

**Annual EPBC Approval 2012/6548 Ornamental Snake Audit  
Train Load Out Facility – Moura  
Final Report**

**Baralaba Coal Company Pty Ltd**

**December 2022**

## Revision History

<b>Revision No.</b>	<b>Revision Date</b>	<b>Details</b>	<b>Prepared by</b>
01	15/12/2022	Draft Report Annual Audit Train Load Out Facility, Moura 2022	B.Topp

## Executive Summary

An audit was undertaken of the Baralaba Mine Train Load Out (TLO) at Moura to assess the facility for compliance with the:

- Approval 2012/6548 issued for a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999*; and
- Ornamental Snake Mitigation and Management Plan prepared by Ecosm. (2014).

A key component of the site audit was to assess if the site management successfully avoided, mitigated and managed impacts on the Ornamental Snake (*Denisonia maculate*) as stipulated by the *Environment Protection and Biodiversity Conservation Act 1999* approval issued for a controlled action.

A site visit was undertaken on 13 December 2022 to assess remaining habitat as well as current mitigation measures, including fauna passages, signage and exclusion fencing.

## Glossary, Acronyms and Abbreviations

DotE	Australian Government – Department of the Environment
EPBC Act	<i>Environment Protection &amp; Biodiversity Conservation Act 1999</i>
OSMMP Facility	Ornamental Snake Mitigation and Management Plan, Baralaba Train Load Out Facility
RE	Regional ecosystem
TLO	Train Load Out
TLO SMP	Baralaba Mine TLO Facility and Haul Route Species Management Program

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## 1.0 Introduction

Baralaba Coal Company (BCC) undertook an audit of the Moura Train Load Out Facility (TLO) which assessed compliance with environmental approval documents, including:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) approval 2012/6548; and
- Ornamental Snake Mitigation and Management Plan (OSMMP) (Ecosm 2014).

### 1.1 Site Location

The TLO is situated approximately 4.5 km east of Moura in Central Queensland, on Lot 1 SP 252890. The site location is shown on the map in Appendix 1.

### 1.2 EPBC Act 2012/6548 Approval

The approval requires a management plan that is designed to avoid, mitigate and manage impacts to the Ornamental Snake (*Denisonia maculate*) and its habitat. BCC must undertake any approved actions in accordance with the OSMMP (Ecosm, 2014).

### 1.3 Ornamental Snake Mitigation and Management Plan

The OSMMP was developed when the proposed project was identified as having the potential to impact matters of national environmental significance (MNES). This Plan was developed to:

- Manage impacts to Ornamental Snake habitat at the TLO site during construction and operation; and
- Enhance and protect existing Ornamental Snake habitat onsite for the life of the TLO facility (Ecosm, 2014).

## 2.0 Methods

### 2.1 Desktop Assessment

The following sources of information were reviewed as part of the comprehensive desktop assessment:

- Queensland Government Biomaps:
  - Terrestrial biodiversity and aquatic conservation values reports and maps;
  - Regional ecosystem reports;

- Vegetation management reports;
- Wildnet conservation significant species report;
- Wildnet species list;
- Modelled potential habitat report; and
- Matters of State Environmental Significance (MSES) reports.
- Australian Government:
  - Protected Matters Search Tool (PMST) – Matters of National Environmental Significance.
- Atlas of Living Australia (Atlas of Living Australia 2022) database for locations of conservation significant fauna and flora species
- Any other available ecological and development studies for the area
- Internal auditing

## 2.2 Site Assessment

### 2.2.1 Ornamental Snake Habitat

During a site visit on 13 December 2022, five (O1-5) pre-determined patches of brigalow habitat were assessed as potential Ornamental Snake habitat (Appendix 1).

### 2.2.2 Mitigation Structures

Mitigation structures were inspected during the annual site inspection. These structures included snake exclusion fencing, fauna passages, habitat refuge areas and signage (see Figures 1-2).



*Figure 1: Snake Exclusion Fencing*





*Figure 2: Snake passage*

### 3.0 Results

#### 3.1 Compliance Requirements

The project area is designated as Lot 1 SP 252890 and does not include any other site. Table 1 provides a list of identified compliance requirements as required by the EPBC Act Approval (EPBC 2012/6548). While Table 2 addresses compliance requirements of the Ornamental Snake Mitigation & Management Plan (OSMMP) for the Baralaba Train Load Out Facility (2014).

### 3.1.1 EPBC Act Approval (EPBC 2012/6548)

Table 1: Listed compliance requirements - EPBC2012/6548

Requirement	Management Actioned	Comments
<p><b>Condition 2:</b> To avoid, mitigate and manage impacts to the Ornamental Snake (<i>Denisonia maculata</i>) and its habitat, the approval holder must undertake the approved action in accordance with the <i>Ornamental Snake Mitigation and Management Plan Baralaba Train Load Out Facility</i> (August 2014)</p>	Y	<p>Requirements of TLO SMP are included in this report.</p> <p>Sections of the exclusion fencing require maintenance. This work is due to begin on 16 December 2022.</p> <p>A BioCondition assessment was undertaken in March 2022.</p> <p>The 2022 Ornamental Snake monitoring report was finalised.</p> <p>Mitigation and management measures required under the <i>Ornamental Snake Mitigation and Management Plan Baralaba Train Load Out Facility</i> (August 2014) have continued to be implemented throughout 2022.</p>
<p><b>Condition 3:</b> Within 30 calendar days after the commencement of the action, the approval holder must advise the Department in writing of the actual date of commencement.</p>	Y	<p>Notification has been provided to DotE in 2014.</p>
<p><b>Condition 4:</b> The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the management plan referenced in condition 2 of this approval, and make them available upon request to</p>	Y	<p>A fauna register is maintained and updated as needed.</p>

Requirement	Management Actioned	Comments
<p>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 or audits may also be publicised through the general media.</p>		<p>The TLO monthly inspection includes the Ornamental Snake Mitigation and Management measures.</p> <p>Monitoring and inspection records are saved on the Baralaba SharePoint.</p>
<p><b>Condition 5:</b> Within three months of every 12 month anniversary of the commencement of the action, the approval holder must publish a report on their website for the life of the approval addressing compliance with each of the conditions of this approval, including implementation of the management plan specified condition 2. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of the approval must be provided to the Department at the same time as the compliance report is published.</p>	Y	<p>The Baralaba Coal Company Train Load Out Annual Compliance Reports (2015-2021) can be located here: <a href="https://www.baralabacoal.com.au/reports/">https://www.baralabacoal.com.au/reports/</a></p>
<p><b>Condition 6:</b> 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.</p>	N/A	No direction for an independent audit has been received.
<p><b>Condition 7:</b> If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and ecological communities to do so, the Minister may request that the approval holder make specified revisions to the management plan specified in condition 2.</p>	N/A	No requests have been made.
<p><b>Condition 8:</b> If, at any time after five years from the date of this approval, the approval holder has not substantially commenced the action, then the approval holder must not substantially commence the action without the written agreements of the Minister.</p>	N/A	Not applicable

Requirement	Management Actioned	Comments
<p><b>Condition 9:</b> Unless otherwise agreed to in writing by the Minister, the approval holder must publish all management plans referred to in these conditions of approval on their website. Each management plan must be published on the website within 1 month of being approved by the Minister and remain on the website for the life of the approval.</p>	Y	<p>The <i>Ornamental Snake Mitigation and Management Plan Baralaba Train Load Out Facility</i> (2014) remains available on the Baralaba website  <a href="https://www.baralabacoal.com.au/reports/">https://www.baralabacoal.com.au/reports/</a></p>
<p><b>Condition 10:</b> The approval holder must notify the Department in writing of potential non-compliance with any condition of this approval as soon as practical and within no later than ten business days of becoming aware of the potential non-compliance. The notice provided to the Department under this condition must specify:</p> <ul style="list-style-type: none"> <li>a) the condition which the approval holder has potentially breached;</li> <li>b) the nature of the potential non-compliance;</li> <li>c) when and how the approval holder became aware of the non-compliance;</li> <li>d) how the non-compliance will affect the approved action;</li> <li>e) how the non-compliance will affect the approved action;</li> <li>f) the measures the approval holder will take to address the impacts of the non-compliance on the matters of national environmental significance and rectify the non-compliance; and</li> <li>g) the time by when the approval holder will rectify the non-compliance.</li> </ul>	Y	<p>No indication of non-compliances have been identified during the current period.</p>

### 3.1.2 OSMMP Baralaba TLO

Table 2: Listed compliance requirements - OSMMP Baralaba TLO

Project Phase	Mitigation Measure	Mitigation Measure Actioned	Compliance Finding
<b>Operation &amp; Monitoring</b>	Approximately 11 Biocondition monitoring plots will be established within the retained Brigalow vegetation, including high quality and medium quality Ornamental Snake habitat areas. Baseline conditions will be collected and monitoring conducted every 2 years in the post wet season for a period of at least 15 years.	Monitoring was undertaken in 205, June 2017, April 2020 and March 2022.  The next round of monitoring is scheduled for 2024.	Y
	If Biocondition monitoring indicates that the ecological condition of the Brigalow vegetation is not improving additional measures to enhance the condition of these areas of vegetation will be investigated.	The March 2022 monitoring event showed some improvement in the condition of the Brigalow vegetation.	Y
	Monitoring of Ornamental Snake presence/abundance and habitat usage at the TLO site is to be undertaken on an annual basis during optimal detection conditions, i.e. post wet-season. Surveys are to be conducted throughout all high quality and medium quality habitat areas and will include mark-recapture techniques to allow population analysis and gross movements of snakes between monitoring events to be determined (e.g. from one side of the rail loop to the other). The method of marking snakes will be determined in consultation with the relevant animal ethics committee but could include techniques such as branding (Winne et al. 2006) or Passive Integrated Transponder (PIT) tags.	Habitat condition was assessed during the field inspection for this report (Appendix).  Ornamental Snake monitoring was completed in March 2022 in accordance with the methodology outlined in the OSMMP.	Y
	Monitoring of installed culverts will be undertaken twice per year between October and December and February and April for two years following construction and then annually thereafter for a period of 5 years. Monitoring will use infrared cameras at each culvert location if trials show that cameras are effective at detecting snakes. The use of a substrate to maximise temperature	The TLO monthly inspection checklist indicates the culverts are inspected regularly.	Y

Project Phase	Mitigation Measure	Mitigation Measure Actioned	Compliance Finding
	differential and increase the detectability of reptiles with infrared cameras (Welbourne 2013). The Rail loop and haul road should be checked each morning to search for snakes that may have been struck by trains or haul trucks to ensure that the exclusion fencing is effective. Monitoring of the use of culverts will be undertaken in conjunction with targeted surveys/monitoring for Ornamental Snake.	Additional inspections of the culverts are completed during the annual TLO audit.	
	Where feasible within the operational requirements of the TLO Facility, pulse grazing of Ornamental Snake habitat will be undertaken for short durations in the dry season (generally between May-September) to assist in weed management. This will only be undertaken when gilgai are completely dry to assist in reducing the cover of exotic pasture grasses. Gilgai areas should not be grazed while gilgai contain water as this can lead to gilgai habitat degradation, e.g. gilgai trampling, water quality impacts.	The area has been wet for a large portion of the year and it has therefore not been appropriate for any grazing to occur.	N/A
	Feral animal monitoring, particularly Cane Toads ( <i>Rhinella marina</i> ) and Feral Pigs ( <i>Sus scrofa</i> ), will be undertaken throughout the TLO Facility. All staff and contractors will be required to report any sightings or incidences of habitat degradation. Observations and recording numbers of Cane Toads caught will be made during Ornamental Snake surveys and monitoring events. Where survey or monitoring data indicates potential mortality of Ornamental Snake due to an abundance of Cane Toads, further targeted and quantitative monitoring will be considered. Where habitat degradation by Feral Pigs is identified during surveys and monitoring or by staff and contractors, mitigation and management actions will be required such as baiting and/or trapping.	The TLO Weed and Pest Management Plan outlines the responsibilities of TLO personnel and visitors including reporting any sightings of feral animals. The TLO induction also outlines this. All pest sightings are recorded in the TLO Fauna Register. Monitoring during the 2022 BioCondition Assessment found no Ornamental Snake mortality to have occurred from feral species.	Y
	All retained areas of Brigalow habitat on site will be enhanced through implementation of the Weed Management Plan, including the regular control of exotic grasses and other species.	Very few weeds observed during this survey.	Y

Project Phase	Mitigation Measure	Mitigation Measure Actioned	Compliance Finding
	A comprehensive air quality monitoring programme will be implemented for the TLO Facility. This will ensure dust emissions remain within acceptable limits.	Dust monitoring has been undertaken at the TLO since 2018. Dust levels are reviewed monthly to ensure dust remains within acceptable limits.	Y
	A noise monitoring programme will be implemented for the TLO Facility. Monitoring and management of noise will consider atmospheric conditions, e.g. thermal inversions at night, during operation.	Noise monitoring is undertaken in accordance with the site's Environmental Authority (EPPR02011714).	Y
	Daily water quality monitoring of pH and turbidity will be conducted of stormwater releases from the Sediment Retention Pond and Raw Water Dam during release events.	There were no water releases during 2022.	N/A
<b>Reporting</b>	<p>The results of all pre-clearance surveys, monitoring surveys and rehabilitation monitoring should be documented in stand-alone progress reports and where relevant a final report prepared. All other activities, including spotter/catcher works, injuries and deaths, disturbance to habitats, sightings, rehabilitation works as they relate to the Ornamental Snake are to be recorded in an onsite environmental works diary/register. The following information is to be recorded as a minimum:</p> <ul style="list-style-type: none"> <li>• Dates, location and description of habitat where Ornamental Snake is identified</li> <li>• Detection methods employed</li> <li>• Number and location of each breeding place identified</li> <li>• A record, including locations of all breeding places or young</li> <li>• Methods of survey or rehabilitation, e.g. targeted, standard or incidental</li> <li>• All incidences of injury or death to Ornamental Snake</li> <li>• Details of any non-compliance with this MMP</li> </ul>	<p>Relevant information is maintained in a fauna register.</p> <p>Preclearance reports:</p> <ul style="list-style-type: none"> <li>• Baralaba TLO Pre-clearance fauna survey and spotter catcher works – October 2014</li> <li>• Baralaba TLO spotter catcher works – December 2014</li> <li>• Fauna Management Report CC1206 Stockyard TLO rail loop – March 2015</li> <li>• Fauna Management Report CC1206 Coal load out facility civil works – October 2015</li> </ul>	Y

<b>Project Phase</b>	<b>Mitigation Measure</b>	<b>Mitigation Measure Actioned</b>	<b>Compliance Finding</b>
<b>Corrective Action</b>	<p>If monitoring of culverts indicates that Ornamental Snakes are not moving through the culverts trials will be undertaken to determine if any measures can be implemented to encourage the snakes to use the culverts.</p> <p>If monitoring activities indicate mitigation and management actions are not effective, trials will be undertaken to determine if any measures can be implemented to improve the effectiveness of this MMP.</p>	Monitoring of the fauna passages for effectiveness will continue.	Y
<b>Auditing</b>	<p>Internal audits of all activities will be undertaken on a 6 monthly basis.</p> <p>External auditing will be undertaken annually by a qualified organisation experienced and familiar with the ecology of Ornamental Snakes.</p>	<p>External audits completed in 2016, 2017, 2018, 2019, 2020, 2021 &amp; 2022 have assessed the Ornamental Snake habitat.</p> <p>BioCondition Assessments completed in 2015, 2017, 2020 &amp; 2022.</p>	Y



### 3.2 Mitigation Measures

Sections of the exclusion fencing requires maintenance. Some sections are lying flat or overgrown by grass and in rare instances, the soil has eroded underneath the fence (Figures 3 & 4).



*Figure 3: Soil eroded underneath exclusion fencing*



*Figure 4: Damaged exclusion fencing*

The fauna passages have been maintained.







*Figure 5: Fauna passage*





## References



- AARC Environmental Solutions (2022), *Ornamental Snake & Brigalow BioCondition Assessment Monitoring*, Brisbane
- Australian Government, Department of the Environment 2014, *Approval Baralaba Train Load Out and Rail Loop (EPBC 2012/6548)*, Canberra
- Australian Government, Department of the Environment 2011, *Draft referral guidelines for the nationally listed Brigalow Belt reptiles*, Canberra
- Cockatoo Coal Limited 2015, *Baralaba Coal Mine Train Load Out Annual Compliance Report*, Queensland
- Cockatoo Coal Limited 2015, *Fauna Survey Report Baralaba coal mine*, Queensland
- Copris Environmental 2021, *Annual Third Party Audit Train Load Out Facility – Moura*, Rockhampton
- CQC Consulting 2015, *CCL Fauna management report CC1206 – Stockyard TLO rail loop civil works*, Brendale, Queensland
- CQC Consulting 2015, *CCL Fauna management report CC1206 – Coal load out facility civil works*, Brendale, Queensland
- Ecosure Pty Ltd 2016, *Annual Third-Party Audit – Baralaba Mine TLO Moura 2016*, Rockhampton
- Ecosure Pty Ltd 2017, *Annual Third-Party Audit – Baralaba Mine TLO Moura 2016*, Rockhampton
- Ecosure Pty Ltd 2018, *Annual Third-Party Audit – Baralaba Mine TLO Moura 2016*, Rockhampton
- Ecosure Pty Ltd 2019, *Annual Third-Party Audit – Baralaba Mine TLO Moura 2016*, Rockhampton
- Ecosm 2014, *Ornamental Snake Mitigation and Management Plan, Baralaba Train Load Out Facility*, Brendale, Queensland
- Neldner, V.J., Wilson, B.A., Thompson, E.J. and Dillewaard, H.A. (2019), *Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland*. Version 5.1. Updated March 2020. Queensland Herbarium, Queensland Department of Environment and Science, Brisbane
- Queensland Herbarium (2021), *Regional Ecosystem Description Database (REDD)*. Version 12.1 (December 2021), Queensland Department of Environment and Science, Brisbane



Appendix 1 Survey Data Sheets

<b>Date &amp; Time</b>	13/12/2022 0846	
<b>Site</b>	O1	
<b>Observer</b>	B.Topp	
<b>Location</b>	-24.54788, 150.01130	
<b>North</b>		
<b>East</b>		
<b>South</b>		
<b>West</b>		
<b>Weeds</b>	Nil	
<b>Comments</b>	Wet, vegetation in good condition	

<b>Date &amp; Time</b>	13/12/2022 0857	
<b>Site</b>	O2	
<b>Observer</b>	B.Topp	
<b>Location</b>	-24.55064, 150.01213	
<b>North</b>		
<b>East</b>		
<b>South</b>		
<b>West</b>		
<b>Weeds</b>	None observed	
<b>Comments</b>	Wet. Some bare areas of ground.	

<b>Date &amp; Time</b>	13/12/2022 0914	
<b>Site</b>	O3	
<b>Observer</b>	B.Topp	
<b>Location</b>	-24.55243, 150.00702	
<b>North</b>		
<b>East</b>		
<b>South</b>		
<b>West</b>		
<b>Weeds</b>	None observed	
<b>Comments</b>	Open landscape. Grass cover and growth exceptional	

<b>Date &amp; Time</b>	13/12/2022 0924
<b>Site</b>	O4
<b>Observer</b>	B.Topp
<b>Location</b>	-24.55114, 150.00603
<b>North</b>	
<b>East</b>	
<b>South</b>	
<b>West</b>	
<b>Weeds</b>	None observed
<b>Comments</b>	Dense trees but grass cover still good underneath.

<b>Date &amp; Time</b>	13/12/2022 0838	
<b>Site</b>	O5	
<b>Observer</b>	B.Topp	
<b>Location</b>	-24.54883, 150.00883	
<b>North</b>		
<b>East</b>		
<b>South</b>		
<b>West</b>		
<b>Weeds</b>	None observed	
<b>Comments</b>	Water pooling in the gilgai following overnight rainfall. The trees are in good condition as is the grass underneath.	