

Clearing works in 2021 were undertaken in relation to, but not limited to the following:

- Pre-clearances in advance of approved mining operations,
- Relocation and construction of infrastructure, and
- Maintenance works.

The Clearing Report attached as **Appendix C** summarises the 2021 pre-clearance and clearance surveys, which included:

- Identification of 40 hollow-bearing / habitat trees, of which 32 were felled;
- 16 animals were relocated or captured during pre-clearance and clearance surveys;
- Observation of 19 animals that evaded capture during clearing;

- One skink died during clearing operations and one microbat and one Pacific Black Duck required euthanasia due to injuries obtained when clearing;
- No injured or immature animals were taken to either the local veterinary centre or directly to Wildlife Aid; and
- One *Cymbidium canaliculatum* (listed as endangered under the EPBC Act) was identified during 2021. Clearing in the area of the *Cymbidium canaliculatum* was postponed for the remainder of the 2021 clearing program, so that the individual could be managed appropriately and relocated prior to disturbance.

Figure 1 is a reproduction of Figure 3 from the approved BOMP and has been updated to illustrate areas cleared during the Reporting Period, including Critically Endangered Ecological Communities (CEEC) listed under the EPBC Act.

CEEC identified in environmental assessments completed for the EIS and RTS included the following four communities identified as conforming to Upper Hunter White Box-Ironbark Grassy Woodland (Box Gum Woodland):

- Grey Box/White Box Intergrade Grassy Woodland;
- Upper Hunter White Box -Ironbark Grassy Woodland;
- Central Hunter Ironbark – Spotted Gum Forest; and
- Derived Native Grassland.

1.4 [Weed and Pest Management in 2021](#)

Information about the weed and pest management programs implemented at Bengalla and the offset areas during the Reporting Period is presented in **Appendix D**.

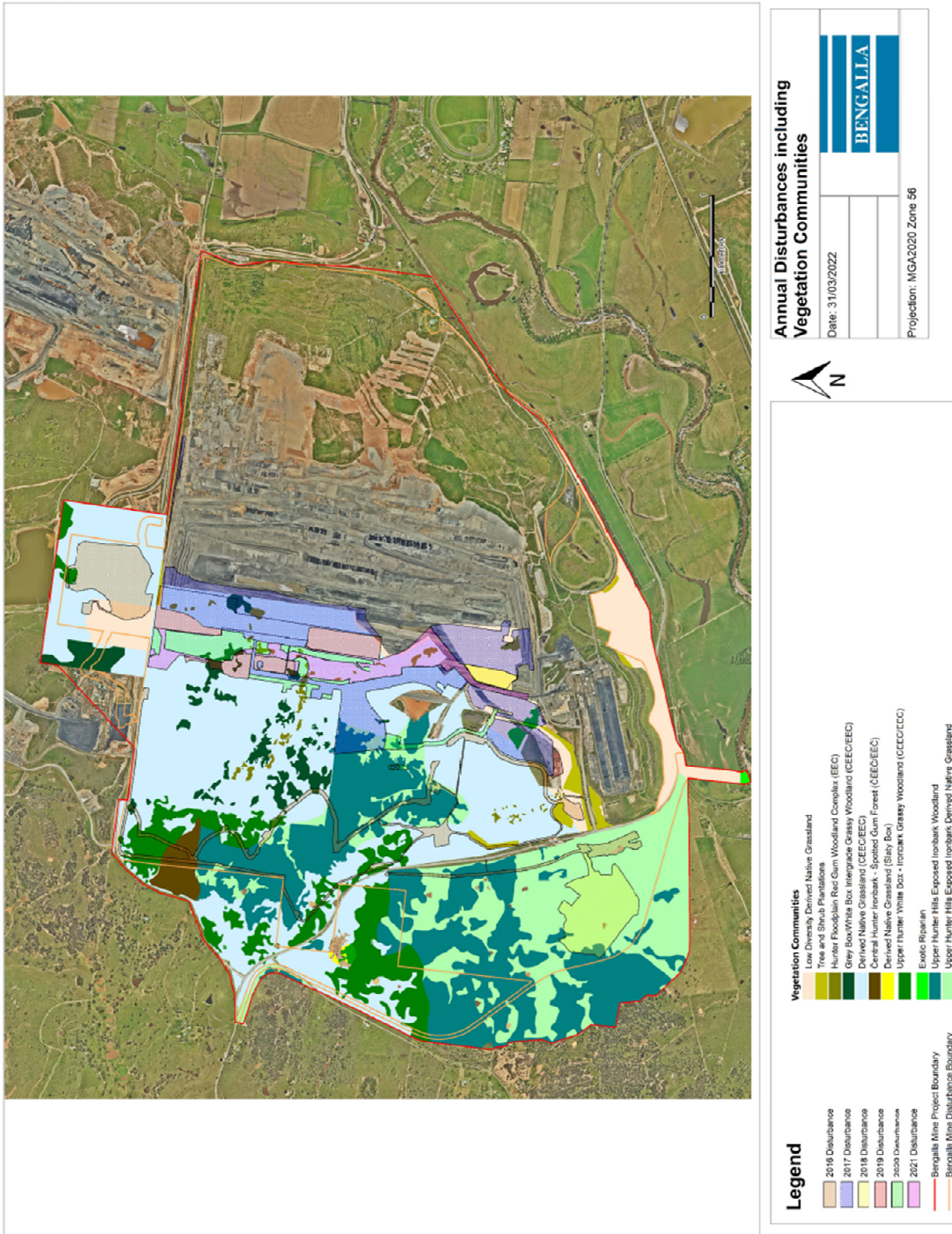


Figure 1 - Vegetation Communities

1.5 Compliance Report

The commitments made in the approved BDMP and BOMP, along with the compliance status of each for the Reporting Period, are presented in **Appendix A** and **Appendix B** respectively with comments provided against each where required.

Table 2 lists the conditions of the EPBC Approval and indicates the compliance status of each for the Reporting Period as ‘compliant’, ‘not compliant’ or ‘not triggered’. Comments are provided against each condition, where required.

Table 2
BMC Compliance Status against Conditions of EPBC Approval for 2021

Ref	Condition	Status	Comment
1	The approval holder must not clear more than 535 hectares of <i>White Box-Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland</i> ecological community (Box Gum Woodland) and must limit clearing to within the project disturbance boundary defined at Schedule 1.	Compliant	In 2021 clearing was undertaken within the Project Disturbance Boundary shown on the plan at Schedule 1 of the EPBC Approval. BMC has not cleared more than 535 hectares of Box Gum Woodland (see Figure 1).
2	<p>To mitigate impacts of the action on Box Gum Woodland, the Grey Headed Flying Fox, Large-eared Pied Bat, South-eastern Long-eared Bat, Regent Honeyeater, Swift Parrot and 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> <ol style="list-style-type: none"> Delineate areas to be cleared, describe pre-clearance survey methods, specify actions to minimise fauna impacts and detail vegetation clearance procedures Require collection and stockpiling of habitat features important to threatened fauna species for reinstatement in rehabilitation areas Require use of native, locally sourced seed for propagation for rehabilitation activities Include measures to avoid, suppress and control the spread of plant pathogens (such as <i>Phytophthora cinnamomi</i>) Specify a two stage clearing protocol where non-habitat trees are cleared 24 hours prior to any habitat trees being cleared, to encourage fauna to move out of an area. <p>The approval holder must not commence the action until the VCPLMP is approved by the Minister. The approved VCPLMP must be implemented.</p>	Compliant	<p>A BDMP was developed to meet this requirement and is implemented at Bengalla. Appendix A sets out the commitments from the BDMP and the compliance status of each for the Reporting Period.</p> <p>The original version of the BDMP was approved by each of (then) DPE and DoEE on 14 August 2015. BMC commenced implementation of the BDMP from that date (before operations commenced under SSD-5170).</p> <p>The current (revised) version of the BDMP was approved by DPE on 18 August 2017 and DoEE on 20 September 2017.</p> <p>The BDMP addresses each of the requirements in Condition 2(a)-(e) of the EPBC Approval (refer to Table 1 of the BDMP).</p>

Ref	Condition	Status	Comment
	<p>Note: The Biodiversity Management Plan required under NSW Approval condition 29 may be used to satisfy this condition if it meets the above content and submission requirements.</p>		
3	<p>To compensate for the loss of 535 hectares of Box Gum Woodland ecological community and 272 hectares of habitat for the Grey Headed Flying Fox, Large-eared Pied Bat, South-eastern Long-eared Bat, Regent Honeyeater, Swift Parrot and the Spotted-tail Quoll, the approval holder must prepare and submit, by 3 September 2015, a Biodiversity Offset Management Plan (BOMP) for the Minister's written approval.</p> <p>The BOMP must:</p> <ol style="list-style-type: none"> a. Identify those lands described as the Offset Areas at Schedule 2 (Figures 1- 6) of this notice. This must include offset attributes, shape files, textual descriptions and maps to clearly define the location and boundaries of the offset area(s) b. Provide a survey and description of the current condition (prior to any management activities) of the offset areas identified in Condition 3a 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: <ol style="list-style-type: none"> (i) a description and timeframe of measures that would be implemented to improve the condition of Box Gum Woodland and habitat for the Grey Headed Flying Fox, Large-eared Pied Bat, South-eastern Long-eared Bat, Regent Honeyeater, Swift Parrot and the Spotted-tail Quoll on the offsets sites; (ii) performance and completion criteria for evaluating the management of the offset areas, and criteria for triggering remedial action; (iii) a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria; (iv) a description of potential risks to the successful implementation of 	Compliant	<p>A BOMP was developed to meet this requirement and is implemented at Bengalla. Appendix B sets out the commitments from the BOMP and the compliance status of each for the Reporting Period.</p> <p>The draft BOMP was submitted to then DoEE and DPE on 2 September 2015. Following an extensive consultation process (see Appendix A of the BOMP), the BOMP was approved by DoEE on 8 March 2017 and by DPE on 18 August 2017.</p> <p>The BOMP addresses each of the requirements in Condition 3(a)-(c) of the EPBC Approval (refer to Table 1 of the BOMP).</p> <p>The approved BOMP was published on Bengalla's website within 1 month after being approved and continues to be available on the website.</p> <p>The BOMP was reviewed in 2020 and has since been amended by creating three separate BOMP's (one for each Biodiversity Offset Area). The DPIE has been consulted and has no objection to this approach. The draft documents have been forwarded to the NSW Office of Environment and Heritage for comment and submitted to DAWE for review. DAWE has provided comment on the draft documents. The currently approved BOMP continues to be implemented in the meantime.</p>

Ref	Condition	Status	Comment
	<p>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 defined 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 implemented. The approved BOMP must be published on the approval holder's internet web site within 1 month of being approved. The most recently approved version of the BOMP must be published on the approval holder's internet web site for a period of 5 years after it is approved.</p> <p>Note: The Biodiversity Management Plan required under NSW Approval condition 29 may be used to satisfy this condition if it meets the above content and submission requirements.</p>		
4	<p>The approval holder must secure the lands identified as the <i>Offset Areas</i> at Schedule 2 (Figures 1- 6) of this notice as a biodiversity offset, in accordance with NSW Approval condition 28.</p>	Compliant	<p>All Biodiversity Offset Areas identified in Schedule 2 (Figures 1-6) of the EPBC Approval are owned by the Bengalla Joint Venture and managed by BMC. All Biodiversity Offset Areas are managed in accordance with the BOMP.</p> <p>Communication with the relevant NSW departments occurred during 2021 in relation to progressing to an appropriate long-term mechanism for securing the Biodiversity Offset Areas in accordance with Schedule 3 Condition 28 of SSD-5170 (Condition 28). In the meantime, these areas remain owned by the Bengalla Joint Venture and are managed by BMC in accordance with the BOMP.</p> <p>By letter dated 6 October 2020, the Secretary agreed to an extension of time until 30 June 2022 to finalise the long term security of the Biodiversity Offset Areas under Condition 28.</p>
5	<p>In order to protect listed threatened species and listed threatened ecological communities, the approval holder must undertake rehabilitation activities in accordance with NSW approval conditions 44, 45 and 46.</p>	Compliant	<p>Condition 44</p> <ul style="list-style-type: none"> <u>Requirement</u> <p>Schedule 3 Condition 44 of SSD-5170 (Condition 44) requires BMC to rehabilitate the site to the satisfaction of what is now the Resources Regulator. The rehabilitation must comply with the objectives in Table 15 of SSD-5170 and be consistent with the conceptual final landform shown in Appendix 9 of SSD-5170.</p> <ul style="list-style-type: none"> <u>Status</u>

Ref	Condition	Status	Comment
			<p>Rehabilitation at Bengalla is ongoing. It is undertaken in accordance with SSD-5170 (as modified) and the current Mining Operations Plan 2017-2022 Amendment D (MOP), subject to operational progress.</p> <p>The current MOP proposed to undertake 38 hectares of new rehabilitation in 2021. During the Reporting Period, 38.2 hectares was rehabilitated as new rehabilitation being made up of 5.8 hectares of improved pasture and 32.4 hectares of High Density Woody Vegetation via direct seeding.</p> <p>In addition to new rehabilitation, BMC also installed 40.9ha of High Density Woody Vegetation via direct seeding into previously rehabilitated land.</p> <p>The Resources Regulator inspected the rehabilitation works at Bengalla in December 2021.</p> <p>The rehabilitation objectives in Table 15 of SSD-5170 are being met as appropriate and rehabilitation is progressing to be consistent with the conceptual final landform in Appendix 9 of SSD-5170 (noting that some requirements are ongoing or not yet applicable).</p> <p>Further detail about the rehabilitation carried out at Bengalla during the Reporting Period will be available in Section 8 of the Annual Review for 2021.</p> <p>Condition 45</p> <ul style="list-style-type: none"> Requirement <p>Schedule 3 Condition 45 of SSD-5170 requires BMC to carry out progressive rehabilitation. Interim stabilisation measures are to be used where reasonable and feasible to control dust emissions in disturbed areas that are not active but not ready for final rehabilitation.</p> <ul style="list-style-type: none"> Status <p>Rehabilitation is carried out progressively at Bengalla, as soon as reasonably practicable following disturbance. Interim stabilisation measures are used where required. Refer to comments at Condition 44 above regarding rehabilitation carried out during the Reporting Period.</p> <p>Condition 46</p> <ul style="list-style-type: none"> Requirement <p>Schedule 3 Condition 46 of SSD-5170 (Condition 46) requires BMC to prepare a Rehabilitation Management Plan to the satisfaction of what is</p>

Ref	Condition	Status	Comment
			<p>now the Resources Regulator. The plan must be prepared in accordance with and incorporate the elements specified in Condition 46. BMC must implement the plan as approved by the Secretary.</p> <ul style="list-style-type: none"> <u>Status</u> <p>The MOP was developed to meet this requirement and functions as the approved Rehabilitation Management Plan. It is implemented at Bengalla as part of mining operations.</p> <p>The current MOP (Amendment D) was approved by the Secretary on 6 December 2021. The MOP was prepared in accordance with the applicable guidelines and addresses each of the requirements of Condition 46. The required stakeholder consultation is undertaken as part of any MOP application or amendment process.</p>
6	The approval holder must undertake management and monitoring of water resources in accordance with NSW approval conditions 23 to 25.	DAWE concluded not compliant with Condition 6 in relation to discharge event – no regulatory action taken	<p>Condition 23</p> <ul style="list-style-type: none"> <u>Requirement</u> <p>Schedule 3 Condition 23 of SSD-5170 (Condition 23) requires BMC to comply with section 120 of the <i>Protection of the Environment Operations Act 1990</i> NSW and the <i>Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002</i> NSW (unless an EPL or the EPA authorises otherwise).</p> <ul style="list-style-type: none"> <u>Status</u> <p>During the Reporting Period BMC notified DAWE, DPIE and the NSW Environment Protection Authority (EPA) of a potential non-compliance relating to Condition 23.</p> <p>This involved elevated Total Suspended Solids (TSS) concentrations recorded for discharge events on 21 March 2021 and 23 March 2021.</p> <p>The matter was investigated and reports provided to DAWE, DPIE and EPA.</p> <p>By letter dated 22 July 2021, DAWE advised that <i>“the department has formed the view that a contravention of [Condition 6 of the EPBC Approval] has been substantiated ... However, after careful consideration of the matter, the department has concluded that the issuing of an infringement notice would not be an appropriate response in this case. Consequently, no further action will be taken regarding this matter ...”</i> The DPIE and EPA have also not taken any further action in relation to this matter.</p> <p>During the Reporting Period, BMC discharged a total of 270 ML of saline water (from discharge events in March and December 2021) to the Hunter River under the <i>Protection of the</i></p>

Ref	Condition	Status	Comment
			<p><i>Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002 NSW.</i></p> <p>Condition 24</p> <ul style="list-style-type: none"> <u>Requirement</u> <p>Schedule 3 Condition 24 of SSD-5170 requires BMC to ensure that mining operations comply with the performance measures in Table 12 of SSD-5170 to the satisfaction of the Secretary.</p> <ul style="list-style-type: none"> <u>Status</u> <p>Water management at Bengalla during the Reporting Period was undertaken in accordance with the performance measures in Table 12 of SSD-5170. The approved Water Management Plan (WMP) also addresses the performance measures (see Table 1 of the WMP).</p> <p>Further detail about the site water balance and results of surface water monitoring and groundwater monitoring during the Reporting Period will be available in the Annual Review for 2021.</p> <p>Condition 25</p> <ul style="list-style-type: none"> <u>Requirement</u> <p>Schedule 3 Condition 25 of SSD-5170 requires BMC to prepare a Water Management Plan to the satisfaction of the Secretary. The plan must be prepared in accordance with and incorporate the elements specified in Condition 25. BMC must implement the plan as approved by the Secretary.</p> <ul style="list-style-type: none"> <u>Status</u> <p>The WMP was developed to meet this requirement and is implemented at Bengalla.</p> <p>The current WMP was approved by the Secretary on 1 February 2019. The WMP was prepared in consultation with the relevant authorities and addresses each of the requirements of Schedule 3 Condition 25 of SSD-5170 (see Table 2 of the WMP).</p>
7	In order to protect water resources, the approval holder must undertake rehabilitation activities in accordance with NSW approval conditions 44 and 46.	Compliant	Refer to comments at Conditions 5 and 6 above.
8	Upon request, the approval holder shall supply the groundwater monitoring data for the Bengalla Mine to the Department, NSW Government agencies, operators of the Mt Arthur and/or Mount Pleasant mines or other adjacent mine operators. A protocol for the supply of the data must be included in the approval holder's Water Management Plan.	Not Triggered	<p>No request was made during the Reporting Period.</p> <p>In accordance with Schedule 5 Condition 11 of SSD-5170 and BMC's approved WMP, groundwater monitoring results are published as part of the Annual Review on Bengalla's website each year.</p>

Ref	Condition	Status	Comment
9	The approval holder must make available to the Minister on request, all plans or programs and any review of plans or programs required under the Project Approval issued for the project under the Environmental Planning and Assessment Act, 1979 (NSW), including the Biodiversity Management Plan, the Rehabilitation Management Plan and the Water Management Plan, which must include a Site Water Balance, Surface Water Management Plan and Groundwater Management Plan.	Not Triggered	No request was made during the Reporting Period. Approved Bengalla management plans are available on Bengalla's website. BMC's approved Water Management Plan includes a Site Water Balance, Surface Water Management Plan and Groundwater Management Plan.
10	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	By email dated 30 October 2015, BMC advised then DoEE that the action the subject of the EPBC Approval commenced 1 October 2015.
11	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 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 also be publicised through the general media.	Not Triggered	BMC maintains accurate records substantiating all activities associated with or relevant to the EPBC Approval conditions, including measures to implement the BOMP and the BDMP (which incorporates the VCPLMP). No request was made during the Reporting Period to make any records available to DAWE. Appendix A describes the commitments made in the approved BDMP and how each has been addressed in the Reporting Period. Appendix B describes the commitments made in the approved BOMP and how each has been addressed in the Reporting Period. Appendix C describes pre-clearing and clearing activities implemented in accordance with the BDMP during the Reporting Period.
12	By the end of March each year, 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. 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. Note: The Annual Review required under NSW Approval condition 4 (of Schedule 5) may be used to satisfy this condition if it meets the above content and submission requirements.	Compliant	This report addresses compliance with each of the conditions of the EPBC Approval for the Reporting Period. Appendix A describes the commitments made in the approved BDMP and how each has been addressed in the Reporting Period. Appendix B describes the commitments made in the approved BOMP and how each has been addressed in the Reporting Period. Appendix C describes pre-clearing and clearing activities implemented in accordance with the BDMP during the Reporting Period. This report will be uploaded to Bengalla's website by the end of March 2022 and documentary evidence of publication will be provided to DAWE at the same time.
13	Non-compliance with any of the conditions of this approval must be reported to the Department within 2 business days of the	DAWE concluded not compliant	As described above at Condition 6, during the Reporting Period BMC notified DAWE, DPIE and the NSW Environment Protection Authority (EPA)

Ref	Condition	Status	Comment
	approval holder becoming aware of the non-compliance.	with Condition 13 in relation to reporting of discharge event – no regulatory action taken	of a potential non-compliance relating to Schedule 3 Condition 23 of SSD-5170. BMC made the initial notification to DAWE on 31 March 2022 and submitted investigation reports to DAWE on 8 and 13 April 2021. By letter dated 22 July 2021, DAWE advised that <i>“the department has formed the view that a contravention of [Condition 13 of the EPBC Approval] has been substantiated ... However, after careful consideration of the matter, the department has concluded that the issuing of an infringement notice would not be an appropriate response in this case. Consequently, no further action will be taken regarding this matter ...”</i>
14	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 Triggered	No direction was made during the Reporting Period.
15	If the approval holder wishes to carry out any activity other than in accordance with a Plan 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 Triggered	No relevant activities other than those described in the BDMP or BOMP have been required during the Reporting Period.
16	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 a 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, as specified in the conditions.	Not Triggered	No request was made during the Reporting Period.



Ref	Condition	Status	Comment
17	If, at any time after 5 years from the date of this approval, the approval holder has not commenced the action, then the approval holder must not commence the action without the written agreement of the Minister.	Not Triggered	By email dated 30 October 2015, BMC advised then DoEE that the action the subject of the EPBC Approval commenced on 1 October 2015.

1.6 Conclusion

DAWE has concluded that there were two non-compliances (with Conditions 6 and 13 of the EPBC Approval) in relation to discharge events that occurred during March 2021. No regulatory action has been taken by DAWE (or the DPIE or EPA) in relation to these events. BMC has complied with all other EPBC Approval conditions during the Reporting Period.

BMC will continue to review and document all relevant activities at Bengalla during the 2022 reporting period to assist in maintaining compliance with the EPBC Approval conditions.

Appendix A and **Appendix B** provide comments about the implementation of the BDMP and BOMP commitments respectively during the Reporting Period. In summary, BMC has complied with the BDMP and BOMP commitments for the Reporting Period.

Appendix A Biodiversity Management Plan Commitments

BDMP Section	Control / Action	Timing / Trigger	Responsibility	Monitoring	Reporting	Status	Comment
4.1	Marking Limits of Clearing	Prior to clearing	Environment Superintendent / Mining Manager / Surveyors	Inspection to be undertaken throughout duration of clearing.	Documented in Ground Disturbance Permit (GDP) form and signed off.	Compliant	GDP boundaries are demarcated prior to clearing, where required. Refer section 2.2 of Appendix C .
4.2	Identification of suitable fauna relocation sites	Prior to clearing	Environment Superintendent / Mining Manager	N/A	Documented in GDP form and/or pre-clearing report.	Compliant	Refer Section 2.2.6 of Appendix C .
4.2	Pre-clearing surveys	Within one month prior to clearing	Suitably qualified person	Monitoring of fauna and flora (including Tiger Orchid, pest and weed species), habitat features and plant pathogens.	Documented and signed off in the pre-clearing report. Results to be reported in Annual Review. OEH notified if new threatened species identified.	Compliant	Refer Section 3.1 of Appendix C .
4.2	Clearing Surveys	Within one month of the pre-clearing survey	Suitably qualified person	Monitoring of fauna and flora (including Tiger Orchid, pest and weed species), habitat features and plant pathogens.	Documented and signed off in the clearing report. Results to be reported in Annual Review. OEH notified if new threatened species identified.	Compliant	Refer Section 3.2 of Appendix C .
4.3	Pre-clearing weed management	Prior to clearing and during clearing	Suitably qualified person and Environment Superintendent	Inspection to be undertaken prior to clearing.	Documented and signed off in the GDP. Results to be reported in Annual Review.	Compliant	Refer Section 3.1.7 of Appendix C .

BDMP Section	Control / Action	Timing / Trigger	Responsibility	Monitoring	Reporting	Status	Comment
4.2.3	Relocation of habitat features to rehabilitation areas, adjacent vegetation or storage location.	During and/or after clearing	Environment Superintendent	N/A	Documented and signed off in the GDP. Results to be reported in Annual Review.	Compliant	Refer Section 3.1.8 and Section 3.2 of Appendix C .
4.1	Inductions and Staff Education	Ongoing as part of the existing induction process or as part of toolbox talks prior to commencement of ground disturbance works.	Environment Superintendent	N/A	As per Induction procedure	Compliant	Inductions provided to BMC staff and contractors include a component on biodiversity management.
4.2	Vehicle Driving Policy and Signage	Ongoing or when wildlife crossing areas are identified	Mining Manager / Environment Superintendent	N/A	N/A	Compliant	No wildlife crossing areas were identified by the suitably qualified expert (WSP) during 2021. Site access tracks and controls are included in site procedures.
4.2.5	Seed collection	Targeted throughout year and opportunistically before and immediately after clearing	Environment Superintendent	Observations to be made throughout year to check flowering / seeding development of key species. Ensure correct licences are held by any contractors.	To be documented and reported in Annual Review.	Compliant	Refer Section 3.1.6 of Appendix C .
4.3	Weed control	Ongoing over life of mine	Environment Superintendent	Routine field observations in Weed Control Zones, including rehabilitation areas.	Results to be reported in Annual Review.	Compliant	Refer Appendix D .
4.4	Feral animal control	Ongoing over life of mine	Environment Superintendent	Routine field observations in Weed Control Zones including rehabilitation areas	Results to be reported in Annual Review.	Compliant	Refer Appendix D .



Bengalla Mine
2021 Annual Compliance Report

BDMP Section	Control / Action	Timing / Trigger	Responsibility	Monitoring	Reporting	Status	Comment
5.0	Ecological Monitoring and Inspections	Ongoing over life of mine	Ecologist	N/A	Results to be reported in Annual Review.	Compliant	<p>The purpose of the ecological monitoring program is primarily to monitor the risks posed by plant pathogens, exotic weeds and feral animals in biodiversity offsets, residual vegetation and rehabilitation areas and to indicate where management actions are required.</p> <p>For weed and feral animal monitoring programs for Bengalla and associated Biodiversity Offset Areas refer to Appendix D.</p> <p>Rehabilitation monitoring was completed during December 2021. Details of results presented in Section 8 of the 2021 Annual Review.</p> <p>As stated in the BDMP no immediate management actions are required for the management of plant pathogens at Bengalla. However, signs of pathogens outbreaks may require measures to be taken in the future.</p>

Appendix B Biodiversity Offset Management Plan Commitments

BOMP Section	Commitment	Status	Comment
Notification			
2.3	Following approval, all actions detailed within this BOMP will be implemented. Within one month of receiving approval, this BOMP will be made available to the public on the BMC website.	Compliant	The BOMP is implemented as part of BMC's operations. The BOMP (with regulatory approval letters) (August 2017) is publicly available on Bengalla's website.
Fencing, Gates and Signage			
8.1	Boundary fencing will remain around all BOS Areas and will be inspected annually to identify area that may require maintenance.	Compliant	An annual inspection of certain boundary fencing for all biodiversity offset areas (BOS Areas) was undertaken in 2021. Fencing maintenance work and the replacement of a gate were undertaken at Kenalea during 2021.
8.1	Internal fencing within Kenalea properties and Black Mountain will be maintained (where appropriate) to allow for the management of controlled grazing in these properties.	Compliant	No internal fence repairs were required in 2021 at Kenalea properties or Black Mountain.
8.1	Stock proof fencing will be utilised where existing fences are absent to protect sensitive areas.	Not Triggered	Not required during the Reporting Period.
8.1	Current gates for access to BOS Areas will be retained and kept locked.	Compliant	Gates to BOS Areas remained secured and locked during 2021. One gate was replaced on Kenalea.
8.1	BMC will install signage at the entrances to the BOS Area to inform the public of restricted access to properties.	Compliant	Restricted access signage at the entrances to the BOS Areas has been installed.
Controlled Activities			
8.2	All contractors, stakeholders and visitors to the BOS Areas will be inducted. The induction will include information on activities prohibited in BOS Areas unless explicitly undertaken for the purposes of ongoing management.	Compliant	BMC has established internal policies which require all staff, stakeholders and visitors working at Bengalla (or BOS Areas) to be inducted prior to undertaking specified work. The BOS Areas induction identifies compliance obligations for example SSD-5170 and by inference EPBC 2012/6378 and relevant management plans.

BOMP Section	Commitment	Status	Comment
Control Grazing			
8.3	Control grazing will only be permitted in Zone 1 and Zone 2 management areas.	Not Triggered	No control grazing was undertaken during 2021.
8.3	Best practice for control grazing will be implemented wherever control grazing is employed, including: <ul style="list-style-type: none"> • Providing adequate rest periods and adjusting rest periods to suit the recovery needs and growth rates of the desirable plants; • Targeting defined areas with high fuel loads or weed infestations; • Cattle stocking numbers kept below 4 dray sheep equivalent; • Pre and post grazing monitoring; • Periods of grazing must be kept as short as practicable; and • Control grazing will not be conducted during declared drought periods. 	Not Triggered	No control grazing was undertaken during 2021.
8.3	Control grazing will be monitored against Trigger and Performance Criteria	Not Triggered	No control grazing was undertaken during 2021.
7.1	Should monitoring results indicate that regeneration is not occurring naturally after Year 5, assisted revegetation will take place in areas that require this management action.	Not Triggered	Noted
8.3	Stock will be excluded from riparian areas and will access water primarily from farm dams or water troughs.	Not Triggered	No cattle grazing was undertaken during 2021.
8.3	Monitoring will be undertaken pre and post grazing with the use of photo reference points. Areas subject to control grazing will be monitored as part of annual monitoring program.	Not Triggered	No cattle grazing was undertaken during 2021
Bushfire management			
8.4	BMC will take practicable steps to prevent the occurrence of bushfires on the land and minimise the spread of bushfire.	Compliant	Fire trail maintenance was completed on Kenalea in 2021. No fires occurred on offsets in 2021.

BOMP Section	Commitment	Status	Comment
8.4	BMC will provide maps (including water fill points) and contact details of the properties to the RFS.	Compliant	Maps, keys and relevant contact information have previously been provided to local RFS captains. Locations of water fill points were provided to the RFS in 2018 following the ground truthing of these locations.
Weed Control			
8.5	Weed management actions will target Weeds of National Significance and Noxious Weeds across BOS Areas.	Compliant	Enright Land Management undertook a weed monitoring and control program in BOS Areas during the Reporting Period. Records of the location of weed control are detailed in Appendix D .
8.5	Weed control will focus on species that exclude or have the potential to exclude native species, disrupt the recruitment of native species or impede ecological progress.	Compliant	A summary of the weed monitoring and control program undertaken on BOS Areas during the Reporting Period is provided in Appendix D .
8.5	Weed management will be undertaken in accordance with the management principles listed in Section 8.5 of the BOMP.	Compliant	Weed management practices were undertaken in accordance with Section 8.5 of the BOMP.
8.5	The results and outcomes of weed management will be documented and analysed for each year in the Annual Review. This will include documentation of areas subject to weeding, techniques used, target species controlled, new species identified, chemicals used and revised approaches to weed control in light of learnings during the previous reporting period.	Compliant	A summary of the weed monitoring and control program for the Reporting Period is provided in Appendix D .
8.5	Weed infestation maps will be updated annually and annotated as required with information about previously implemented weed controls.	Compliant	A weed monitoring and control program was undertaken in BOS Areas during the Reporting Period. The location of weeds identified during the program was recorded for GIS input and is presented in Appendix D .
Feral Animal Control			
8.6	BMC will conduct an annual feral animal control program in conjunction with current Local Land Services programs.	Compliant	A feral animal control program was undertaken in 2021. This was undertaken in line with neighbouring properties and the Local Land Services baiting program and is described in Appendix D .
8.6	Should any native fauna deaths be recorded during 1080 baiting and if sufficient carcass is available the animal will be sent to a veterinarian to provide a cause of death should there be any evidence of poisoning.	Not triggered	No native fauna deaths were reported during the 2021 feral animal control program.

BOMP Section	Commitment	Status	Comment
8.6	The results and outcomes of feral animal management will be documented for each year in the Annual Review. This will include documentation of the techniques used for each feral species, the quantity of bait material purchased and deployed, the areas subject to control, estimate of the numbers of animals culled, new species identified (if any) and any other chemicals used.	Compliant	A summary of the 2021 feral animal control program is provided in Appendix D .
8.6	All personnel involved in feral animal management must hold relevant and valid licences/permits, including any relevant chemical licences for pesticide use or a firearms licence for shooting.	Compliant	Staff and/or contractors involved in feral animal management held all relevant licences and accreditations to undertake the feral animal control works in 2021.
Maintenance Track Improvement and Additional Infrastructure			
8.7	Maintenance of existing tracks and installation of additional infrastructure may be required to provide safe access to BOS Areas. Maintenance or construction works may result in minor/localised disturbance. BMC will ensure compliance with all legal and environmental protection measures prior to any significant disturbance.	Compliant	All existing access tracks in Kenalea properties, Merriwa and Black Mountain were assessed and regraded where required in 2021.
8.7	BMC will record and store all relevant GIS information related to the improvement or installation of additional infrastructure.	Compliant	BMC has recorded and stored GIS information for all improvements and installation of additional infrastructure on the BMC GIS database.
8.7	BMC will undertake routine inspections and maintenance of BOS infrastructure (eg tracks, fence lines, gates)	Compliant	Inspection and maintenance of certain tracks was undertaken in 2021. Certain fence lines and gates were also inspected. Fencing maintenance work and the replacement of a gate were undertaken at Kenalea during 2021.
Contingency Measures			
8.8	Contingency measures will be utilised should monitoring indicate that performance measures or contingency measures are not being met.	Not Triggered	No contingency measures were required during the Reporting Period.



Appendix C

Annual Clearing Report 2021

BENGALLA MINING COMPANY PTY LTD

FEBRUARY 2022

BENGALLA MINE

2021 ANNUAL CLEARING REPORT

wsp



Question today Imagine tomorrow Create for the future

BENGALLA MINE 2021 ANNUAL CLEARING REPORT




BENGALLA MINING COMPANY PTY LTD

WSP

Level 3, 51-55 Bolton St
Newcastle NSW 2300
PO Box 1162
Newcastle NSW 2300

Tel: +61 2 4929 8300
Fax: +61 2 4929 8382
wsp.com

REV	DATE	DETAILS
A	7/02/2022	Draft
B	14/02/2022	Final

	NAME	DATE	SIGNATURE
Prepared by:	Sebastian Miller, Gavin Shelley	7/02/2022	
Reviewed by:	Nathan Cooper	7/02/2022	
Approved by:	Nathan Cooper	7/02/2022	

WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

This document may contain confidential and legally privileged information, neither of which are intended to be waived, and must be used only for its intended purpose. Any unauthorised copying, dissemination or use in any form or by any means other than by the addressee, is strictly prohibited. If you have received this document in error or by any means other than as authorised addressee, please notify us immediately and we will arrange for its return to us.



Table of contents

ABBREVIATIONS	iii
EXECUTIVE SUMMARY	iv
1 INTRODUCTION	1
1.1 EXISTING OPERATION	1
1.2 AIMS AND OBJECTIVES	1
2 METHODS	2
2.1 PERSONNEL	2
2.2 PRE-CLEARING SURVEY PROCEDURE	2
2.2.1 Fauna habitat identification	3
2.2.2 Species inventory	3
2.2.3 Surveys for Cymbidium canaliculatum	3
2.2.4 Salvageable habitat material	3
2.2.5 Surveys for Phytophthora cinnamomi	3
2.2.6 Fauna relocation sites	3
2.2.7 Collection of seeds for rehabilitation purposes	4
2.2.8 Identification of weed and pest species infestations	4
2.3 CLEARING PROCEDURE	4
2.3.1 Fauna handling and relocation	4
3 RESULTS	5
3.1 ECOLOGY PRE-CLEARANCE SURVEYS	5
3.1.1 Vegetation community structure	5
3.1.2 Habitat, hollow-bearing and significant trees	7
3.1.3 Species inventory	7
3.1.4 Cymbidium canaliculatum surveys	7
3.1.5 Phytophthora cinnamomi surveys	7
3.1.6 Collection of seeds for rehabilitation purposes	7
3.1.7 Weed species	7
3.1.8 Salvageable material	8
3.2 STAGE 1 AND STAGE 2 CLEARING	8
3.2.1 Fauna recorded and relocated	9
3.2.2 Salvage of habitat resources	10
3.2.3 Stage 2 clearing works completed outside approved clearing time	10

4	CONCLUSIONS	13
5	LIMITATIONS	14
5.1	PERMITTED PURPOSE	14
5.2	QUALIFICATIONS AND ASSUMPTIONS.....	14
5.3	USE AND RELIANCE	14
5.4	DISCLAIMER	15
	Bibliography	16

List of tables

Table 2.1	Contributors and their role	2
Table 3.1	Pre-clearing surveys completed in 2021	5
Table 3.2	Noxious weeds recorded during pre-clearance surveys	7
Table 3.3	Stage 2 clearing completed in 2021	8
Table 3.4	Fauna recorded during Stage 2 clearing operations in 2021	10

List of figures

Figure 3.1	Ground disturbance permit areas subject to pre-clearing in 2021.....	6
Figure 3.2	Ground disturbance permit areas subject to clearing activities in 2021	12

List of photographs

Photo 3.1	Stage 2 – clearing – GDP 2101	9
Photo 3.2	Stage 2 – clearing – post felling	9

List of appendices

Appendix A RECORDED FLORA

Recorded flora

Appendix B RECORDED FAUNA

Appendix C SCIENTIFIC LICENCE

ABBREVIATIONS

BMC	Bengalla Mining Company Pty Ltd
Bengalla	Bengalla Mine
BMP	Biodiversity Management Plan
EEC	Endangered Ecological Community
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
GDP	Ground Disturbance Permit
BC Act	<i>Biodiversity Conservation Act 2016</i>

EXECUTIVE SUMMARY

The Bengalla Mine (Bengalla) Biodiversity Management Plan (BMP) (Bengalla Mining Company Pty Ltd 2017) provides a framework for biodiversity management, reporting and auditing of ecological issues across Bengalla. As part of the Ground Disturbance Permit (GDP) process, the BMP requires that ecological pre-clearing and clearing surveys be carried out by a suitably qualified person to minimise harm to native flora and fauna.

This report summarises the pre-clearing and clearing surveys completed at Bengalla between January and December of 2021 (reporting period). These works were in relation to:

- general pit progression and relocation of infrastructure
- construction of new infrastructure
- maintenance work.

During the reporting period, pre-clearing and clearing surveys were undertaken by appropriately qualified WSP ecologists in accordance with the BMP.

During pre-clearing surveys, habitat features such as hollow trees were recorded, marked with the letter “H” (for habitat), and flagged with fluorescent tape. A total of 40 hollow-bearing/habitat trees were identified within GDP areas, 32 of which were felled in 2021. Salvaged habitat items were stockpiled, with the intention to relocate them to rehabilitation areas as areas become available.

Immediately prior to the habitat trees being felled, the ecologist generally conducted a final pre-clearance survey and recorded the results as part of the clearance documentation. Following the felling of the tree, the ecologist investigated hollows for the presence of animals. During the 2021 clearing activities, 16 animals were relocated, 19 were observed or heard but were left to disperse to nearby vegetation in the evening, one Tree Skink died during clearing and one microbat and one Pacific Black Duck nestling required immediate euthanasia due to injuries obtained. No injured or immature animals were taken to either the local veterinary centre or Wildlife Aid for treatment and/or rehabilitation.

Clearing activities undertaken throughout 2022 will continue to follow the methodology outlined within the BMP.

1 INTRODUCTION

1.1 EXISTING OPERATION

The Bengalla Mining Company (BMC) operates Bengalla Mine (Bengalla), an open cut coal mine located approximately four kilometres (km) west of Muswellbrook in the Upper Hunter Valley, NSW.

Activities associated with clearing operations during the reporting period relate to the construction of new infrastructure, the relocation and maintenance of infrastructure and service roads, in addition to an extension of the open cut mining pit towards the west.

1.2 AIMS AND OBJECTIVES

The aims of this annual clearing report are to detail the procedures and results for all pre-clearing and clearing operations completed at Bengalla in 2021, inclusive of:

- ecology pre-clearing surveys
- Stage 1 and Stage 2 clearing operations
- fauna handling and relocation
- habitat salvage and procedures.

2 METHODS

2.1 PERSONNEL

The contributors to the delivery of clearing operations and reporting, their qualifications and roles are listed in Table 2.1.

Table 2.1 Contributors and their role

NAME	QUALIFICATION	ROLE
Gavin Shelley	B.Env Sc. Mgmt	Ecologist – pre-clearing surveys, spotter catcher and reporting
Troy Jennings	B. Bio&Cons M. Wildlife Management	Ecologist – pre-clearing surveys and spotter catcher
Sebastian Miller	B.Sc.	Graduate Ecologist – pre-clearing surveys, spotter catcher and reporting
Devon Raiff	B.Sc. (Hons) Cert 3 – Cons&Land Management	Ecologist – spotter catcher
Nathan Cooper	B.Env.Sc. Grad Dip Ornithology	Senior Ecologist – pre-clearing surveys, spotter catcher and technical review
Alex Cockerill	B.Sc. (Hons)	Ecology National Team Executive – project manager

All work was carried out under the appropriate licenses, including a scientific licence as required under Part 2 of the NSW *Biodiversity Conservation Act 2016* (BC Act) (License Number: SL100630), and an Animal Research Authority issued by the Department of Primary Industries (Agriculture).

2.2 PRE-CLEARING SURVEY PROCEDURE

The ecology pre-clearance surveys were conducted throughout 2021 and were completed in accordance with Section 4.2.1 of the BMP, which outlines management actions for vegetation pre-clearance procedures. The aims and objectives of the ecology pre-clearing survey include:

- detecting the presence/absence of threatened species and their habitat, including *Cymbidium canaliculatum* (Tiger Orchid)
- recording the presence of any fauna or flora species
- identification and demarcation of habitat trees, large logs and boulders
- identification and demarcation of salvageable material including hollow bearing trees, debris, and boulders
- searching for evidence of plant pathogen *Phytophthora cinnamomi*
- identification of appropriate fauna relocation sites for captured fauna species
- identification of plants suitable for seed collection
- identification of weed and pest species infestations.

Clearing boundaries were initially marked by a surveyor with survey pegs, generally incorporating spacing commensurate with visible line of sight. A hard copy map of the GDP area was also used as a reference when in the field.

It should be noted that throughout the year some GDP areas were assessed more than once due to only part of the GDP area being disturbed or an extended time frame between the initial pre-clearance inspection and commencement of works (Section 3.1).

2.2.1 *Fauna habitat identification*

Each clearing area was traversed by a field ecologist to identify important fauna habitat values, including:

- habitat trees, identified as any substantial non- hollow-bearing tree that either provided significant canopy cover and thus significant potential foraging resources, or was observed to contain nesting material
- hollow-bearing trees, which include any tree that was observed to contain a visible hollow or fissure that may support microhabitat values for native fauna.

All identified habitat, hollow-bearing or significant trees were marked with “H” (habitat tree) in high visibility paint as well as pink flagging tape to ensure dark trees, such as *Eucalyptus crebra*, were clearly marked prior to the commencement of clearing activities. The number of habitat, hollow-bearing or significant trees were recorded on field proformas.

2.2.2 *Species inventory*

All flora and fauna species identified during the ecology pre-clearance surveys and clearing surveys were recorded and are presented in Appendix A and Appendix B.

2.2.3 *Surveys for *Cymbidium canaliculatum**

Trees within the clearing area were visually examined for the presence of *Cymbidium canaliculatum*, which is listed as an Endangered Population in the Hunter Catchment under the NSW BC Act.

2.2.4 *Salvageable habitat material*

In accordance with the BMP, selected salvageable hollow logs and rocks were identified for later reuse in rehabilitation areas. Since materials vary in abundance and quality throughout Bengalla, ecologists are guided by the selection criteria for salvageable materials (as outlined in Table 5 of the BMP) when identifying logs and rocks for re-use.

2.2.5 *Surveys for *Phytophthora cinnamomi**

Vegetation health assessments were undertaken to detect the presence of the plant pathogen *Phytophthora cinnamomi*. This involved assessing vegetation for any visible signs of disease.

2.2.6 *Fauna relocation sites*

Sites suitable for the relocation of displaced native fauna were assessed prior to the commencement of the ecology pre-clearance survey. Relocation sites were assessed for habitat attributes which represent similar or commensurate habitat attributes as those within the clearing areas. All relocation sites are located outside of the clearing area and consist of the same vegetation community. Fauna relocation sites are illustrated on Figure 3.1 and Figure 3.2.

2.2.7 *Collection of seeds for rehabilitation purposes*

In accordance with the BMP, native trees and shrubs suitable for the harvesting and propagation of native seed for use in rehabilitation activities are required to be identified. Any areas of particularly high seed yield were marked on maps for future reference. During pre-clearing surveys throughout 2021, there was a lack of seed availability and as such, no seed was collected for use in rehabilitation areas.

2.2.8 *Identification of weed and pest species infestations*

Significant infestations of Weeds of National Significance (WONS) and noxious weeds identified during the field surveys were recorded and notified to BMC Environmental Department.

2.3 CLEARING PROCEDURE

In accordance with Section 4.2.2 of the BMP, clearing activities in 2021 were undertaken as a two-stage process as follows:

- **Stage 1 clearing** – removal of understory vegetation other than marked/flagged habitat features. Habitat trees, marked with an 'H', were left to stand overnight to enable any resident fauna to self-relocate into adjacent habitat.
- **Stage 2 clearing** – commenced no less than 24 hours following the completion of Stage 1 clearing. Felled habitat trees were left undisturbed over night to allow any undetected fauna further opportunity to relocate.

2.3.1 *Fauna handling and relocation*

The following information is recorded in relation to fauna species observed during the clearing activities:

- details of animals sighted, captured, relocated, injured, or killed as a result of vegetation clearing activities
- the relocation of fauna within designated relocation areas
- tree species used for breeding or roosting by fauna
- micro-habitat features of where the species was found on the tree.

Uninjured adult fauna will be relocated into suitable habitat within designated relocation sites. juvenile and injured fauna will be passed on to the Muswellbrook Veterinary Hospital, local Wildlife Aid carers or euthanised in accordance with the Animal Research Authority Code of Practice.

3 RESULTS

3.1 ECOLOGY PRE-CLEARANCE SURVEYS

Pre-clearing surveys completed by or on behalf of BMC in 2021 are summarised in Table 3.1 and illustrated in Figure 3.1. It should be noted that throughout 2021, some GDP areas were assessed on more than one occasion due to only part of the GDP area being disturbed, or an extended time frame between the initial pre-clearance inspection and commencement of works.

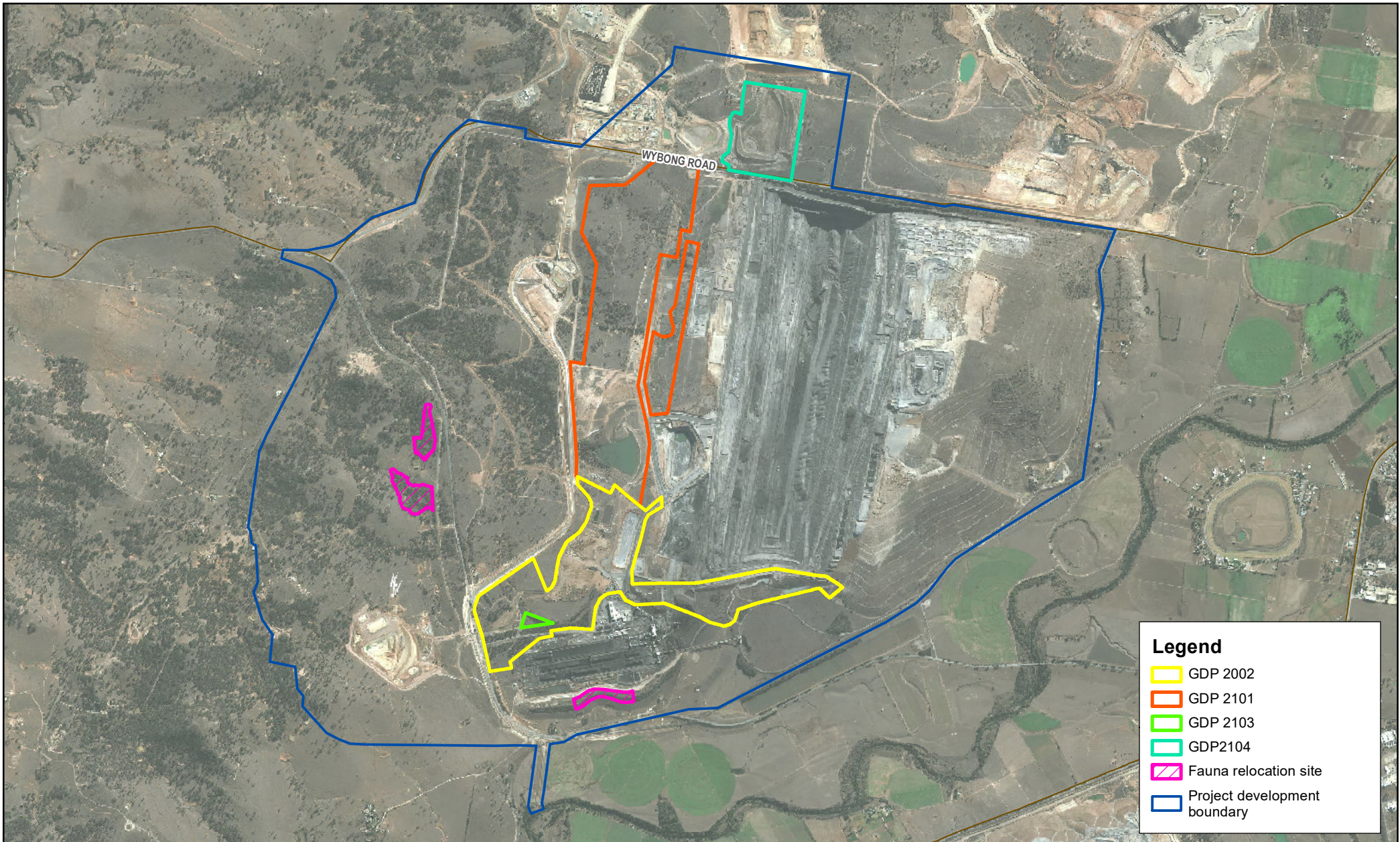
Table 3.1 Pre-clearing surveys completed in 2021

GROUND DISTURBANCE PERMIT AREA (GDP)	DATE PRE-CLEARANCE UNDERTAKEN	VEGETATION COMMUNITY
GDP 2103	2/02/2021	Low diversity derived native grassland, tree and shrub plantations
GDP 2101	5/03/2021	Exotic grassland
GDP 2101	16/03/2021	Central Hunter <i>Eucalyptus crebra</i> and <i>Eucalyptus moluccana</i> grassy woodland
GDP 2101	20/04/2021	Central Hunter <i>Eucalyptus crebra</i> and <i>Eucalyptus moluccana</i> grassy woodland
GDP 2104	23/04/2021	Low diversity derived native grassland
GDP 2002	28/04/2021	Non native veg community – planted garden bed of <i>Acacia</i> sp., <i>Melia azedarach</i> and <i>Callistemon viminalis</i>
GDP 2002	07/09/2021	Derived native grassland with planted 10 year old <i>Eucalyptus crebra</i> and <i>Eucalyptus moluccana</i> canopy
GDP 2101	1/11/2021	Derived native and exotic grassland with patches of <i>Eucalyptus crebra</i> , <i>Eucalyptus moluccana</i> and <i>Allocasuarina luehmannii</i> shrub open forest
GDP 2101	15/11/2021	Derived native grassland in between <i>Eucalyptus crebra</i> , <i>Eucalyptus moluccana</i> and <i>Allocasuarina luehmannii</i> shrub open forest

3.1.1 Vegetation community structure

The following vegetation communities were identified in the areas pre-cleared in 2021:


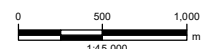
- derived native and exotic grassland
- derived native and exotic grassland with isolated pockets of *Eucalyptus crebra*
- derived native and exotic grassland with *Eucalyptus crebra*, *Eucalyptus moluccana* and *Allocasuarina luehmannii* open forest
- derived native and exotic grassland with planted *Eucalyptus crebra* and *Eucalyptus moluccana*
- Miscellaneous exotic and native planted vegetation



Legend

- GDP 2002
- GDP 2101
- GDP 2103
- GDP 2104
- Fauna relocation site
- Project development boundary

Map: PS118424_F003_1_PreClearing_r1 v2 Author: AUJA503787
 11/02/2022 Approved by: N.Cooper



 1:45,000
 Coordinate system:
 WGS 1984 Web Mercator Auxiliary Sphere
 Scale ratio correct when printed at A4

Source: Bengalla Mine Satellite Orthophoto July 2018

© WSP Australia Pty Ltd ("WSP") Copyright in the drawings, information and data recorded ("the information") is the property of WSP. This document and the information are solely for the use of the authorised recipient and this document may not be used, copied or reproduced in whole or part for any purpose other than that which it was supplied by WSP. WSP makes no representation, undertakes no duty and accepts no responsibility to any third party who may rely on this document or the information. NCSA Certified Quality System to ISO 9001. © APPROVED FOR AND ON BEHALF OF WSP Australia Pty Ltd.



Bengalla Mining Company

BENGALLA MINE ANNUAL CLEARING REPORT 2021

Figure 3.1
 Ground disturbance permit areas
 subject to pre-clearing in 2021

www.wsp.com

3.1.2 *Habitat, hollow-bearing and significant trees*

A total of 40 hollow-bearing/ habitat trees were identified within GDP areas subject to pre-clearing surveys in 2021. Part of Strip 40 was postponed in November 2021, due to the presence of a threatened flora species, being *Cymbidium canaliculatum*. Therefore, six of the 40 significant trees were avoided all together during the 2021 clearing operations.

3.1.3 *Species inventory*

3.1.3.1 Flora

A total of 50 flora species were recorded during pre-clearing surveys completed in 2021. Of these, 24 were introduced species (Appendix A).

3.1.3.2 Fauna

A total of 38 fauna species were recorded during pre-clearing surveys completed in 2021. Of these, four were introduced species (Appendix B).

3.1.4 *Cymbidium canaliculatum surveys*

One *Cymbidium canaliculatum* was identified during the pre-clearing surveys in 2021, in association with Strip 40 (E:294228 N: 6428658). Clearing in the area of the *Cymbidium canaliculatum* was postponed for the remainder of the 2021 clearing program, so that the individual could be managed appropriately and relocated prior to disturbance.

3.1.5 *Phytophthora cinnamomi surveys*

No evidence of disease or plant die-back was identified within GDP areas subject to pre-clearing surveys in 2021.

3.1.6 *Collection of seeds for rehabilitation purposes*

During pre-clearing surveys throughout 2021, no seed was identified within survey areas deemed suitable to be collected for use in rehabilitation. Some species were identified to have seed including *Acacia salicina*, *A. parvipinnula*, *Eucalyptus crebra* and *E. moluccana*, however survey times were conducted when these species were mainly flowering or seeds were too immature to be considered suitable for propagation purposes. Overall, due to clearing times and large areas of derived native and exotic grasslands limiting the number of canopy species, no suitable native flora seeding opportunities were present and no seed collection was conducted.

3.1.7 *Weed species*

Table 3.2 Noxious weeds recorded during pre-clearance surveys

SPECIES	CLASS	LEGAL REQUIREMENTS
<i>Lycium ferocissimum</i> (African Boxthorn)	3	This plant must be continually suppressed and destroyed, and the plant must not be sold propagated or knowingly distributed.
<i>Opuntia stricta</i> (Prickly Pear)	4	The growth of the plant must be managed that reduces its numbers, spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed.
<i>Senecio madagascariensis</i> (Fireweed)	4	The growth of the plant must be managed that reduces its numbers, spread and incidence and continuously inhibits its reproduction and the plant must not be sold propagated or knowingly distributed.

3.1.8 Salvageable material

A total of 32 habitat trees were felled during Stage 2 tree clearing operations, all of which were identified as potentially suitable for salvage. In addition, 272 lineal metres of hollow ground logs were identified, with a total of 322m lineal metres including felled trees for salvage material in 2021.

3.2 STAGE 1 AND STAGE 2 CLEARING

The GDP areas cleared in full or in part in 2021 are summarised in Table 3.3 and illustrated on Figure 3.2. The removal of understory vegetation surrounding habitat trees was undertaken a minimum of 24 hours prior to habitat tree removal. Stage 2 clearing of habitat trees was undertaken over several periods in 2021, with a total of 32 habitat trees felled.

Table 3.3 Stage 2 clearing completed in 2021

GROUND DISTURBANCE PERMIT AREA	STAGE 2 CLEARING COMPLETED (DATE)	VEGETATION COMMUNITY
GDP 2101	12/01/2021	Derived native and exotic grassland with <i>Eucalyptus crebra</i> , <i>Eucalyptus moluccana</i> and <i>Allocasuarina luehmannii</i> open forest (EEC BC Act)
GDP 2101	28/04/2021	<i>Eucalyptus crebra</i> , <i>Eucalyptus moluccana</i> and <i>Allocasuarina luehmannii</i> shrub open forest (EEC BC Act)
GDP 2002	20/10/2021	Derived native grassland with planted 10 year old <i>Eucalyptus crebra</i> and <i>Eucalyptus moluccana</i> canopy
GDP 2101	16/11/2021	Derived native and exotic grassland with patches of <i>Eucalyptus crebra</i> , <i>Eucalyptus moluccana</i> and <i>Allocasuarina luehmannii</i> shrub open forest (EEC BC Act)
GDP 2101	17/11/2021	

Prior to the habitat trees being felled, the trees were visually inspected to identify signs of fauna utilisation. Habitat trees were gently shaken prior to felling to encourage any resident fauna to vacate any fissure and/ or hollow. Habitat trees were then felled sequentially when directed by the supervising ecologist.

Immediately following the felling of each habitat tree, the supervising ecologist inspected the trees for remaining fauna. Tree hollows were inspected using a hand-held torch. Felled habitat trees were left undisturbed over night to allow any undetected fauna further opportunity to relocate. The habitat trees were then stockpiled for utilisation in rehabilitation areas.



Photo 3.1 Stage 2 – clearing – GDP 2101



Photo 3.2 Stage 2 – clearing – post felling

3.2.1 Fauna recorded and relocated

Fauna were handled in accordance with the Animal Research Authority Code of Practice. Details on fauna encountered during 2021 clearing activities are outlined below and are presented in Appendix B. A total of 37 species of fauna were observed whilst onsite at Bengalla. Of these 38 species, only two mammals and four reptile species were recorded using habitat trees and woody debris to be removed/impacted within the GDP areas (Table 3.4). The remaining species observed within the GDP areas were birds or ground-dwelling mammals. During the 2021 clearing operations:

- 16 animals required relocation
 - Robust Velvet Gecko (*Nebulifera robusta*) (six)
 - Tree Skink (*Egernia striolata*) (one)
 - Eastern Bearded Dragon (*Pogona barbata*) (two) (both relocated during Stage 1 pre-clearing surveys)
 - South-eastern Freetail Bat (*Mormopterus planiceps*) (six)
 - Australian Magpie nestling (*Cracticus tibicen*) (one)
- One animal was killed
 - Tree Skink (*Egernia striolata*)
- Two animals were euthanised
 - South-eastern Freetail Bat (*Mormopterus planiceps*)
 - Pacific Black Duck (*Anas superciliosa*).
- no animals required veterinarian treatment or rehabilitation.

Table 3.4 Fauna recorded during Stage 2 clearing operations in 2021

GUILD	NUMBER OF INDIVIDUALS RECORDED				
	Relocated	Observed	Injured	Dead/ Euthanised	Taken to Wildlife carer
Reptiles	9 ¹	3	0	1	0
Microchiropteran bats/mammals	6	9	0	1	0
Amphibians	0	0	0	0	0
Birds	1	7	0	1	0
Total	16	19	0	3	0

(1) Two (of the nine reptiles) Eastern Bearded Dragons were relocated during pre-clearance surveys.

Whilst reptiles and microbats were released at designated relocation areas, the Magpie nestling was relocated along with its nest to remnant vegetation immediately adjacent to the clearing area; approximately 50 m from the nest tree location. The nest was safely removed from the outer branches of a *Eucalyptus crebra* and repositioned within a fork of a nearby juvenile *E. crebra* and fixed securely whilst the parents were still present. As far as practicable, the nests aspect was replicated to reduce the effects of exposure to afternoon sun in the west.

3.2.2 Salvage of habitat resources

Stage 2 clearing operations identified approximately 50 lineal metres of new salvageable material potentially suitable for reuse in rehabilitation works, not including 32 habitat trees felled with unrecorded lengths. Salvaged habitat items have been stockpiled, with the intention to relocate within rehabilitation areas as work progresses.

3.2.3 Stage 2 clearing works completed outside approved clearing time

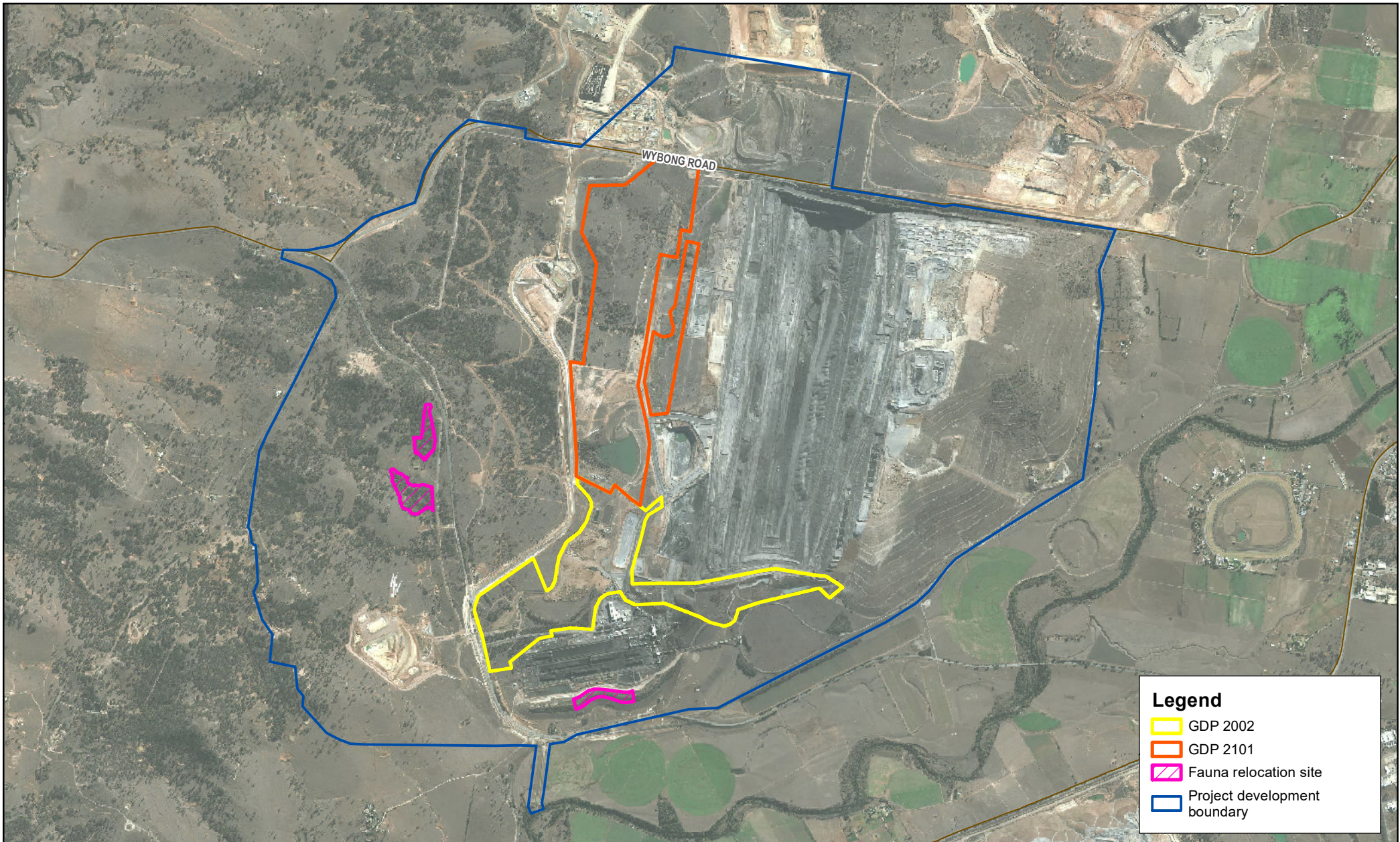
The Bengalla Mine BMP stipulates that clearing of woodland habitats will be avoided during May to November, unless a written assessment by a suitably qualified ecologist justifying the activities is provided. This is to avoid impacting hibernating bats and important growing or flowering periods for known threatened flora species.

Bengalla was progressing with mine infrastructure expansion in September 2021. A Stage 1 Pre-clearance Survey was completed on 7 September 2021 and identified that the proposed clearing area, as far as practicable, was positioned to minimise disturbance to extant vegetation. Vegetation likely to be impacted was observed to be consistent with a previously rehabilitated/ planted area adjacent to the main mine access road and comprised of a relatively young age-cohort of canopy tree species. Within the proposed clearing area, two trees (*Eucalyptus moluccana*) were observed to contain birds nest positioned approximately 7m above ground in each. Due to the height, it could not be determined if they were being actively used. These trees were under-scrubbed and later with the supervision of an ecologist felled on 20 October 2021 giving more time for potential chicks to fledge and leave the nests.

From an ecological view, it was determined that clearing works could proceed based on:

- the absence of threatened flora species
- the siting of the works to minimise impact to extant vegetation
- the relatively young age-cohort of planted canopy tree species
- the limited ecological value associated with the rehabilitated/planted area; particularly for terrestrial vertebrate species, including microchiropteran bats
- the general isolation of the rehabilitated/planted area from larger patches of remnant native vegetation
- the position of the rehabilitated/planted area adjacent to existing mine infrastructure, including mine access road, large laydown area and coal handling stockpiles.


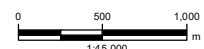
Clearing activities were completed in accordance with methodologies presented in the Bengalla Mine BMP. These small *Eucalyptus moluccana*'s were felled carefully and without incident. At the time of clearing, both nests were observed not to be in use. No vertebrate fauna was observed, injured, or required relocation during the clearing works.



Legend

- GDP 2002
- GDP 2101
- Fauna relocation site
- Project development boundary

Map: PS118424_F003_2_Clearing_r1v2 Author: AUJA503787
 11/02/2022 Approved by: N.Cooper



 1:45,000
 Coordinate system:
 WGS 1984 Web Mercator Auxiliary Sphere
 Scale ratio correct when printed at A4

Source: Bengalla Mine Satellite Orthophoto July 2018

© WSP Australia Pty Ltd ("WSP") Copyright in the drawings, information and data recorded ("the information") is the property of WSP. This document and the information are solely for the use of the authorised recipient and this document may not be used, copied or reproduced in whole or part for any purpose other than that which it was supplied by WSP. WSP makes no representation, undertakes no duty and accepts no responsibility to any third party who may rely on this document or the information. NCS1 Certified Quality System to ISO 9001. © APPROVED FOR AND ON BEHALF OF WSP Australia Pty Ltd.



Bengalla Mining Company

BENGALLA MINE ANNUAL CLEARING REPORT 2021

Figure 3.2
 Ground Disturbance Permit areas
 subject to clearing activities in 2021

www.wsp.com

U:\Projects\AU\PS118424_Bengalla_PreClearF6_Shared\GIS\A_Production\Maps\2021_Annual_Clearing_Report\PS118424_F003_2_Clearing_r1v2.mxd

4 CONCLUSIONS

This report documents the pre-clearing and clearing activities completed at Bengalla Mine in 2021. Pre-clearing and clearing surveys were undertaken by appropriately qualified WSP ecologists to allow for the safe removal and relocation of native flora and fauna, where practicable.

During Stage 2 clearing operations, 16 animals required relocation, one was killed and two were euthanised. No animals required veterinarian treatment or rehabilitation. Three skinks were observed using habitat trees but evaded capture once the tree was felled, nine birds were observed showing nesting behaviour in habitat trees and flew off when disturbed, and a total of nine microbats dispersed, or were unable to be captured. Uncaptured microbats remaining within hollows were left to self-relocate at nightfall.

A total of 40 hollow-bearing/ habitat trees were identified within GDP areas, 32 of which were felled in 2021. In total, approximately 322 lineal metres of salvageable material, potentially suitable for reuse in rehabilitation programs has been stockpiled, with the intention to relocate within rehabilitation areas as work progresses.

Clearing activities undertaken in 2022 will continue to follow the methodology outlined within the BMP.

5 LIMITATIONS

This Report is provided by WSP Australia Pty Limited (*WSP*) for Bengalla Mining Company (*Client*) in response to specific instructions from the Client and in accordance with WSP's proposal dated 26 August 2021 (*Agreement*).

5.1 PERMITTED PURPOSE

This Report is provided by WSP for the purpose described in the Agreement and no responsibility is accepted by WSP for the use of the Report in whole or in part, for any other purpose (*Permitted Purpose*).

5.2 QUALIFICATIONS AND ASSUMPTIONS

The services undertaken by WSP in preparing this Report were limited to those specifically detailed in the Report and are subject to the scope, qualifications, assumptions and limitations set out in the Report or otherwise communicated to the Client.

Except as otherwise stated in the Report and to the extent that statements, opinions, facts, conclusion and / or recommendations in the Report (*Conclusions*) are based in whole or in part on information provided by the Client and other parties identified in the report (*Information*), those Conclusions are based on assumptions by WSP of the reliability, adequacy, accuracy and completeness of the Information and have not been verified. WSP accepts no responsibility for the Information.

WSP has prepared the Report without regard to any special interest of any person other than the Client when undertaking the services described in the Agreement or in preparing the Report.

5.3 USE AND RELIANCE

This Report should be read in its entirety and must not be copied, distributed or referred to in part only. The Report must not be reproduced without the written approval of WSP. WSP will not be responsible for interpretations or conclusions drawn by the reader. This Report (or sections of the Report) should not be used as part of a specification for a project or for incorporation into any other document without the prior agreement of WSP.

WSP is not (and will not be) obliged to provide an update of this Report to include any event, circumstance, revised Information or any matter coming to WSP's attention after the date of this Report. Data reported and Conclusions drawn are based solely on information made available to WSP at the time of preparing the Report. The passage of time; unexpected variations in ground conditions; manifestations of latent conditions; or the impact of future events (including (without limitation) changes in policy, legislation, guidelines, scientific knowledge; and changes in interpretation of policy by statutory authorities); may require further investigation or subsequent re-evaluation of the Conclusions.

This Report can only be relied upon for the Permitted Purpose and may not be relied upon for any other purpose. The Report does not purport to recommend or induce a decision to make (or not make) any purchase, disposal, investment, divestment, financial commitment or otherwise. It is the responsibility of the Client to accept (if the Client so chooses) any Conclusions contained within the Report and implement them in an appropriate, suitable and timely manner.

In the absence of express written consent of WSP, no responsibility is accepted by WSP for the use of the Report in whole or in part by any party other than the Client for any purpose whatsoever. Without the express written consent of WSP, any use which a third party makes of this Report or any reliance on (or decisions to be made) based on this Report is at the sole risk of those third parties without recourse to WSP. Third parties should make their own enquiries and obtain independent advice in relation to any matter dealt with or Conclusions expressed in the Report.

5.4 DISCLAIMER

No warranty, undertaking or guarantee whether expressed or implied, is made with respect to the data reported or the Conclusions drawn. To the fullest extent permitted at law, WSP, its related bodies corporate and its officers, employees and agents assumes no responsibility and will not be liable to any third party for, or in relation to any losses, damages or expenses (including any indirect, consequential or punitive losses or damages or any amounts for loss of profit, loss of revenue, loss of opportunity to earn profit, loss of production, loss of contract, increased operational costs, loss of business opportunity, site deprecation costs, business interruption or economic loss) of any kind whatsoever, suffered on incurred by a third party.

Bibliography

- Bengalla Mining Company Pty Ltd (2017). Bengalla Mine - Biodiversity Management Plan. Hansen Bailey on behalf of Bengalla Mining Company Pty Ltd.

Appendix A

RECORDED FLORA



Table A.1 Recorded flora

SCIENTIFIC NAME	COMMON NAME	INTRODUCED	EPBC ACT ¹	BC ACT ²
<i>Acacia sp.</i>	Wattle			
<i>Acacia parvipinnula</i>	Silver-stemmed Wattle			
<i>Acacia salicina</i>	Willow Wattle			
<i>Allocasuarina luehmannii</i>	Bulloak			
<i>Allocasuarina verticillata</i>	Drooping Sheoak			
<i>Angophora floribunda</i>	Rough-barked Apple			
<i>Asphodelus fistulosus</i>	Onion Weed	*		
<i>Austrostipa verticillata</i>	Bamboo Grass			
<i>Bidens pilosa</i>	Cobblers Pegs	*		
<i>Brachychiton populneus</i>	Kurrajong			
<i>Bursaria spinosa</i>	Blackthorn			
<i>Callistemon viminalis</i>	Weeping Bottlebrush			
<i>Cirsium vulgare</i>	Spear Thistle	*		
<i>Cheilanthes distans</i>	Bristly Cloak Fern			
<i>Chloris gayana</i>	Rhodes Grass	*		
<i>Chrysocephalum apiculatum</i>	Golden Buttons			
<i>Conyza sp.</i>	Fleabane	*		
<i>Cymbidium canaliculatum</i>	Tiger Orchid			EP
<i>Cynodon sp.</i>	Couch	*		
<i>Dichondra repens</i>	Kidney Weed			
<i>Digitaria sp.</i>	–			
<i>Eragrostis curvula</i>	African Lovegrass	*		
<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark			
<i>Eucalyptus moluccana</i>	Grey Box			
<i>Eucalyptus tereticornis</i>	Forest Red Gum			
<i>Geijera parviflora</i>	Wilga			
<i>Glycine tabacina</i>	-			
<i>Gomphocarpus fruticosus</i>	Balloon Cotton	*		
<i>Hypochaeris radicata</i>	Catsear	*		

SCIENTIFIC NAME	COMMON NAME	INTRODUCED	EPBC ACT ¹	BC ACT ²
<i>Lomandra sp.</i>	-			
<i>Lycium ferocissimum</i>	African Boxthorn	*		
<i>Medicago sp.</i>	-	*		
<i>Melia azedarach</i>	White Cedar	*		
<i>Melinis repens</i>	Red-natal Grass	*		
<i>Onopordum acanthium</i>	Scotch Thistle	*		
<i>Opuntia stricta</i>	Prickly Pear	*		
<i>Panicum sp.</i>	Panic Grass			
<i>Paspalum sp.</i>	Paspalum	*		
<i>Plantago lanceolata</i>	Plantain	*		
<i>Rumex crispus</i>	Curled Dock	*		
<i>Rytidosperma caespitosum</i>	Wallaby Grass			
<i>Senecio madagascariensis</i>	Fireweed	*		
<i>Sida rhombifolia</i>	Paddys Lucerne	*		
<i>Solanum sp.</i>	-	*		
<i>Taraxacum officinale</i>	Common Dandelion	*		
<i>Themeda triandra</i>	Kangaroo Grass			
<i>Verbena bonariensis</i>	Purpletop	*		
<i>Verbena rigida</i>	Veined Verbena	*		
<i>Vittadinia cuneata</i>	Fuzzweed			
<i>Wahlenbergia communis</i>	Blue Bells			

(1) *Environment Protection and Biodiversity Conservation Act 1999*

(2) *Biodiversity Conservation Act 2016.*

Appendix B

RECORDED FAUNA



Table B.1 Recorded fauna

SCIENTIFIC NAME	COMMON NAME	INTRODUCED	EPBC ACT ¹	BC ACT ²
Birds (28)				
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill			
<i>Acanthiza lineata</i>	Striated Thornbill			
<i>Acridotheres tristis</i>	Common Myna	*		
<i>Aegotheles cristatus</i>	Australian Owlet-nightjar			
<i>Anas superciliosa</i>	Pacific Black Duck			
<i>Anthochaera carunculata</i>	Red Wattlebird			
<i>Aquila audax</i>	Wedge-tailed Eagle			
<i>Chenonetta jubata</i>	Australian Wood Duck			
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike			
<i>Corvus coronoides</i>	Australian Raven			
<i>Cracticus tibicen</i>	Australian Magpie			
<i>Cracticus torquatus</i>	Grey Butcherbird			
<i>Eolophus roseicapilla</i>	Galah			
<i>Falco cenchroides</i>	Nankeen Kestrel			
<i>Falco berigora</i>	Brown Falcon			
<i>Grallina cyanoleuca</i>	Magpie Lark			
<i>Hirundo neoxena</i>	Welcome Swallow			
<i>Lichenostomus penicillatus</i>	White-plumed Honeyeater			
<i>Malurus cyaneus</i>	Superb Fairywren			
<i>Manorina melanocephala</i>	Noisy Miner			
<i>Ocyphaps lophotes</i>	Crested Pigeon			
<i>Pardalotus striatus</i>	Striated Pardalote			
<i>Petrochelidon ariel</i>	Fairy Martin			
<i>Petrochelidon nigricans</i>	Tree Martin			
<i>Philemon corniculatus</i>	Noisy Friarbird			
<i>Platycercus eximius</i>	Eastern Rosella			
<i>Rhipidura leucophrys</i>	Willie Wagtail			
<i>Sturnus vulgaris</i>	Common Starling	*		
Mammals (6)				
<i>Chalinolobus gouldii</i>	Gould's Wattle Bat			

SCIENTIFIC NAME	COMMON NAME	INTRODUCED	EPBC ACT ¹	BC ACT ²
<i>Macropus giganteus</i>	Eastern Grey Kangaroo			
<i>Mormopterus planiceps</i>	South-eastern Freetail Bat			
<i>Oryctolagus cuniculus</i>	Rabbit	*		
<i>Vulpes vulpes</i>	Fox	*		
<i>Wallabia bicolor</i>	Swamp Wallaby			
Reptiles (4)				
<i>Cryptoblepharus pulcher</i>	Elegant Snake-eyed Skink			
<i>Ergernia striolata</i>	Tree Skink			
<i>Nebulifera robusta</i>	Robust Velvet Gecko			
<i>Pogona barbata</i>	Eastern Bearded Dragon			

(1) *Environment Protection and Biodiversity Conservation Act 1999*

(2) *Biodiversity Conservation Act 2016*

Appendix C

SCIENTIFIC LICENCE





Department of Planning, Industry and Environment
Scientific Licence
Biodiversity Conservation Act 2016

Name and postal address of principal licensee

Nominated premises (where appropriate)

Mr Alex Cockerill
 WSP
 Se 1 L 3 51-55 Bolton St
 NEWCASTLE NSW 2300

Your licence number is: SL100630

This licence is valid from: 01 June 2021

This licence will expire on: 31 August 2022

Additional authorisations:

Project Title: General flora and fauna surveys for environmental impact assessments

This class of biodiversity conservation licence granted under Part 2 of the *Biodiversity Conservation Act 2016* authorises the following activities: Harm by means of capture, deal in (possess), and liberate protected and threatened animals for survey purposes; Pick and deal in (possess) protected and threatened plants for identification purposes.

This licence authorises the principal licensee and any associates named in **Attachment A** to conduct those activities authorised above, to those species, communities or materials listed in **Attachment B**, at the locations specified in **Attachment C** of this licence.

This licence also authorises the principal licensee to conduct research on National Park estate under clause 26 of the National Parks and Wildlife Regulation 2019 (NPW Reg), where this forms part of a project approved by a delegated officer of the *Biodiversity Conservation Act 2016*.

This licence is granted subject to the provisions of *Biodiversity Conservation Act 2016*, Biodiversity Conservation Regulation 2017, the general conditions listed below, any special conditions as may be notified in writing to the licensee by the Environment Agency Head of the Department of Planning, Industry and Environment (the Department) or a 'delegated officer' of the *Biodiversity Conservation Act 2016* and the Department's "Scientific Licensing Policy".

.....
Signature of Delegated Officer

Date: 02 December 2021

.....
Signature of Principal Licensee*

Date:.....

* This licence is not valid unless it is signed by the principal licensee. By signing this licence, the licensee agrees that they have read, understood and agree to comply with all of the conditions listed on the licence.

Appendix D Weeds and Pest Management

WEEDS AND PEST MANAGEMENT

1 Environmental Management

Weed and pest management at Bengalla and on the offset properties is undertaken in accordance with the BDMP and BOMP, respectively.

Inspections are undertaken for weeds and pests, as required. Weed and pest control at Bengalla and on the Bengalla offset properties is undertaken through targeted chemical and baiting applications.

2 Environmental Performance

Weed Management

Weeding is undertaken using boom spray, spot spraying or stem application dependent upon the weed and the terrain.

- Bengalla

During 2021, approximately 256 ha was treated for the management of weeds. Target weed species included African boxthorn, galenia, prickly pear and other environmental weeds. Priority areas for treatment included the rehabilitation areas and topsoil stockpiles. Chemicals used during 2021 included Glyphosate with metsulfuron, Grazon Extra and Garlon 600.

Observations during the weed treatment program and follow up inspections indicate that treatment methods used during the Reporting Period have generally been effective in reducing the presence of weeds in target areas.

Weed management areas at Bengalla are shown on **Figure 1** below.

- Biodiversity Offset Areas

Weed management across the biodiversity offset areas involves quarterly inspections and weed control programs.

Quarterly inspections are undertaken to determine weed control required for each quarter in each of the offset areas. Following identification, weed control commences and quarterly work records of site attendance are submitted which detail the sites treated, area (ha) treated, techniques and chemicals utilised and rates of application. **Figures 2 to 5** below show locations of weed control in each of the Bengalla offset areas.

The chemicals to be utilised are based on their effectiveness depending on the type of weeds present. Chemicals used during 2021 include Glyphosate with metsulfuron, Grazon Extra and Garlon 600.

The weeds controlled included prickly pear, Paterson's curse, blue heliotrope, African boxthorn, lantana and several environmental weeds across each offset area. Riparian zone weeds were also treated in Kenalea and Echo including noogoora burr and thorn apple. St John's Wort was also addressed in Kenalea properties and Black Mountain.

Application of chemicals was primarily via vehicle mounted spray rigs however backpacks were also used in some areas inaccessible by vehicle.

Regional rainfall was well above the long-term average for 2021 which contributed to the increase of several weed populations and the ensuing level of control required. Access to some areas also proved difficult in 2021 due to flooding of creeks and access crossings.



Pest Management

- ***Bengalla***

A pig control program was conducted throughout 2021 at various locations across Bengalla. A total of 134 pigs were culled in 2021.

Feral pigs were trapped utilising a penning system using grain and molasses as the main attractant. Once trapped, all pigs were disposed of humanely.

This culling program will continue into 2022 across Bengalla.

Dog baiting programs at Bengalla occurred in the Autumn and Spring. Each program was undertaken in conjunction with Local Land Services and local wild dog associations and additionally forms part of a broader scale baiting program targeting foxes and wild dogs in the Hunter Valley. Baiting included utilising 1080 poison baits in addition to ejector capsule baits and each baiting program extended for three weeks during each period.

Both buffer lands and rehabilitation areas were utilised in the programs.

During the autumn baiting program, 87 baits were laid resulting in 23 takes by target species being foxes. No wild dog takes were recorded.

During the spring baiting program, 87 baits were laid resulting in 24 takes by target species being foxes. No wild dog takes were recorded.

- ***Offset Properties***

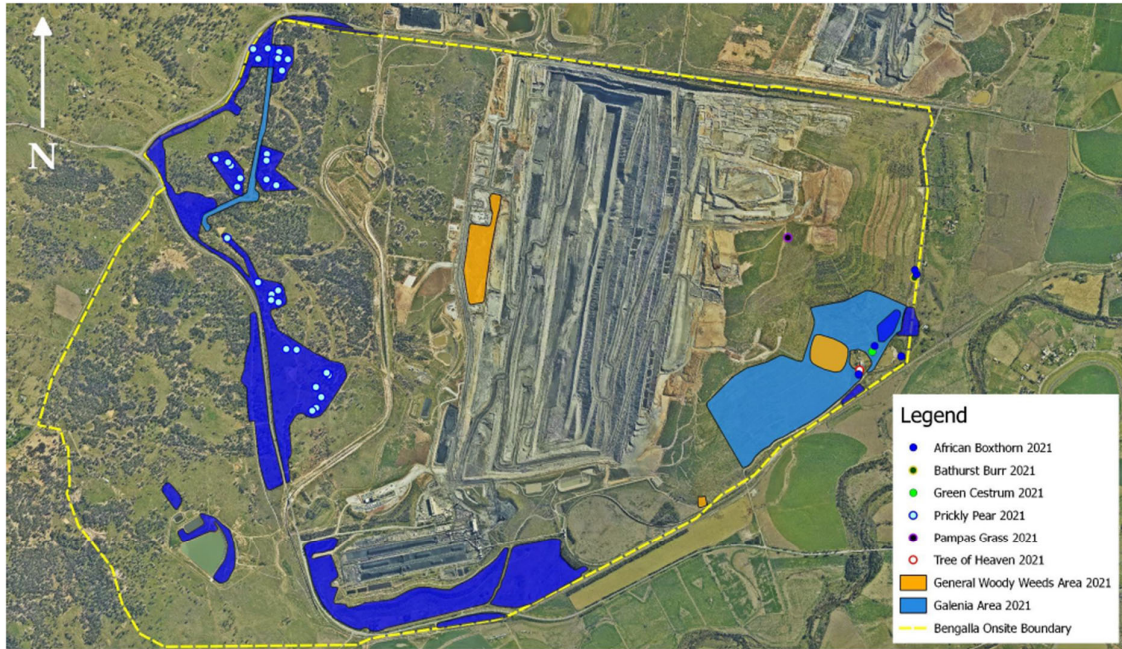
During the Reporting Period BMC undertook two 4-week dog ground baiting programs across all offset properties, including aerial dog baiting in Autumn and Spring in consultation with Local Land Services.

A total of 672 baits were placed during the 2021 ground baiting program targeting foxes and wild dogs. A total of 139 baits were taken during the program. Results indicated that 20% of baits were taken by wild dogs and 80% by foxes. Trends over 5 years indicate that wild dog takes have varied from 67 in 2016, 49 takes in 2017, 33 takes in 2018, 88 takes in 2019, 29 in 2020 and 28 in 2021. This suggests that dog numbers are generally slowly declining in the offset areas.

Opportunistic feral animal control was also undertaken during weed control works targeting 35 pigs, 11 deer and 3 wild dogs.

Further Actions

Ongoing management of weeds and feral animals at Bengalla and the offset properties will continue during 2022.



**BENGALLA MINING COMPANY
BENGALLA ONSITE AREA
Weed Works Completed 2021 - Map 1**

Compiled by ENRIGHT LAND MANAGEMENT 17/01/2022

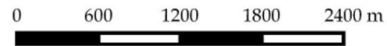
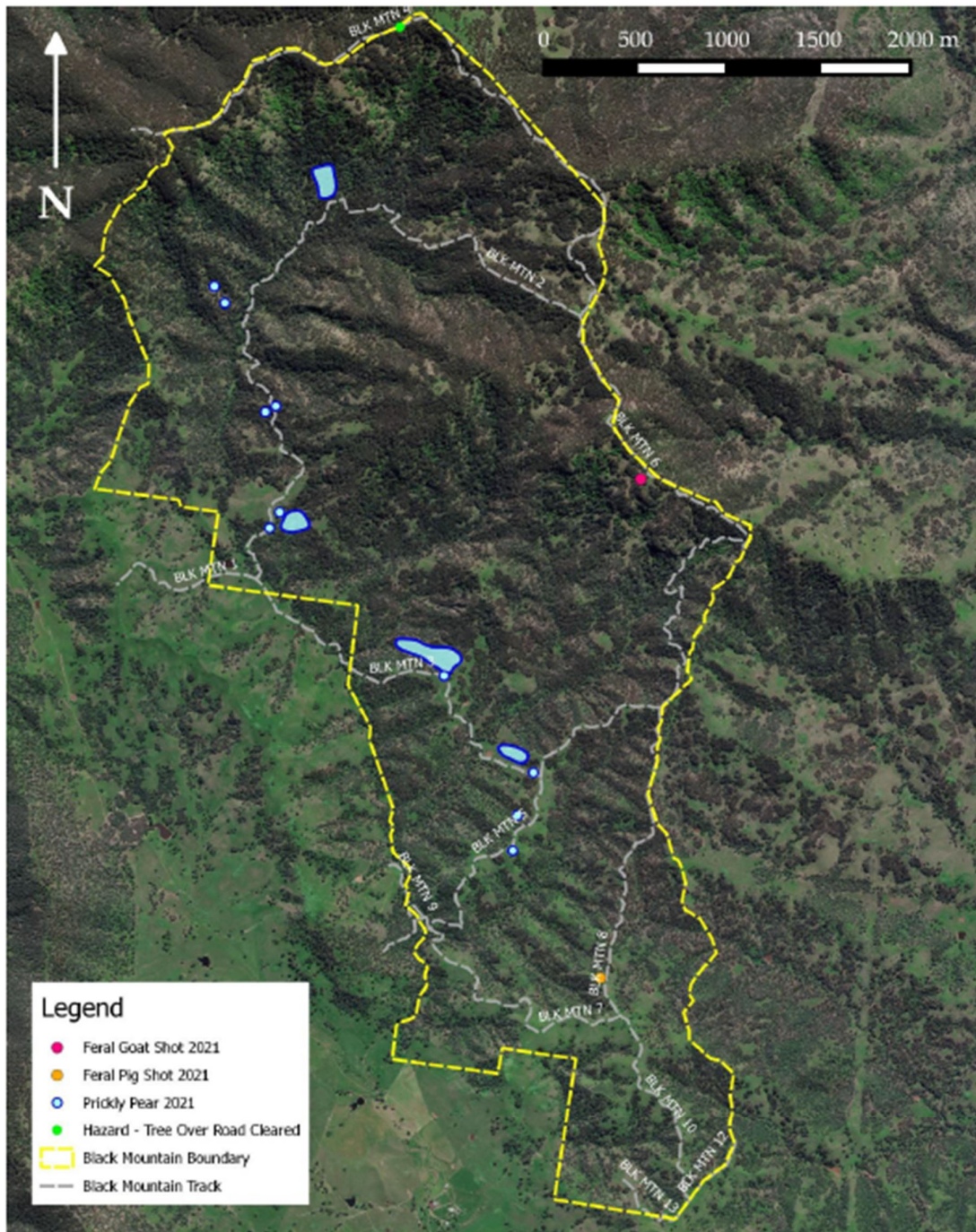


Figure 1 – Bengalla Mine Weed Management Areas 2021

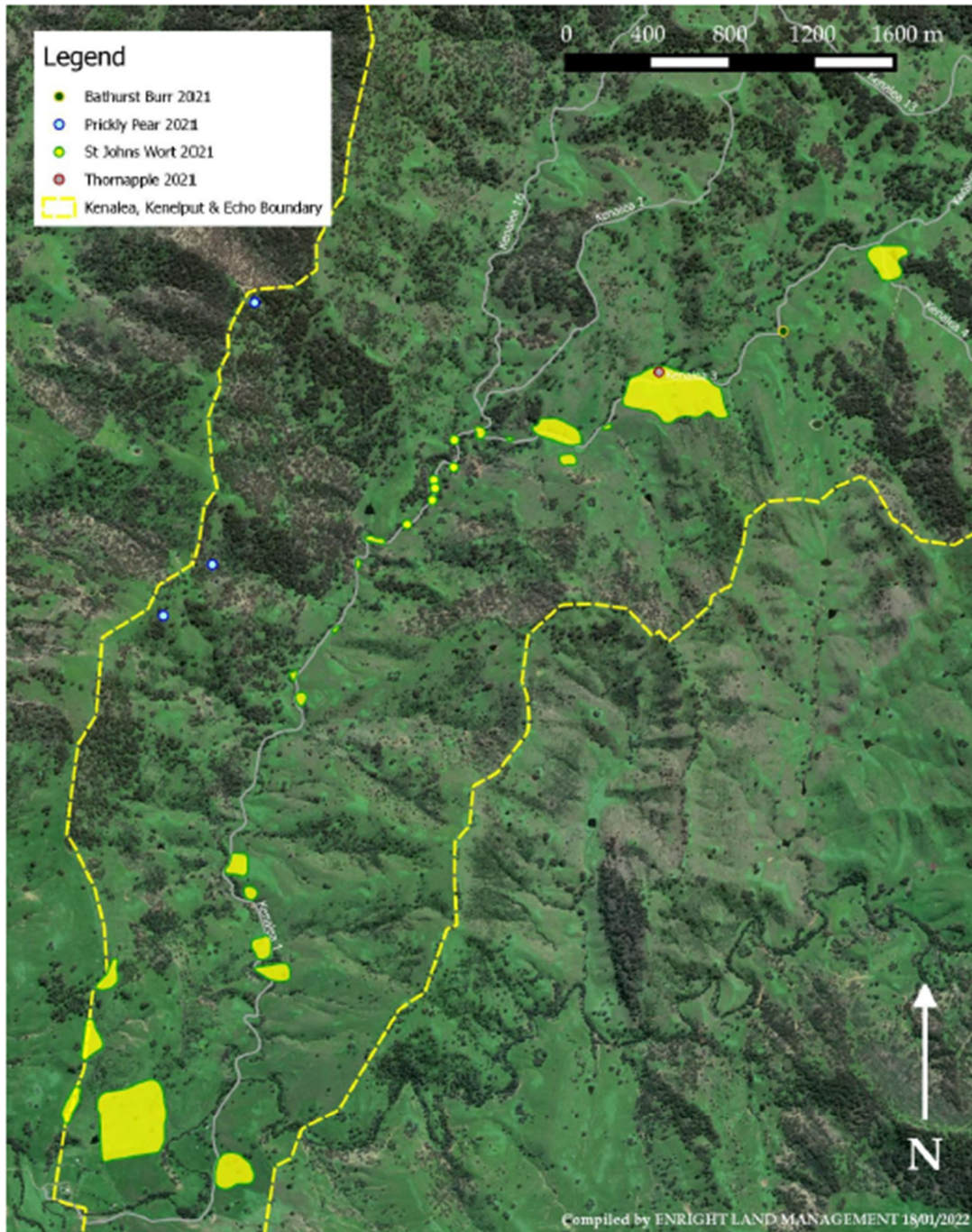


**BENGALLA MINING COMPANY
BIODIVERSITY OFFSET AREA
Vertebrate Pest & Weed Works Completed 2021 - Map 1**



Compiled by ENRIGHT LAND MANAGEMENT 18/01/2022

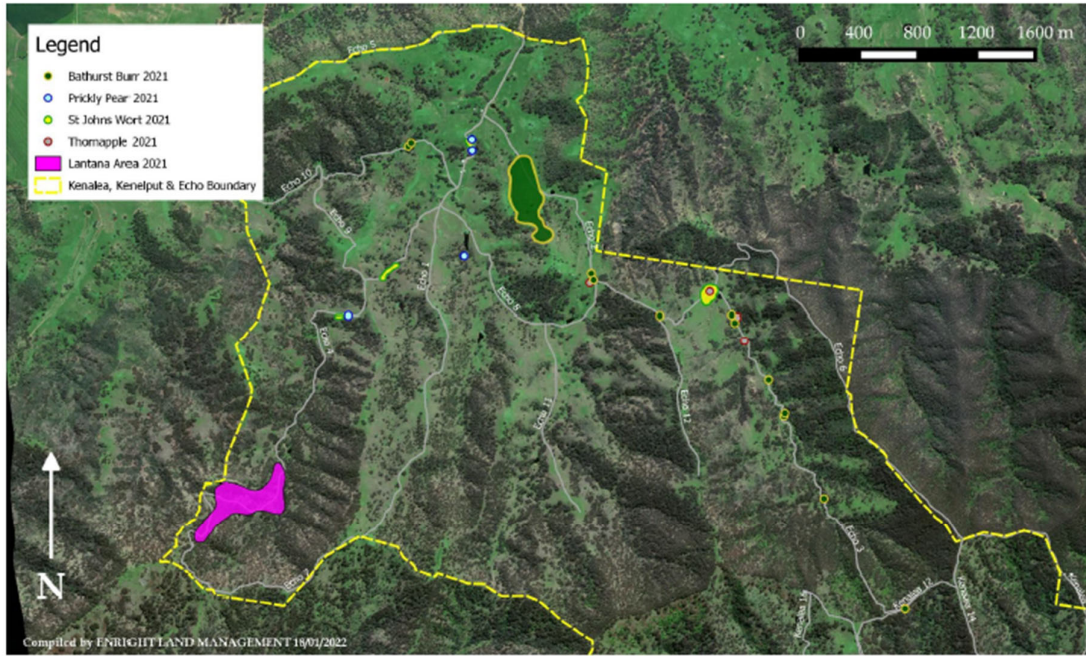
Figure 2 – Black Mountain Weed Management Locations 2021



**BENGALLA MINING COMPANY
ECHO/KENALEA/KENELPUT OFFSET AREA
Weed Works Completed 2021 - Map 1**



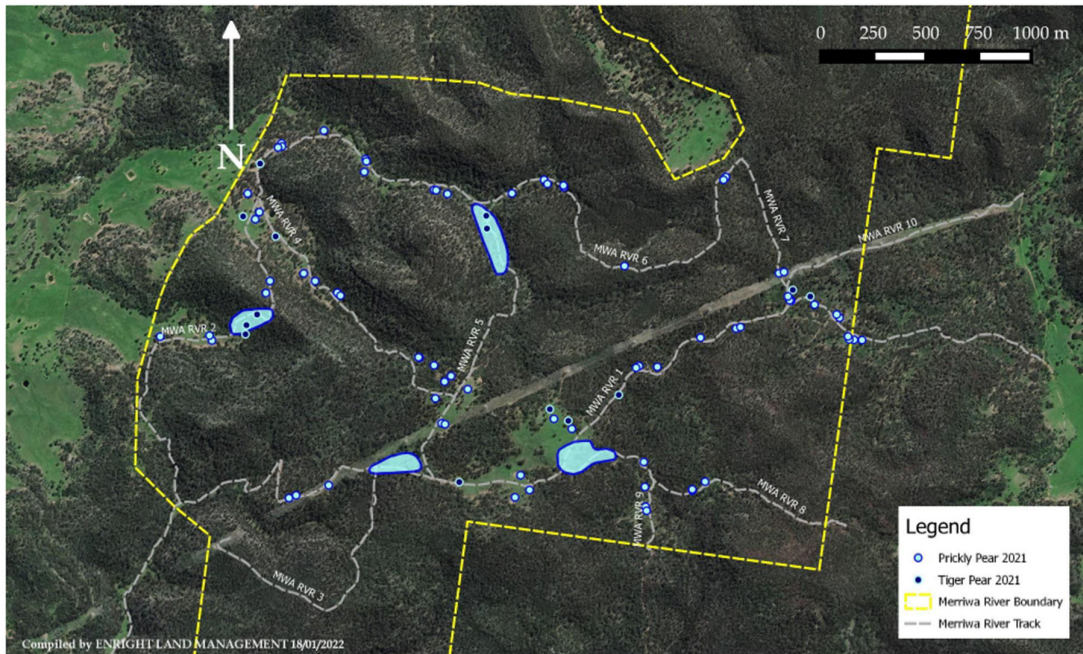
Figure 3 – Kenalea Weed Management Locations 2021



**BENGALLA MINING COMPANY
ECHO/KENALEA/KENELPUT OFFSET AREA
Weed Works Completed 2021 - Map 2**



Figure 4 – Kenalea Weed Management Locations 2021



**BENGALLA MINING COMPANY
MERRIWA RIVER OFFSET AREA
Weed Works Completed 2021 - Map 1**



Figure 5 – Merriwa River Weed Management Locations 2021