



# Compliance report

Byerwen Coal Project, Queensland  
EPBC 2010/5778  
9 December 2018 to 8 December 2019



02 March 2020

**Document version control**

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# 1 Introduction

The Byerwen Coal Mine (BCM) is an open cut coal mine located in the northern Bowen Basin approximately 20 km west of the town of Glenden and is operated by Byerwen Coal Pty Ltd (Byerwen Coal) ABN 64 133 357 632. Approval under section 130(1) and 133 of the *Environment Protection & Biodiversity Conservation Act 1999* was granted on 2 October 2014 to Byerwen Coal. The EPBC Act referral and approval reference is 2010/5778.

Construction commenced on 8 December 2015, and the Byerwen Coal Project is now referred to as the BCM. The approval is subject to 22 conditions and remains in effect until 1 October 2044. This compliance report is required by Condition 16 of the approval and has been prepared for the Commonwealth Department of Environment and Energy (DoEE). The *Annual Compliance Report Guidelines* (DoE, 2014) were referenced during the drafting of this report. The reporting period for this compliance report is 9 December 2018 to 8 December 2019.

The approved action is as follows:

**Approved action:**

*To develop and operate an open-cut coal mine and associated infrastructure, located approximately 20 km west of Glenden in Queensland*

The EPBC Act approval decision encompasses the following controlling provisions:

<b>Controlling Provision</b>	<b>Decision</b>
<i>Listed threatened species and communities (sections 18 &amp; 18A)</i>	<i>Approve</i>
<i>Listed migratory species and communities (sections 20 &amp; 20A)</i>	<i>Approve</i>
<i>A water resource, in relation to coal seam gas developments and large coal mining development (sections 24D &amp; 24E)</i>	<i>Approve</i>

## 1.1 Byerwen Coal corporate details

Byerwen Coal is a joint venture between QCoal Pty Ltd (QCoal) and JFE Steel. QCoal is a privately-owned Queensland company based in Brisbane and has been active in the Queensland coal exploration and mining industry since 1989. JFE Steel is a subsidiary of the JFE Group of Japan. The JFE Group is Queensland's largest export customer and JFE Steel is one of the largest customers of Queensland-sourced coking coal.

Street address:	Byerwen Coal Pty Ltd Level 15/40 Creek Street Brisbane QLD 4000
Postal address:	Byerwen Coal Pty Ltd PO Box 10630 Brisbane QLD 4000
Contact number:	(07) 3002 2900

## 1.2 Description of activities

The BCM is an open-cut mining operation located in the northern Bowen Basin, approximately 20 km west of the township of Glenden. Access to the BCM is via the State-controlled Collinsville-Elphinstone Road, and the Newlands rail system, which connects to the Port of Abbot Point (see **Figure 1**).

The BCM is permitted to extract up to 15 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal to produce approximately 10 Mtpa of combined coking and thermal coal products for the export market. The BCM operates 24 hours a day, 7 days a week.

The main stratigraphic unit of interest is the Moranbah Coal Measures, which are part of the Blackwater Group. The Moranbah Coal Measures are characterised by seven persistent coal seams, with the principal seams of economic interest being the Goonyella Lower (6 to 8 m thick) and Goonyella Middle (6 to 10 m thick). This unit conformably overlies the marginal marine Exmoor Formation.

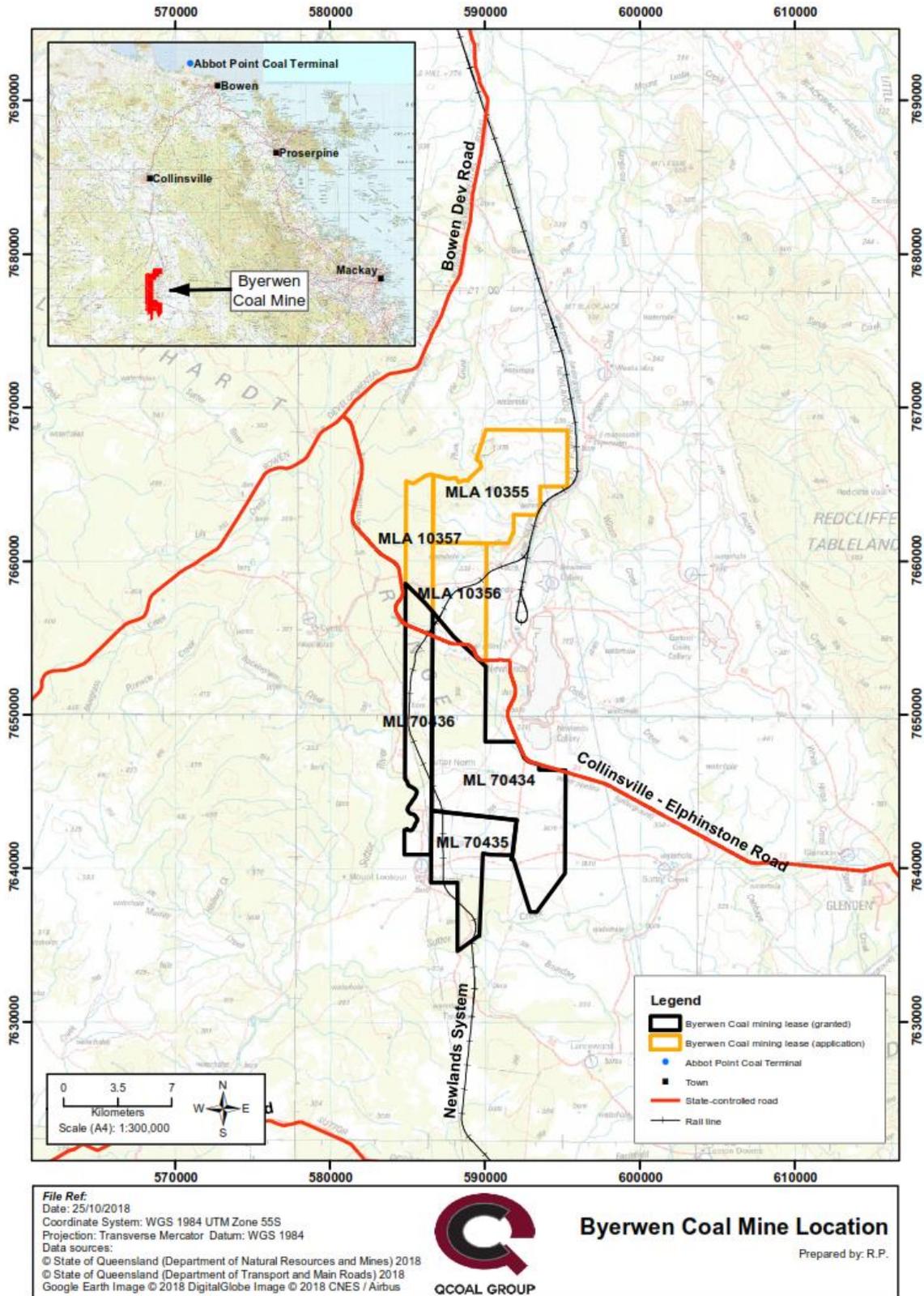


Figure 1 – Byerwen Coal Mine location

## 1.3 Declaration of accuracy

As recommended in section 3.1 of the *Annual Compliance Report Guidelines* (DotE 2014), the following declaration of accuracy is provided by the approval holder.

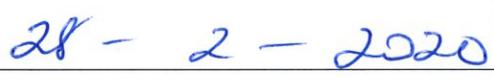
In making this declaration, I am aware that sections 490 and 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed: 

Full name: Christopher Ian Wallin

Position: Director

Organisation: Byerwen Pty Ltd ABN 64 133 357 632

Date: 

## 2 EPBC approval conditions compliance table

The conditions attached to the approval granted on 2 October 2014 are replicated in **Table 1** and a statement of compliance for each condition is included. A copy of the approval is provided as **Appendix A**.

Table 1 – EPBC approval conditions compliance table

Condition number/ reference	Condition	Is the project compliant with this condition?	Evidence/comments
1	The project area is the area designated at Attachments A1 and A2 covering six mining lease applications (MLA) 10355, 10356, 10357, 70434, 70435, 70436.	Compliant	Works have only been undertaken within the project area as presented in Attachments A1 and A2 of the approval. Please note: Mining Lease Application (MLA) 70435 was granted on 16 April 2014. MLA 70434 and MLA 70436 were granted on 27 April 2017. This has resulted in these tenements becoming granted Mining Leases (MLs)
2	For the purposes of the action, approval holder must not clear outside the project area.	Compliant	No clearing has been undertaken outside of the project area.
3	The approval holder must not clear more than: a) 650 hectares of primary habitat for the Squatter Pigeon (southern) b) 908 hectares of primary habitat for the Ornamental Snake c) 1115 hectares of primary habitat for the Black-throated Finch (southern) d) 358 hectares of Brigalow ( <i>Acacia harpophylla</i> dominant and co-dominant) e) 179 hectares of Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin f) 109 hectares of Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions	Compliant	The prescribed disturbance limits have not been exceeded.

4	<p>If the disturbance limits stated in Condition 3 of this approval are predicted to be exceeded, the approval holder must contact the Department in writing 20 business days before reaching the disturbance limit and provide for the Minister's approval:</p> <ul style="list-style-type: none"> <li>a) the actual and predicted amount of disturbance in hectares for each EPBC Act listed species and community</li> <li>b) justification why the approved disturbance limits require increasing, alternatives, and proposed actions to avoid, mitigate and manage impacts</li> <li>c) an assessment of the impact and residual impact to the EPBC Act listed species or community in accordance with the EPBC Act Significant Impact Guidelines</li> <li>d) a proposal to offset additional impacts to EPBC Act listed species and communities in accordance with the EPBC Act Environmental Offsets Policy in force at the time.</li> </ul>	Compliant	The prescribed disturbance limits have not been exceeded.
5	<p>The approval holder must submit a Biodiversity Offset Management Plan (BOMP) to the Department for the Minister's approval, outlining how offsets to address the residual impacts to <i>Brigalow (Acacia harpophylla dominant and co-dominant, Semi-evergreen Vine Thickets of the Brigalow Belt (North and South) and Nandewar Bioregions, Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin</i>, the Ornamental Snake (<i>Denisonia maculata</i>) and the Squatter pigeon (southern) (<i>Geophaps scripta scripta</i>), will be managed. The approved BOMP must be implemented.</p>	Compliant	<p>On 30 September 2016 Byerwen Coal submitted the <i>Byerwen Coal Mine: Offset Delivery Plan</i> (the BOMP) (dated 28 September 2016) to the Department. A revised BOMP was submitted on 23 December 2016 and was approved on 20 January 2017. A Stage 1a BOMP for further disturbance was submitted for assessment on 7 November 2017 and was approved on 10 December 2018. A Stage 2 BOMP was submitted to the department on 22 July 2019. As of 8 December 2019, approval was pending; however, the BOMP has since been formally approved on 7 February 2020. The approved BOMP is currently implemented.</p>
6	<p>The BOMP must be submitted for approval within twelve months after the commencement of construction.</p>	Compliant	<p>Construction commenced on 8 December 2015, and the BOMP was submitted on 30 September 2016. No clearing of EPBC Act listed</p>

	<p>Clearing of EPBC Act listed species and communities must not occur until the BOMP is approved by the Minister in writing.</p>		<p>species or communities was undertaken prior to ministerial approval of the BOMP, received on 20 January 2017.</p>
<p>7</p>	<p>The BOMP must include, but is not limited to:</p> <ul style="list-style-type: none"> <li>a) maps of the offset area/s inclusive of the distribution and extent (in hectares) of the EPBC Act listed species and communities to be offset in electronic Geographic Information System format</li> <li>b) evidence that the offsets are consistent with the Department's <i>Environmental Offsets Policy</i> (October 2012)</li> <li>c) details of how the offset <i>area/s</i> have been or will be legally secured to provide long-term protection</li> <li>d) detailed on-ground surveys, complying with relevant survey guidelines, and description of the baseline condition, attributes and values of the offset area/s with respect to EPBC Act listed species and communities</li> <li>e) management measures (including timing, frequency and longevity) for each of the EPBC Act listed species and communities and other vegetation within the offset area/s with written evidence of input from a suitably qualified expert who has relevant expertise in the management of native vegetation of the Bowen Basin</li> <li>f) details of how the management measures align with the relevant Conservation Advice, Recovery Plans and Threat Abatement Plans for the EPBC Act listed species and communities to be offset</li> <li>g) discussion of connectivity of the offset area/s with other habitats and biodiversity corridors</li> <li>h) a description of the risks to the successful implementation of the BOMP, including mitigation measures and residual risk ratings</li> </ul>	<p>Compliant</p>	<p>The approved BOMP satisfies the requirements of Condition 7.</p> <p>The first annual report for the offset areas has been provided as <b>Appendix B</b>.</p>

	<p>i) a monitoring program for the offset area/s which must:</p> <ul style="list-style-type: none"> <li>i. clearly set out performance indicators and milestones</li> <li>ii. detail how the success of the management measures against the performance indicators and milestones will be measured, recorded and reported</li> <li>iii. include monitoring scope and parameters, timing, frequency, triggers and corrective actions</li> <li>iv. detail how adaptive management strategies will be incorporated</li> <li>v. outline how compliance will be reported</li> <li>vi. detail who will be undertaking monitoring, reporting, review, and implementation of the BOMP (if this person is not the approval holder).</li> </ul>		
8	<p>The BOMP must be updated, within a timeframe specified by the Minister, to include any changes to the offsets approved by the Minister. Updates must be consistent with the requirements in Condition 7.</p>	Compliant	<p>The delegate to the Minister, Greg Manning, approved a change to the impact area and associated offset on 8 March 2018, with a deadline of 12 April 2018 to submit a revised BOMP. A revised BOMP, consistent with the requirements of Condition 7, was submitted for approval on 12 April 2018.</p>
9	<p>The approval holder must, within two years of the commencement of construction (or as required under relevant Queensland legislation), register a legally binding conservation mechanism to provide long-term protection to the offset area/s approved by the Minister in the BOMP.</p> <p>Note 1: To ensure efficiency the approval holder may prepare and align the BOMP required under the conditions of approval with the requirements of the Biodiversity Offset Strategy required under the Queensland Environmental Authority, as long as the</p>	Compliant	<p>Construction commenced on 8 December 2015. A Voluntary Declaration (VDec) (being the elected legally binding conservation mechanism) was lodged on 8 December 2017 and has subsequently been certified. A VDec for the Stage 2 offsets will be lodged by 7 August 2020.</p>

	relevant matters under the conditions of this approval are clearly and adequately addressed.		
10	The approval holder must submit a Groundwater Monitoring and Management Plan (GMMP) to the Department for the Minister's approval. The approved GMMP must be implemented.	Compliant	A GMMP was submitted to the Department on 17 November 2015 and was approved by the Minister on 22 December 2015. Since receiving ministerial approval, the GMMP has been implemented.
11	The GMMP must be approved by the Minister in writing prior to the commencement of dewatering activities in the mining pits detailed in Chapter 3 of the Environmental Management Plan.	Compliant	The GMMP was approved in writing by the Minister on 22 December 2015.
12	<p>The GMMP must include, but is not limited to:</p> <ul style="list-style-type: none"> <li>a) the groundwater quality and/or level triggers as described in the Queensland Environmental Authority in force at the time</li> <li>b) a detailed description of the actions, including timeframes, the approval holder will take if groundwater quality and level triggers are exceeded or predicted to be exceeded</li> <li>c) a strategy to conduct a landholder bore survey to determine water supply bores and water users in the vicinity of the project that may be impacted by mining activities and the potential to incorporate those bores into the groundwater monitoring program</li> <li>d) details of how the existing groundwater monitoring program will be expanded to better determine surface water/groundwater interaction, including monitoring locations, parameters to be measured, monitoring frequency and reporting requirements</li> <li>e) a groundwater model to simulate and quantify groundwater drawdown extent and flow impacts on the Suttor River, and validate the assumptions and potential risks and impacts of the project on</li> </ul>	Compliant	The approved GMMP satisfies the requirements of Condition 12.

	<p>groundwater resources identified in the EIS documents. The model must be developed with reference to the <i>National Water Commission Groundwater Modelling Guidelines</i> and must include a monitoring strategy to validate the model.</p> <p>f) the methods, frequency and timeframes in which the GMMP and groundwater model will be reviewed.</p> <p>Note 1: The Minister may by written request, require the GMMP be reviewed by a suitably qualified expert. Following any review, the GMMP must be revised and updated accordingly and submitted to the Minister for approval.</p> <p>Note 2: The GMMP does not need to be submitted for an early works bulk sample pit.</p> <p>Note 3: To ensure efficiency the approval holder may prepare and align the GMMP required under the conditions of approval with the requirements of the groundwater monitoring program required under the Queensland Environmental Authority, as long as the relevant matters under the conditions of this approval are clearly and adequately addressed.</p>		
13	<p>The approval holder must notify the Department in writing within 10 business days if the groundwater quality and/or trigger levels referred to in Condition 12 of this approval are exceeded and the results of required investigations indicate the exceedance is a result of mining activities. If requested, the approval holder must provide copies of any exceedance investigation documents to the Department in a timeframe agreed in writing by the Department, which state the cause, response and actions undertaken to prevent further occurrences.</p>	Compliant	No notification requirements have been triggered to date.

14	<p>Within 20 business days after the commencement of construction, the approval holder must advise the Department in writing of the actual date of the commencement of construction.</p>	Compliant	<p>Construction commenced on 8 December 2015. 12 business days later, on 23 December 2015, the Department was notified of the commencement of construction via email and post.</p>
15	<p>The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement management plans, strategies, reports required by this approval, 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.</p>	Compliant	<p>Records of all activities associated with, or relevant to, the conditions of approval, including measures taken to implement management plans, strategies, and reports required by the approval are held by Byerwen Coal.</p>
16	<p>Within 60 business days of every 12 month anniversary of the commencement of construction, the approval holder must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans, strategies, reports as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published. The compliance reports must remain on the website for the period the approval has effect.</p>	Compliant	<p>Publication and submission of this compliance report will be undertaken on or prior to 2 March 2019.</p> <p>All previous compliance reports have complied with this condition.</p>
17	<p>Potential or actual contraventions of the conditions of approval must be reported to the Department in writing within two business days of the approval holder becoming aware of the actual or potential contravention</p>	Compliant	<p>To date, no contraventions of the conditions of approval, potential or actual, have occurred at the BCM.</p>

	unless otherwise stated. All contraventions must be included in the compliance reports.		
18	Upon the direction of the Minister, the approval holder must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.	Not applicable	An independent audit of compliance has not been requested by the Minister during the reporting period.
19	If the approval holder wishes to carry out any activity otherwise than in accordance with the management plans, strategies, reports as specified in the conditions, the approval holder must submit to the Department for the Minister's approval a revised version of that management plan, strategy, report. The varied activity shall not commence until the Minister has approved the varied management plan, strategy, report in writing. If the Minister approves the revised management plan, strategy, report, that management plan, strategy, report must be implemented in place of the management plan, strategy, report originally approved	Not applicable	BCM operations have been undertaken in accordance with the management plans, strategies and reports specified in the conditions.
20	If the Minister believes that it is necessary or convenient for the better protection of EPBC Act listed species and communities or a water resource to do so, the Minister may request that the approval holder make specified revisions to the management plans, strategies, reports specified in the conditions and submit the revised management plans, strategies, reports for the Minister's written approval. The approval holder must comply with any such request. The revised approved management plans, strategies, reports must be implemented. Unless	Not applicable	Requests from the Minister have not been received during the reporting period.

	the Minister has approved the revised management plans, strategies, reports, then the approval holder must continue to implement the management plans, strategies, reports originally approved, as specified in the conditions.		
21	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 agreement of the Minister.	Not applicable	The approval is dated 2 October 2014, and the action commenced on 8 December 2015, within the five-year period.
22	Unless otherwise agreed to in writing by the Minister, the approval holder must publish all management plans, strategies, reports referred to in these conditions of approval on their website. Each management plan, strategy, report must be published on the website within 20 business days of being approved. The approval holder must notify the Department with five business days of publishing the management plan, strategy, report on their website and the management plan, strategy, report must remain on the website for the period the approval has effect.	Compliant	<p>The approved <i>Groundwater Monitoring and Management Plan – Byerwen Coal Project</i>, and <i>Byerwen Coal Mine: Offset Delivery Plan EPBC 2010/5778</i> are currently published on the QCoal website Publication page. Any future revisions of these plans will also be published on the website, and the Department will be notified within five business days.</p> <p>This compliance report is also published on the QCoal website Publications page.</p>

# Appendix A Approval, 2 October 2014



Australian Government  
Department of the Environment

## Approval

### Byerwen Coal Project, 20 kilometres west of Glenden, Queensland (2010/5778)

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

#### Proposed action

person to whom the approval is granted Byerwen Coal Pty Limited

proponent's ACN 133 357 632

proposed action To develop and operate an open-cut coal mine and associated infrastructure, located approximately 20 km west of Glenden in Queensland [see EPBC Act referral 2010/5778].

#### Approval decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approve
Listed migratory species and communities (sections 20 & 20A)	Approve
A water resource, in relation to coal seam gas development and large coal mining development (sections 24D & 24E)	Approve

#### Proposed conditions of approval

This approval is subject to the conditions specified below.

#### expiry date of approval

This approval has effect until 1 October 2044.

#### Decision-maker

name and position Deb Callister  
Assistant Secretary  
Queensland and Sea Dumping Assessment Branch

#### Signature



#### Date of decision

2 October 2014

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**Conditions attached to the approval**

- 1) The **project area** is the area designated at Attachments A1 and A2 covering six mining lease applications (MLA) 10355, 10356, 10357, 70434, 70435, 70436.
- 2) For the purposes of the action, **approval holder** must not clear outside the project area.

**Disturbance limits**

- 3) The **approval holder** must not clear more than:
  - a) 650 hectares of primary habitat for the Squatter Pigeon (southern)
  - b) 908 hectares of primary habitat for the Ornamental Snake
  - c) 1115 hectares of primary habitat for the Black-throated Finch (southern)
  - d) 358 hectares of Brigalow (*Acacia harpophylla* dominant and co-dominant)
  - e) 179 hectares of Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin
  - f) 109 hectares of Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions
- 4) If the disturbance limits stated in Condition 3 of this approval are predicted to be exceeded, the **approval holder** must contact the **Department** in writing 20 business days before reaching the disturbance limit and provide for the Minister's approval:
  - a) the actual and predicted amount of disturbance in hectares for each EPBC Act listed species and community
  - b) justification why the approved disturbance limits require increasing, alternatives, and proposed actions to avoid, mitigate and manage impacts
  - c) an assessment of the impact and residual impact to the EPBC Act listed species or community in accordance with the **EPBC Act Significant Impact Guidelines**
  - d) a proposal to offset additional impacts to EPBC Act listed species and communities in accordance with the **EPBC Act Environmental Offsets Policy** in force at the time.

**Biodiversity Offset Management Plan**

- 5) The **approval holder** must submit a Biodiversity Offset Management Plan (BOMP) to the **Department** for the **Minister's** approval, outlining how offsets to address the residual impacts to *Brigalow (Acacia harpophylla* dominant and co-dominant, *Semi-evergreen Vine Thickets of the Brigalow Belt (North and South)* and *Nandewar Bioregions, Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin*, the Ornamental Snake (*Denisonia maculata*) and the Squatter pigeon (southern) (*Geophaps scripta scripta*), will be managed. The approved BOMP must be implemented.
- 6) The BOMP must be submitted for approval within twelve months after the commencement of construction. Clearing of EPBC Act listed species and communities must not occur until the BOMP is approved by the **Minister** in writing.
- 7) The BOMP must include, but is not limited to:
  - a) maps of the offset area/s inclusive of the distribution and extent (in hectares) of the EPBC Act listed species and communities to be offset in electronic Geographic Information System format
  - b) evidence that the offsets are consistent with the **Department's Environmental Offsets Policy** (October 2012)
  - c) details of how the offset area/s have been or will be legally secured to provide long-term protection

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- d) detailed on-ground surveys, complying with relevant survey guidelines, and description of the baseline condition, attributes and values of the offset area/s with respect to EPBC Act listed species and communities
  - e) management measures (including timing, frequency and longevity) for each of the EPBC Act listed species and communities and other vegetation within the offset area/s with written evidence of input from a suitably qualified expert who has relevant expertise in the management of native vegetation of the Bowen Basin
  - f) details of how the management measures align with the relevant Conservation Advice, Recovery Plans and Threat Abatement Plans for the EPBC Act listed species and communities to be offset
  - g) discussion of connectivity of the offset area/s with other habitats and biodiversity corridors
  - h) a description of the risks to the successful implementation of the BOMP, including mitigation measures and residual risk ratings
  - i) a monitoring program for the offset area/s which must:
    - i) clearly set out performance indicators and milestones
    - ii) detail how the success of the management measures against the performance indicators and milestones will be measured, recorded and reported
    - iii) include monitoring scope and parameters, timing, frequency, triggers and corrective actions
    - iv) detail how adaptive management strategies will be incorporated
    - v) outline how compliance will be reported
    - vi) detail who will be undertaking monitoring, reporting, review, and implementation of the BOMP (if this person is not the **approval holder**).
  - 8) The BOMP must be updated, within a timeframe specified by the **Minister**, to include any changes to the offsets approved by the **Minister**. Updates must be consistent with the requirements in Condition 7.
  - 9) The **approval holder** must, within two years of the commencement of construction (or as required under relevant Queensland legislation), register a legally binding conservation mechanism to provide long-term protection to the offset area/s approved by the **Minister** in the BOMP.

Note 1: To ensure efficiency the **approval holder** may prepare and align the BOMP required under the conditions of approval with the requirements of the Biodiversity Offset Strategy required under the Queensland Environmental Authority, as long as the relevant matters under the conditions of this approval are clearly and adequately addressed.

#### **Groundwater Monitoring and Management Plan**

- 10) The **approval holder** must submit a Groundwater Monitoring and Management Plan (GMMP) to the **Department** for the **Minister's** approval. The approved GMMP must be implemented.
- 11) The GMMP must be approved by the Minister in writing prior to the commencement of dewatering activities in the mining pits detailed in Chapter 3 of the Environmental Management Plan.
- 12) The GMMP must include, but is not limited to:
  - a) the groundwater quality and/or level triggers as described in the Queensland Environmental Authority in force at the time
  - b) a detailed description of the actions, including timeframes, the **approval holder** will take if groundwater quality and level triggers are exceeded or predicted to be exceeded

- c) a strategy to conduct a landholder bore survey to determine water supply bores and water users in the vicinity of the project that may be impacted by mining activities and the potential to incorporate those bores into the groundwater monitoring program
- d) details of how the existing groundwater monitoring program will be expanded to better determine surface water/groundwater interaction, including monitoring locations, parameters to be measured, monitoring frequency and reporting requirements
- e) a groundwater model to simulate and quantify groundwater drawdown extent and flow impacts on the Suttor River, and validate the assumptions and potential risks and impacts of the project on groundwater resources identified in the EIS documents. The model must be developed with reference to the *National Water Commission Groundwater Modelling Guidelines* and must include a monitoring strategy to validate the model.
- f) the methods, frequency and timeframes in which the GMMP and groundwater model will be reviewed.

Note 1: The **Minister** may by written request, require the GMMP be reviewed by a suitably qualified expert. Following any review, the GMMP must be revised and updated accordingly and submitted to the Minister for approval.

Note 2: The GMMP does not need to be submitted for an early works bulk sample pit.

Note 3: To ensure efficiency the **approval holder** may prepare and align the GMMP required under the conditions of approval with the requirements of the groundwater monitoring program required under the Queensland Environmental Authority, as long as the relevant matters under the conditions of this approval are clearly and adequately addressed.

#### Groundwater quality and levels

- 13) The **approval holder** must notify the **Department** in writing within 10 business days if the groundwater quality and/or trigger levels referred to in Condition 12 of this approval are exceeded and the results of required investigations indicate the exceedence is a result of mining activities. If requested, the **approval holder** must provide copies of any exceedence investigation documents to the **Department** in a timeframe agreed in writing by the **Department**, which state the cause, response and actions undertaken to prevent further occurrences.

#### General

- 14) Within 20 business days after the commencement of construction, the approval holder must advise the **Department** in writing of the actual date of the commencement of construction.
- 15) The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement management plans, strategies, reports required by this approval, 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.
- 16) Within 60 business days of every 12 month anniversary of the commencement of construction, the approval holder must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans, strategies, reports as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the **Department** at the same time as the compliance report is published. The compliance reports must remain on the website for the period the approval has effect.
- 17) Potential or actual contraventions of the conditions of approval must be reported to the

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**Department** in writing within two business days of the approval holder becoming aware of the actual or potential contravention unless otherwise stated. All contraventions must be included in the compliance reports.

- 18) 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**.
- 19) If the approval holder wishes to carry out any activity otherwise than in accordance with the management plans, strategies, reports as specified in the conditions, the approval holder must submit to the **Department** for the **Minister's** approval a revised version of that management plan, strategy, report. The varied activity shall not commence until the **Minister** has approved the varied management plan, strategy, report in writing. If the **Minister** approves the revised management plan, strategy, report, that management plan, strategy, report must be implemented in place of the management plan, strategy, report originally approved.
- 20) If the **Minister** believes that it is necessary or convenient for the better protection of EPBC Act listed species and communities or a water resource to do so, the **Minister** may request that the approval holder make specified revisions to the management plans, strategies, reports specified in the conditions and submit the revised management plans, strategies, reports for the **Minister's** written approval. The approval holder must comply with any such request. The revised approved management plans, strategies, reports must be implemented. Unless the **Minister** has approved the revised management plans, strategies, reports, then the approval holder must continue to implement the management plans, strategies, reports originally approved, as specified in the conditions.
- 21) 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 agreement of the **Minister**.
- 22) Unless otherwise agreed to in writing by the **Minister**, the approval holder must publish all management plans, strategies, reports referred to in these conditions of approval on their website. Each management plan, strategy, report must be published on the website within 20 business days of being approved. The approval holder must notify the **Department** with five business days of publishing the management plan, strategy, report on their website and the management plan, strategy, report must remain on the website for the period the approval has effect.

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#### Definitions

**Approval holder:** person to whom the approval is granted.

**Business days:** measured in Queensland in relation to the doing of any action, any day other than a Saturday, Sunday or public holiday.

**Commencement of construction:** any preparatory works required to be undertaken including clearing vegetation, the erection of any on-site temporary structures and the use of heavy duty equipment for the purpose of breaking the ground for mining, buildings or infrastructure. Commencement of construction does not include an early works bulk sample pit.

**Department:** the Australian Government Department administering the **EPBC Act**.

**Early works bulk sample pit:** a single coal mining pit, 20 hectares in size for extraction of a bulk sample of a maximum of 550,000 tonnes of coal.

**EPBC Act:** the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

**EPBC Act Environmental Offsets Policy:** the *EPBC Act Environmental Offsets Policy* (October 2012).

**EPBC Act listed species and/or community/ies:** threatened species or ecological communities listed under the **EPBC Act**.

**EPBC Act Significant Impact Guidelines:** the Matters of National Environmental Significance, Significant Impact Guidelines 1.1, *Environment Protection and Biodiversity Conservation Act 1999*.

**Minister:** the Minister administering the EPBC Act and includes a delegate of the Minister.

**Project Area:** The project area is the area designated at Attachments A1 and A2 covering the project site and surrounds and is located within the existing six mining lease applications (MLA) 10355, 10356, 10357, 70434, 70435, 70436 are held by Byerwen Coal Pty Limited.

**Queensland Environmental Authority:** the Environmental Authority (Mining Lease) issued by the Queensland Government under the *State Development and Public Works Organisation Act 1971* for Byerwen Coal Pty Limited.

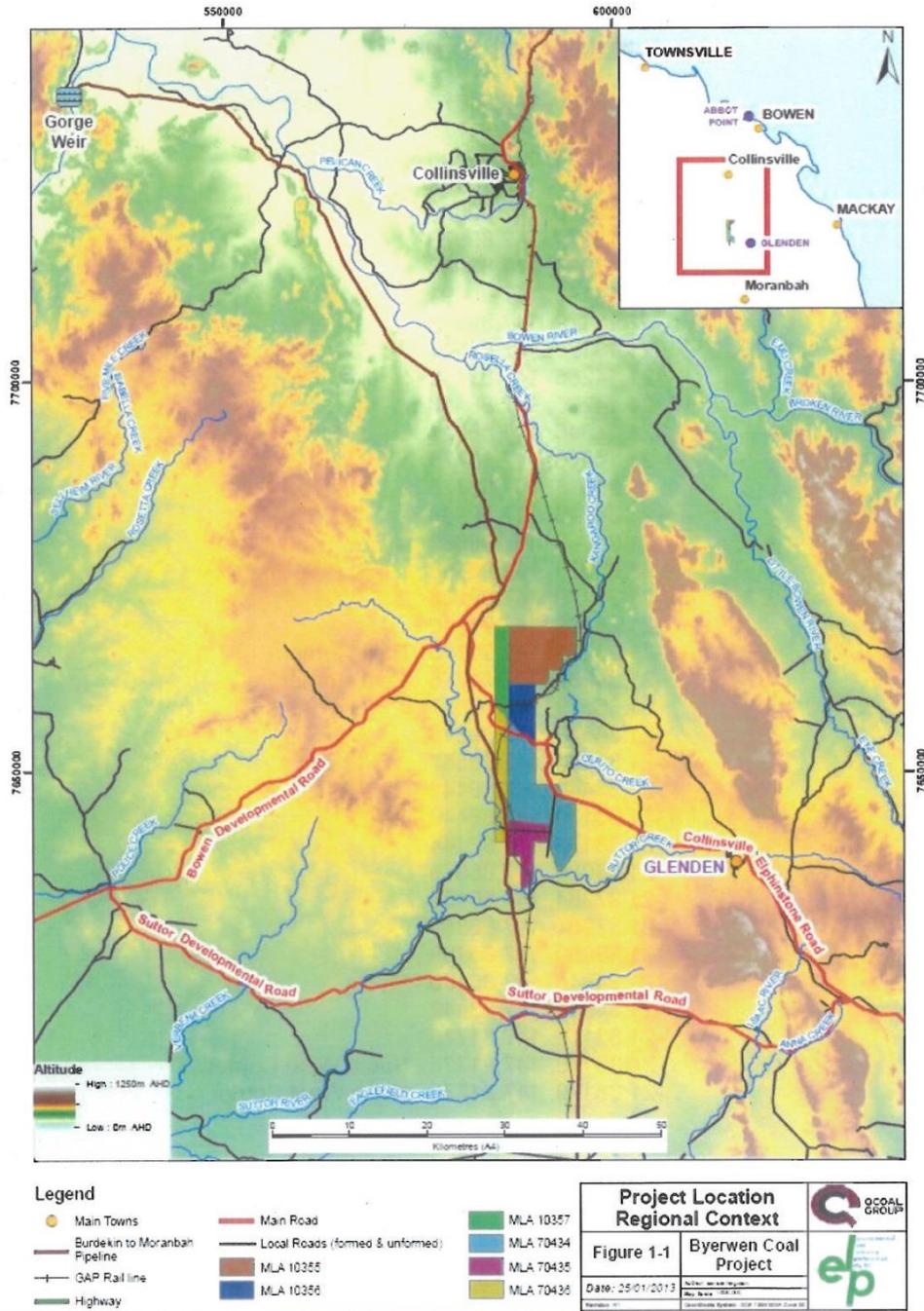
**Substantially commenced:** the extraction of coal from the **project area** for the purpose of commercial production. Substantially commenced does not include test extraction or extraction of coal samples for quality assurance prior to commercial production.

**Survey Guidelines:**

Survey guidelines for Australia's threatened birds, Guidelines for detecting birds listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999*

Survey guidelines for Australia's threatened reptiles, Guidelines for detecting reptiles listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999*

**Attachment A1**

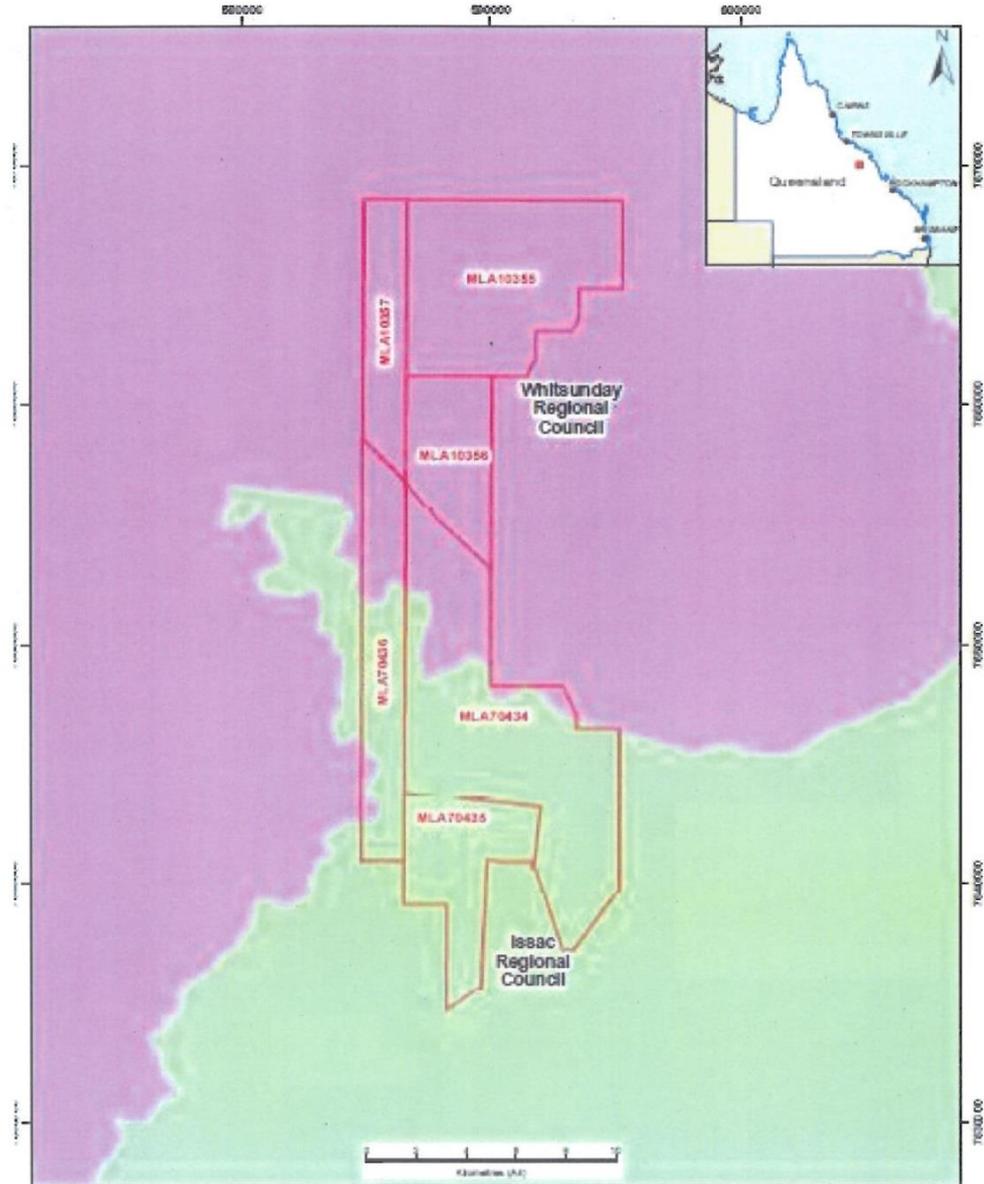


## Latitude and Longitude of Mining Leases

Latitude (South), Longitude (East)

-21.08180, 147.91775 North East corner  
 -21.11513, 147.91775  
 -21.11513, 147.90108  
 -21.12757, 147.90108  
 -21.12840, 147.90053  
 -21.12974, 147.89976  
 -21.13064, 147.89938  
 -21.13147, 147.89891  
 -21.13179, 147.89881  
 -21.13179, 147.88442  
 -21.14265, 147.88442  
 -21.14276, 147.88410  
 -21.14846, 147.88121  
 -21.14846, 147.86775  
 -21.26513, 147.86775  
 -21.26513, 147.89588  
 -21.27683, 147.90083  
 -21.27683, 147.90108  
 -21.28179, 147.90108  
 -21.28179, 147.91140  
 -21.28179, 147.91775 East Corner  
 -21.34230, 147.91775 East Corner  
 -21.36513, 147.90037  
 -21.36513, 147.89618  
 -21.33464, 147.88557  
 -21.33440, 147.88442  
 -21.33179, 147.88442  
 -21.33179, 147.87144  
 -21.33085, 147.86675  
 -21.37984, 147.86456  
 -21.37984, 147.86359  
 -21.38860, 147.85109  
 -21.34846, 147.85109  
 -21.34846, 147.83442  
 -21.33179, 147.81775  
 -21.33179, 147.81775 South West Corner  
 -21.08179, 147.81775 North West Corner

ATTACHMENT A2



Legend

- Mining Lease Boundaries
- Isaac Regional Council
- Whitsunday Regional Council

Project Mining Leases and Local Government Boundaries		 
Figure 1-2	Byerwen Coal Project	
Date: 25/01/2012		
Author: [Name]	Checked: [Name]	
Drawn: [Name]	Reviewed: [Name]	

This map is a representation of the information provided in the accompanying data. It is not a legal document and should not be used for legal purposes. The map is provided for information only and is not intended to be used for any other purpose. The map is provided as a service to the client and is not intended to be used for any other purpose. The map is provided as a service to the client and is not intended to be used for any other purpose.

# **Appendix B      Wollombi Offsets Annual Monitoring Report**

# Wollombi Station: Offset Implementation Monitoring Report



## earthtrade

Date : 3 June 2019  
Prepared for : Byerwen Coal Pty Ltd  
Our Reference : 2018174A

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trading as Earthtrade

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## DOCUMENT CONTROL

Version No.	Date	Revision details	Prepared by	Approved by
1	3 June 2019	First draft.	Alan Key	Alan Key
20172092A	3 June 2019	Review, formatting and assembly.	David Sasse	Alan Key
20172092A	4 June 2019	Final review		Alan Key

## ACKNOWLEDGEMENTS & DISCLAIMER

This report should be cited as: *Wollombi Station - Offset Implementation Monitoring Report*

### ACKNOWLEDGEMENTS:

This document has been prepared by Environmental Offset Solutions Pty Ltd t/a Earthtrade with support from Byerwen Coal Pty Ltd (Byerwen).

### DISCLAIMER:

This document may only be used for the purpose for which it was commissioned and in accordance with the contract between Environmental Offsets Solutions Pty Ltd and Byerwen. The scope of services was defined in consultation with Byerwen by time and budgetary constraints imposed by the client, and the availability of reports and other data on the subject area. Changes to available information, legislation and schedules are made on an ongoing basis and readers should obtain up to date information.

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# 1. Executive summary

The Byerwen Coal Mine, owned by Byerwen Coal Pty Ltd (Byerwen), is located in the northern Bowen Basin region of Queensland, approximately 20 kilometres (km) west of Glenden and 140 km west of Mackay (refer *Figure 1*).

As part of the approval of the Byerwen project (EPBC 2010/5778), offset obligations relating to impacts to Matters of National Environmental Significance (MNES) were imposed by the then Department of Environment (DoE). The residual impacts of Stage 1 of the project were to the brigalow threatened ecological community (TEC) and to primary habitat for the threatened fauna species ornamental snake (*Denisonia maculate*) and squatter pigeon (southern) (*Geophaps scripta scripta*).

The offsets to satisfy the obligation for the project are located on Wollombi Station, a rural property situated adjacent to the mine location. The property lies within the northern Brigalow Belt Bioregion, in the Isaac Regional Council local government area in Central Queensland (see *Figure 1*). As part of the approval conditions, Byerwen was required to develop and implement a monitoring program and a process to review and report on the progress of the offset management plan. These monitoring and reporting requirements are detailed in the *Offset Area Management Plan Wollombi Station* (Byerwen Coal Pty Ltd, October 2018) (OAMP).

An annual inspection of the offset area for monitoring and reporting purposes was undertaken on 1 June 2019 by Alan Key and Grant Paterson. The offset is compliant with the Offset Area Management Plan. 5 Squatter Pigeon were seen in alluvial areas of the offset site.

There are no emerging risks or threats that are over and above those identified in the management plan, and have actions detailed against them for mitigation purposes.

Recommendations:

- No additional management required – maintain current management

## 2. Offset management activities report

In accordance with the OAMP, management actions have been undertaken in the offset areas. *Table 1* shows the timing of each management action as undertaken to date, as extracted from the management records. The schedule of management actions as detailed in the OAMP is shown in *Table 2A*. *Table 2B* shows the schedule of management actions for the additional offset area for squatter pigeon. *Sections 2.1 to 2.8* detail the timing and methods used for the undertaking of each management action and are presented in the same order as *Table 2* for ease of reference. The offset areas on the property are shown in *Figure 2*.



Table 1a: Timetable of management actions

Period	Management Actions								Monitoring and Reporting
	Forestry, timber harvesting, general vegetation impacts	Access and signage	Fire management	Fencing	Cyclones/ extreme weather events	Grazing (livestock in/out of the offset area)	Pest animal management	Pest plant management	Annual Inspection and Report
Nov 2018									
Dec 2018									
Jan 2019									
Feb 2019				x					
Mar 2019									
April 2019									
May 2019									
June 2019				x					x

Table 1b: Monitoring Results 26<sup>th</sup> February 2019

Offset Area	Ground Cover %			Average Ground Cover %	Average Weed Cover %	Comments
	Location 1	Location 2	Locations 3			
1	40%	60%	20%	40%	<5%	Harisia cactus growing from stump adjacent to track
2	50%	55%		53%	<5%	-
3	80%	35%	55%	57%	<5%	-
4	30%	30%	40%	33%	<5%	Squatter pigeon sighted, 4 loose cattle in paddock near Suttor River
5	80%	45%	85%	70%	<5%	Parthenium observed
6	5%	10%	15%	10%	10%	Evidence of cattle throughout
7	20%	20%	20%	20%	<5%	Pugging in boggy areas
8	55%	45%	60%	53%	<5%	Evidence of cattle throughout and parthenium observed
9	40%	50%	50%	47%	<5%	Parthenium observed
10	50%	35%	40%	42%	<5%	-
11	45%	60%	30%	45%	<5%	Low numbers of parthenium observed

**General**

**Observations:**

Fence with tree fallen adjacent to offset area 8, fencing cut near Offset area 8, gates left open adjacent to 7 and 8.

## **2.1. Vegetation impacts**

No vegetation clearing has been undertaken at the offset area.

## **2.2. Access and signage**

The additional offset area established for the Waste Rock Dump has been fenced and signs erected

## **2.3. Fire management**

There is no evidence of fire in the offset areas

## **2.4. Fencing management**

All fencing is in a stock proof condition at the time of inspection. The monitoring undertaken in February 2019 indicated that a tree had fallen over the fence – this had been corrected.

## **2.5. Extreme weather events**

No evidence of extreme weather events have affected the offset areas. The drought has been well managed, and the groundcover is good.

## **2.6. Grazing**

Grazing has been undertaken as per the management plan. Some pugging was noted in the February inspection in area 7 and 8 as a gate was open. 4 cattle were also noted in the area at that time. There is no evidence of overgrazing and there is no evidence of soil pugging in low lying areas at the June inspection.

## **2.7. Pest animal management**

No evidence of pest animals was observed, and no pest animals seen during the inspection.

## **2.8. Pest plant management**

No significant incursion of weeds are within the offset area.

Table 2A: Schedule of management actions

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
<p><b>Forestry operations, native timber harvesting and general vegetation impacts</b></p> <p>Consistent with the risk of clearing as identified in the Brigalow Conservation Advice and Draft Recovery Plan, Conservation Advice for Reptiles of the Brigalow Belt and Conservation Advice for the Squatter Pigeon (Southern).</p>	<p>1. Vegetation clearing on the offset area is restricted to:</p> <ul style="list-style-type: none"> <li>a) that necessary for the removal of non-native weeds or declared pests</li> <li>b) ensure public safety</li> <li>c) maintenance of existing roads, fence lines, water pipelines and firebreaks; and</li> <li>d) that necessary to establish and maintain access to BioCondition assessment and photo point monitoring sites.</li> </ul> <p>Where vegetation clearing is sought for any other purpose, the Landholder must contact the relevant department administering the <i>Vegetation Management Act 1999 (Qld)</i>.</p> <p>2. Native forest practice (harvesting of timber for forestry purposes) <u>is not</u></p>	<p>Only in those areas subject to non-native weed control, fire control lines and fences.</p>	<p>Vegetation clearing for approved purposes may occur as required.</p>	<p>Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.</p>	<p>Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder at least four times annually.</p> <p>Quarterly inspections will monitor and document if there is evidence of recent forestry or timber harvesting activities.</p> <p>Quarterly inspections will monitor and</p>	<p><b>Trigger for corrective action:</b> detection of prohibited forestry operations, native timber harvesting and general vegetation impacts.</p> <p><b>Corrective action:</b> upon being notified or becoming aware of prohibited forestry operations, native timber harvesting and general vegetation impacts in the offset area, the Landholder is to reassess access protocols for any lessees etc., signage and general access within one fortnight.</p> <p><b>Reporting:</b> the Offset Area Report will document any known prohibited forestry operations,</p>	<p>No evidence of tree removal of any nature</p> <p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
	<p>allowed under this Offset Area Management Plan.</p> <p>3. Clearing for new fencing will be on the outside of the offset area boundary or along the property boundary.</p> <p><b>Note:</b></p> <p>Any vegetation clearing must be undertaken in accordance with:</p> <ul style="list-style-type: none"> <li>• best practice management methods; and</li> <li>• any applicable legislative requirements. For example, the clearing of endangered, vulnerable or near-threatened plant species or the tampering with animal breeding places under <i>Nature Conservation Act 1992 (Qld)</i></li> </ul> <p>Under the <i>Vegetation Management Act 1999</i>, clearing in Least Concern</p>				<p>document vegetation clearing that has occurred for an approved purpose.</p> <p>Additional monitoring required as a corrective action/s.</p>	<p>native timber harvesting and general vegetation impacts that have occurred during the reporting period and the correlating corrective actions. The report will document how this management action is performing and contributing to the enhancement of the offset area</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
	<p>regional ecosystems for fences, roads or tracks is exempt clearing if it is less than 10 m in width. Any new fences, roads or tracks will be less than 10 m in width for each piece of infrastructure. Clearing to establish or maintain a necessary firebreak to protect infrastructure (other than fences, roads and tracks) to a maximum width of 20 m or 1.5 times the height of the tallest adjacent tree, whichever is the greater.</p> <p>Additional management action/s required as a corrective action/s to prevent prohibited clearing.</p>						
<p><b>Access and signage</b></p> <p>Note that entry to the offset area can only be gained via the mining lease, which has access restrictions in place under the <i>Mineral Resources Act 1989</i> (Qld).</p>	<ol style="list-style-type: none"> <li>1. Installation of signage along the offset area perimeter to alert traffic of the offset area.</li> <li>2. Installation of slow speed signage at the main entry points to the offset area. Access is restricted to those authorised persons required to undertake actions described in this management plan,</li> </ol>	Boundary/ entrance points to offset area	Signage to be installed by within three months of the Queensland Government approving the voluntary declaration.	Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.	Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder at	<p><b>Trigger for corrective action:</b> detection of prohibited access by unauthorised persons.</p> <p><b>Corrective action:</b> upon being notified or becoming aware of prohibited access to the offset area, the Landholder is to</p>	Compliant

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
<p>Consistent with the risk of weed incursion as identified in the Brigalow Conservation Advice and Draft Recovery Plan, Conservation Advice for Reptiles of the Brigalow Belt.</p>	<p>including the landholder, QCoal and Byerwen Coal staff and their contractors and assigns. Any other access is to be at the discretion of Byerwen Coal for specific purposes only. Public access to the offset area is prohibited.</p> <p>3. The offset area is not to be utilised for any purpose including recreational activities, or any other activities that deter from achieving the outcomes of this plan.</p>				<p>least four times annually.</p> <p>Quarterly inspections will monitor and document if there is evidence of unauthorised access to the offset area.</p> <p>Quarterly inspections will monitor and document if signage is fit for purpose.</p>	<p>reassess access protocols for any lessees etc., signage and general access within one fortnight.</p> <p><b>Trigger for corrective action:</b> signage is not fit for purpose.</p> <p><b>Corrective action:</b> signage will be repaired and maintained as required by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.</p> <p><b>Reporting:</b> the Offset Area Report will document any known incidences of prohibited access or signage maintenance issues that have occurred during the reporting period and the correlating</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
						corrective actions. The report will document how this management action is performing and contributing to the enhancement of the offset area	
<p><b>Fire</b></p> <p>Consistent with the risk of inappropriate fire regimes as identified in the Brigalow Conservation Advice and Draft Recovery Plan, Conservation Advice for Reptiles of the Brigalow Belt and Conservation Advice for the Squatter Pigeon (Southern).</p>	<p>1. Fire is to be excluded from the offset area except for low intensity ecological burns at the end of the wet season by:</p> <p>a) maintaining firebreaks relative to the offset areas;</p> <p>b) using a low intensity fire &gt;7 years interval; and</p> <p>c) firebreaks are to be co-located with roads and fence lines on the property where possible.</p> <p><b>Note:</b></p>	<p>May be undertaken throughout the offset areas.</p>	<p>All fire (apart from force majeure events) will be excluded from the offset area during Squatter pigeon (southern) breeding and nesting times being mostly the dry season (April to October).</p> <p>Fire control lines must be inspected quarterly. Maintenance must be</p>	<p>Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.</p> <p>The undertaking of an ecological burn will be by a suitably qualified person in consultation with an ecologist.</p>	<p>Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder at least four times annually.</p> <p>Quarterly inspections will monitor and document if there is evidence of wild fire, prohibited</p>	<p><b>Trigger for corrective action:</b> destruction of regrowth, fallen timber and the occurrence of deliberately lit hot fires</p> <p><b>Corrective action:</b> upon being notified or becoming aware of a prohibited fire in the offset area, the Landholder is to reassess access protocols for any lessees etc., signage and general access within one fortnight.</p> <p><b>Corrective action:</b> subsequent to any</p>	<p>No evidence of fire in the offset areas</p> <p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
	Fire is not to be used as a tool for regrowth management on the offset areas.		<p>undertaken as required and at least biennially (i.e. once every two years).</p> <p>If fire is used, it must be a low intensity fire at &gt;7 years interval immediately after the end of the wet season, which is generally March to April. Ecological burns should not cover more than 30% of the offset area.</p>		<p>burning or force majeure events.</p> <p>Quarterly inspections will monitor and document if a prescribed low intensity ecological burn has occurred.</p>	<p>occurrence of fire in the offset area, the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder will:</p> <ol style="list-style-type: none"> <li>1. inspect and repair, and widen if necessary, all firebreaks; and</li> <li>2. reassess fuel load reduction practices; and</li> <li>3. exclude grazing until the grass cover present at the end of the dry season of that year is a minimum: <ul style="list-style-type: none"> <li>o Brigalow communities 60% grass cover or 1500 kg/ha pasture biomass</li> </ul> </li> </ol>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
						<ul style="list-style-type: none"> <li>o Eucalypt communities 60% grass cover or 1500 kg/ha pasture biomass.</li> </ul> <p>Grass cover measurements must be in accordance with the methodology stated in the <i>Land Manager's Monitoring Guide</i> (Department of Environment and Resource Management, 2010) (DERM)<sup>1</sup> at <i>Attachment 2</i> of this document, or any subsequent published version of this document.</p> <p><b>Trigger for corrective action:</b> low intensity</p>	

<sup>1</sup> *Land Manager's Monitoring Guide: Ground cover indicator*, Department of Environment and Resource Management, 2010, Queensland Government, Brisbane, available at <http://qldgov.softlinkhosting.com.au/liberty/opac/search.do#>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
						<p>ecological burn exceeds 30% of the offset area.</p> <p><b>Corrective action:</b> measures to contain the fire are to be implemented immediately. Controlled back burning from the next fire control line is the preferred method.</p> <p><b>Reporting:</b> the Offset Area Report will document any known incidences of fire that have occurred during the reporting period corrective actions. The report will document how this management action is performing and contributing to the enhancement of the offset area</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
<p><b>Fencing</b></p> <p>Consistent with the risk of excess fire as identified in the Brigalow Conservation Advice and Draft Recovery Plan, and overgrazing as identified in the Conservation Advice for Reptiles of the Brigalow Belt and Conservation Advice for the Squatter Pigeon (Southern).</p>	<p>Install and routinely inspect fencing to secure the offset area and prevent unauthorised access.</p>	<p>All external boundaries of the offset area.</p> <p>Where the boundary coincides with the property boundary, the fence may align with the property boundary. A fenced area may include non-offset areas.</p>	<p>Fencing of offset areas will be established within three months of the Queensland Government approving the voluntary declaration.</p> <p>If stock are grazing the offset area, fencing must be inspected monthly. During non-grazing periods, fencing must be inspected quarterly.</p>	<p>Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.</p>	<p>Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder at least four times annually.</p> <p>Quarterly inspections will identify if fences are preventing stock and unauthorised people from accessing the offset area.</p>	<p><b>Trigger for corrective action:</b></p> <p>detection of prohibited access, stock grazing outside of allowed times and thresholds, overgrazing.</p> <p><b>Corrective action:</b></p> <p>upon being notified or becoming aware of prohibited access to the offset area, the Landholder is to reassess fencing, signage and general access within one fortnight.</p> <p><b>Corrective action:</b></p> <p>upon being notified or becoming aware of an unsecure offset area (i.e. fencing is not fit for purpose), the Pastoral Manager is to undertake fence maintenance and repairs to resecure</p>	<p>The February inspection noted that in area 7 and 8 that a gate was open and a tree fallen across the fence. 4 cattle were in the area and there was pugging evident in a low lying area.</p> <p>This was remedied ASAP and at the time of the Annual Inspection, all areas securely fenced; no breakages evident</p> <p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
						<p>the offset area as soon as possible and within 10 days. This corrective action may include the installation of new fencing.</p> <p><b>Reporting:</b> the Offset Area Report will document the installation, maintenance and repair of fences during the reporting period. The report will document how this management action is performing and contributing to the enhancement of the offset area.</p>	
<p><b>Following extreme weather conditions of drought, flood or cyclone</b></p> <p>Consistent with the general risks as identified in the Brigalow</p>	Determine the extent of damage to the offset area and fencing caused by the event.	Throughout the offset area with particular attention paid to riparian areas and the	<p>As soon as safely possible post a flood or cyclone event.</p> <p>For a drought event, inspections</p>	Pastoral Manager, Landholder or suitable qualified person appointed by	Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified	<p><b>Trigger for corrective action:</b></p> <p>extreme weather conditions of flood or cyclone</p> <p><b>Corrective action:</b></p> <p>upon being notified</p>	<p>No trigger events in the reporting period</p> <p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
<p>Conservation Advice and Draft Recovery Plan, Conservation Advice for Reptiles of the Brigalow Belt and Conservation Advice for the Squatter Pigeon (Southern).</p>		<p>boundary fencing.</p>	<p>must be monthly.</p>	<p>the Landholder.</p>	<p>person appointed by the Landholder within one week of the cessation of an extreme event on Wollombi Station.</p> <p>Within the abovementioned timeframe, fencing will be inspected to determine if the offset area is secure.</p> <p>During drought events, monthly inspections will be conducted to record the vegetation condition in the offset area.</p>	<p>or becoming aware of a flood or cyclone event occurring in offset area, the Pastoral Manager is to undertake fence maintenance and repairs to resecure the offset area within one fortnight.</p> <p><b>Trigger for corrective action:</b></p> <p>extreme weather conditions of drought</p> <p><b>Corrective action:</b></p> <p>upon being notified or becoming aware of a drought event occurring in offset area, the Pastoral Manager is to remove stock from the offset area within one fortnight.</p> <p><b>Reporting:</b> the Offset Area Report will document the</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
						repair of fences and removal of stock from offset areas, as a result of extreme weather conditions, during the reporting period. The report will document how this management action is performing and contributing to the enhancement of the offset area.	
<p><b>Grazing</b></p> <p>Consistent with the risk of excess fire as identified in the Brigalow Conservation Advice and Draft Recovery Plan, and overgrazing/habitat destruction as identified in the Conservation Advice for Reptiles of the Brigalow Belt and habitat</p>	<p>Stocking rates are not fixed as this region is subject to significant changes in grass cover with seasonal conditions.</p> <p>The use of stock in larger numbers for a short period of time in the late dry season and prior to the wet season and if required, again during winter is the preferred method of controlled grazing.</p> <p><b>Fire and grazing management relating to the Ornamental Snake offset area:</b> A fire in the offset area is</p>	<p>Stock will be grazed in the offset areas for fuel reduction purposes only during the dry season.</p>	<p>As required when grass cover in non-remnant areas exceeds 60% during the dry season.</p> <p>The dry season is normally between April and October; however, if unseasonal rainfall should occur, then</p>	<p>Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.</p>	<p>Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder at least monthly during grazing periods.</p> <p>Monthly inspections will</p>	<p><b>Trigger for corrective action:</b></p> <p>detection of stock grazing outside of the dry season</p> <p><b>Corrective action:</b> upon being notified or becoming aware of prohibited stock grazing in the offset area, the Pastoral Manager is to remove the stock from the area (if present) and assess the adequacy of</p>	<p>No evidence of wet season grazing</p> <p>Grass cover levels as per the requirements</p> <p>Note that in brigalow regrowth areas that the areas under the brigalow sucker clumps only have leaf litter and small amounts of native grasses.</p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
destruction and food competition Conservation Advice for the Squatter Pigeon (Southern).	<p>foreseen under one of two scenarios:</p> <ol style="list-style-type: none"> <li>1. a natural event beyond the control of the approval holder or the landholder <ul style="list-style-type: none"> <li>• the establishment of fire control lines (i.e. firebreaks) will assist in mitigating the risk posed by such natural events</li> </ul> </li> <li>2. a low intensity ecological burn permitted by the Pastoral Manager, Landholder or suitably qualified person appointed by the Landholder</li> </ol> <p>A low intensity ecological burn permitted under the OAMP may not occur more frequently than once every seven years and the timing of such burns may only occur immediately after the end of the wet season (usually March or April). Furthermore, these low intensity ecological burns are prohibited during the Squatter Pigeon (southern) breeding and nesting times</p>		grazing is to be allowed only if there is no evidence of moisture in the stream order one gullies to ensure that "pugging" of the soil by livestock does not occur.		<p>record the minimum grass cover, pasture biomass and security (i.e. fences) of the offset area.</p> <p>Monthly inspections will record the evidence of "pugging" in stream order one gullies.</p>	<p>fencing within one fortnight. The Pastoral Manager is to undertake fence maintenance and repairs to resecure the offset area within one fortnight.</p> <p><b>Trigger for corrective action:</b> in non-remnant areas grass cover is less than 60% or pasture biomass is less than 1500 kg/ha. (Non-remnant and remnant areas are identified in the most recent ecological condition survey.)</p> <p><b>Corrective action:</b> upon being notified or becoming aware of exceedance of either threshold, the Pastoral Manager is to remove stock from the offset area within one</p>	<b>Compliant</b>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
	<p>(i.e. the dry season). Consequently, the opportunity to conduct low intensity ecological burns will be very infrequent.</p> <p>Throughout the offset area, management actions for fire and grazing are interlinked due to the necessity to manage increased fuel loads that will establish as a consequence of reduced grazing intensity. As Brigalow trees in the offset area establish and mature, their resulting canopy cover will naturally diminish the fuel load as Buffel grass will decline in extent as the canopy cover increases. Until such time, intervention in the form of both low intensity grazing and infrequent low intensity ecological burns will achieve this outcome.</p> <p>The use of stock grazing in the Ornamental Snake offset area has the potential to adversely impact on the species' habitat <i>if poorly managed</i>. At the time of the ecological survey, stock grazing in the offset area was</p>					<p>fortnight. Grazing may recommence prior to the wet season if the grass cover increases to greater than 60% using the methodology in the <i>Land Manager's Monitoring Guide</i> (DERM, 2010) as attached, or any subsequent published version of this document, and pasture biomass exceeds 1500 kg/ha.</p> <p><b>Trigger for corrective action:</b> in remnant Brigalow communities grass cover is less than 20%. (Non-remnant and remnant areas are identified in the most recent ecological condition survey.)</p> <p><b>Corrective action:</b> upon being notified or becoming aware of exceedance of</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
	<p>permitted and the area was assessed as suitable habitat for the Ornamental Snake. Therefore the continued use of stock in the area, albeit more restricted, is expected to support the enhancement of the offset area.</p> <p>The management actions seek to avoid adverse impacts by monitoring the offset area more frequently during grazing periods. The Ornamental Snake offset area is comprised of regional ecosystems (RE) 11.4.9 and 11.4.2. Stock occupation will impact on grass cover, therefore upon a predefined minimum grass cover percentage being reached in each of these REs, stock must be removed from the offset area. Stock may not be reintroduced unless the grass cover (again) exceeds 80% during the dry season. Importantly, any sign of significant adverse impacts to low-lying offset areas as a result of stock use (e.g. pugging) will trigger the</p>					<p>the grass cover threshold, the Pastoral Manager is to remove stock from the offset area within one fortnight. Grazing may recommence prior to the wet season if the grass cover increases to greater than 60% using the methodology in the <i>Land Manager's Monitoring Guide</i> (DERM, 2010) as attached, or any subsequent published version of this document.</p> <p><b>Trigger for corrective action:</b> in remnant Eucalypt communities grass cover is less than 35% or pasture biomass is less than 1500 kg/ha. (Non-remnant and remnant areas are identified in the most recent</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
	<p>removal of stock from the offset area.</p> <p>The allowance of stock to the offset area triggers a higher management intensity to mitigate the increased risk of adverse impacts. This management approach will identify adverse impacts as they arise and trigger corrective action/s as necessary. The success of stock grazing in the Ornamental Snake offset area will become apparent during the first dry season under offset area management.</p>					<p>ecological condition survey.)</p> <p><b>Corrective action:</b> upon being notified or becoming aware of exceedance of either threshold, the Pastoral Manager is to remove stock from the offset area within one fortnight. Grazing may recommence prior to the wet season if the grass cover increases to greater than 60% using the methodology in the <i>Land Manager's Monitoring Guide</i> (DERM, 2010) as attached, or any subsequent published version of this document, and pasture biomass exceeds 1500 kg/ha.</p> <p><b>Trigger for corrective action:</b> stock grazing</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
						<p>occurs in the offset area during the dry season and pasture biomass is less than 1500 kg/ha at the end of the dry season.</p> <p><b>Corrective action:</b> upon being notified or becoming aware of the pasture biomass being less than 1500 kg/ha at the end of the dry season, the Pastoral Manager is to review and adapt stock grazing practices for the following dry season. Evidence of this review and outcome/s must be included in the Offset Area Report.</p> <p><b>Trigger for corrective action:</b> detection of stock grazing causing pugging in stream order one gullies or significant adverse</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
						<p>impacts to low-lying offset areas.</p> <p><b>Corrective action:</b> upon being notified or becoming aware of stock causing pugging in stream order one gullies or significant adverse impacts to low-lying offset areas, the Pastoral Manager is to remove stock from the offset area within 72 hours.</p> <p><b>Reporting:</b> the Offset Area Report will document the grazing periods that occurred in the offset areas during the reporting period and the correlating corrective actions that occurred as part of grazing management. The report will document how this management</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
						action is performing and contributing to the enhancement of the offset area.	
<p><b>Pest animals</b></p> <p>Consistent with the risk of habitat damage and predation identified in the Conservation Advice for Reptiles of the Brigalow Belt and Conservation Advice for the Squatter Pigeon (Southern).</p>	<p>Minimise the introduction of pest animals and control of existing populations of pest animals (wild dogs, pigs, feral cats and foxes) within the offset areas in accordance with the <a href="#">Land Protection (Pest and Stock Route Management) Act 2002</a> (Qld).</p> <p>Wild pig, deer and dog populations are generally small and highly transient, and therefore the scale of impact is small. Major damage to the environment/habitat occurs when large numbers of animals congregate in the area.</p> <p>Current control of pigs and wild dogs is undertaken via a baiting program on the property. Additional to this measure, the Pastoral Manager, during quarterly</p>	All offset areas.	<p>Preferably in the winter and spring months to minimise impacts to the Squatter Pigeon (southern) during breeding and nesting.</p> <p>Destruction of wetland habitat by feral pigs is also a threat to the Ornamental Snake, along with the associated destruction of frog habitat and direct competition</p>	Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.	<p>Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder at least four times annually.</p> <p>Quarterly inspections will record the presence of wallow holes, tracks and visual incidents in the offset area.</p>	<p><b>Trigger for corrective action:</b> detection of twelve or more half grown and/or mature wild pigs, deer or dogs during a quarterly inspection.</p> <p><b>Corrective action:</b> upon being notified or becoming aware of pest animals populations exceeding the threshold, the Pastoral Manager is to implement pest control measures within one month. The Pastoral Manager or Landholder may approach neighbouring landowners to discuss the increased pest</p>	<p>No evidence of pest animals was observed during the annual inspection and none were sighted</p> <p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
	<p>inspections of the offset area may remove any wild pigs, deer or wild dogs that are seen. If an increase in pig, deer or dog activity is noted, an additional trapping, baiting and/or control program is to be instigated until the increased activity has ceased.</p> <p>There was no evidence of extensive damage from deer, foxes, rabbits or wild cats detected during surveys as part of the Environmental Impact Assessment, however, if the occurrence of these animals is detected, a control program integrated with that for wild pigs and dogs will be implemented.</p>		<p>for their food source (frogs).</p> <p>When a group of animals is observed, a control program will be implemented. The timing of control program will address the threats to both species.</p>		<p>Note: baseline levels for pest animals are not able to be established due to the transient nature of the animals. Numbers are established via visual signs recorded during quarterly inspections.</p>	<p>animal presence and an integrated control program may be developed.</p> <p><b>Reporting:</b> the Offset Area Report will document the indications or sightings of pest animals during the reporting period and the correlating corrective actions. The report will document how this management action is performing and contributing to the enhancement of the offset area.</p>	
<p><b>Pest plants (i.e. weeds)</b></p> <p>Consistent with the risk of excess fire from excessive weed cover as identified in the Brigalow Conservation Advice and Draft</p>	<p>Keep the introduction, establishment and spread of non-native weeds including Declared Pest Plants listed under the <a href="#">Land Protection (Pest and Stock Route Management) Act 2002</a> (Qld) to less than 10% weed cover in the offset area.</p>	Throughout the offset area	Weed control will be undertaken as early as practicable within the natural regeneration process throughout the offset	Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.	Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the	<p><b>Trigger for corrective action:</b> pest plants occur in greater than 10% of the offset area</p> <p><b>Corrective action:</b> upon being notified or becoming aware of pest plants being present in greater</p>	<p>No significant populations of weeds were observed</p> <p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
Recovery Plan, and and competition food sources and inappropriate habitat as per the Conservation Advice for the Squatter Pigeon (Southern)	<p>Control existing infestations of non-native weeds including declared pest plants under the <a href="#">Land Protection (Pest and Stock Route Management) Act 2002</a> (Qld) to ensure that the non-native weeds cover less than 10% of the offset area (e.g., Parthenium).</p> <p>Buffel Grass is recognised as being a threat to the vegetation communities and habitat in the offset area however is not referred to as a weed as it is not declared in <i>the Land Protection (Pest and Stock Route Management) Act 2002</i> (Qld). Control measures such as grazing and increasing canopy cover of vegetation are included in this plan to decrease the extent of Buffel Grass over time. Control of Buffel Grass is best managed via grazing during the dry season and increasing tree canopy cover.</p> <p>Spot spraying of patches of Parthenium is permitted.</p>		areas and then periodically as required to treat the weeds at the optimum time in their life cycles to control and minimise the spread of the existing weed species.		<p>Landholder at least four times annually.</p> <p>Quarterly inspections will observe and record the presence of weeds and success of previously applied weed control measures. The inspection will include before and after photos of the weed control area. The field data sheets provided in Appendix A may assist with documenting weed presence and control measures.</p> <p>Quarterly inspections will be conducted by the Pastoral Manager,</p>	<p>than 10% of the offset area, the Pastoral Manager is to implement pest control measures within one month. These measures may include, and are not limited to:</p> <ul style="list-style-type: none"> <li>• foliar spraying;</li> <li>• basal bark spraying;</li> <li>• stem injection;</li> <li>• cut stump;</li> <li>• cut and swab;</li> <li>• stem scraper; and</li> <li>• wick applicators.</li> </ul> <p><b>Reporting:</b> the Offset Area Report will document the weed presence and</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
					<p>Landholder or suitable qualified person appointed by the Landholder to record the minimum grass cover in the offset area. The following grass cover is to be present at the end of the dry season as a minimum:</p> <ul style="list-style-type: none"> <li>o Brigalow communities 60% groundcover or 1500kg/ha pasture biomass</li> <li>o Eucalypt Communities 60% groundcover or 850kg/ha pasture biomass.</li> </ul>	<p>weed control measures during the reporting period and the correlating corrective actions. The report will document how this management action is performing and contributing to the enhancement of the offset area.</p>	

Table 2B: Schedule of management actions for the additional offset area for squatter pigeon

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
<p><b>Forestry operations, native timber harvesting and general vegetation impacts</b></p> <p>Consistent with the risk of clearing as identified in the Conservation Advice for the Squatter Pigeon (Southern).</p> <p>General Vegetation Impacts are those impacts that occur as a result of weed control, public safety, existing fence, road and fire control line maintenance, stock management and</p>	<ol style="list-style-type: none"> <li>Native forest practice (harvesting of timber for forestry purposes) <u>is not</u> allowed under this Offset Area Management Plan.</li> <li>Clearing for new fencing will be on the outside of the offset area boundary or along the property boundary.</li> </ol> <p><b>Note:</b></p> <p>Any vegetation clearing must be undertaken in accordance with:</p> <ul style="list-style-type: none"> <li>best practice management methods; and</li> <li>any applicable legislative requirements. For</li> </ul>	<p>Only in those areas subject to non-native weed control, fire control lines and fences.</p>		<p>Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.</p>	<p>Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder at least four times annually.</p> <p>Quarterly inspections will monitor and document if there is evidence of recent forestry or timber</p>	<p><b>Trigger for corrective action:</b></p> <p>detection of prohibited forestry operations, native timber harvesting and general vegetation impacts.</p> <p><b>Corrective action:</b></p> <p>upon being notified or becoming aware of prohibited forestry operations, native timber harvesting and general vegetation impacts in the offset area, the Landholder is to reassess access protocols for any lessees etc., signage and general access</p>	<p>No timber harvesting or removal of vegetation was observed or evident</p> <p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
monitoring and reporting.	<p>example, the clearing of endangered, vulnerable or near-threatened plant species or the tampering with animal breeding places under <i>Nature Conservation Act 1992 (Qld)</i></p> <p>Additional management action/s required as a corrective action/s to prevent prohibited clearing.</p>				<p>harvesting activities.</p> <p>Quarterly inspections will monitor and document vegetation clearing that has occurred for an approved purpose.</p> <p>Additional monitoring required as a corrective action/s.</p>	<p>within one fortnight.</p> <p><b>Reporting:</b> the Offset Area Report will document any known prohibited forestry operations, native timber harvesting and general vegetation impacts that have occurred during the reporting period and the correlating corrective actions. The report will document how this management action is performing and contributing to the enhancement of the offset area.</p>	
<p><b>Access and signage</b></p> <p>Note that entry to the offset area can only be gained via the mining lease, which has access restrictions in place under the <i>Mineral</i></p>	<ol style="list-style-type: none"> <li>1. Installation of signage along the offset area perimeter to alert traffic of the offset area.</li> <li>2. Installation of slow speed signage at the main entry points to the offset area. Access is restricted to</li> </ol>	Boundary/entrance points to offset area	Signage to be installed by within three months of the Queensland Government approving the	Pastoral Manager, Landholder or suitable qualified person appointed by	Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified	<p><b>Trigger for corrective action:</b> detection of prohibited access by unauthorised persons.</p> <p><b>Corrective action:</b> upon being notified</p>	<p>Signage was evident and fencing secure</p> <p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
<p><b>Resources Act 1989 (Qld).</b></p> <p>Any traversing of the offset site for monitoring purposes is to follow contour lines and minimise impacts to vegetation as much as possible.</p>	<p>those authorised persons required to undertake actions described in this management plan, including the landholder, QCoal and Byerwen Coal staff and their contractors and assigns. Any other access is to be at the discretion of Byerwen Coal for specific purposes only. Public access to the offset area is prohibited.</p> <p>3. The offset area is not to be utilised for any purpose including recreational activities, or any other activities that deter from achieving the outcomes of this plan.</p>		voluntary declaration.	the Landholder.	<p>person appointed by the Landholder at least four times annually.</p> <p>Quarterly inspections will monitor and document if there is evidence of unauthorised access to the offset area.</p> <p>Quarterly inspections will monitor and document if signage is fit for purpose.</p>	<p>or becoming aware of prohibited access to the offset area, the Byerwen Coal is to reassess access protocols for any lessees etc., signage and general access within one fortnight.</p> <p>Damage to signage will be repaired within one fortnight of noting the damage</p> <p>Access protocols will be reviewed and amended if necessary and the impacted area's regeneration monitored during the quarterly inspections.</p> <p><b>Trigger for corrective action:</b> signage is not fit for purpose.</p> <p><b>Corrective action:</b> signage will be</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
						<p>repaired and maintained as required by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.</p> <p><b>Reporting:</b> the Offset Area Report will document any known incidences of prohibited access or signage maintenance issues that have occurred during the reporting period and the correlating corrective actions. The report will document how this management action is performing and contributing to the enhancement of the offset area</p>	
<p><b>Fire</b></p> <p>Consistent with the risk of</p>	<p>Fire is to be excluded from the offset area except for low</p>	<p>May be undertaken throughout</p>	<p>All fire (apart from force majeure events) will be</p>	<p>Pastoral Manager, Landholder or suitable</p>	<p>Monitoring of this management action will be</p>	<p><b>Trigger for corrective action:</b> destruction of regrowth, fallen</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
inappropriate fire regimes as identified in the Conservation Advice for the Squatter Pigeon (Southern).	<p>intensity ecological burns at the end of the wet season by:</p> <ol style="list-style-type: none"> <li>maintaining firebreaks relative to the offset areas;</li> <li>using a low intensity fire &gt;7 years interval; and</li> <li>firebreaks are to be co-located with roads and fence lines on the property where possible.</li> </ol> <p><b>Note:</b></p> <p>Fire is not to be used as a tool for regrowth management on the offset areas.</p> <p>A fire in the offset area is foreseen under one of two scenarios:</p> <ol style="list-style-type: none"> <li>a natural event beyond the control of the approval holder or the landholder <ul style="list-style-type: none"> <li>the establishment of fire control lines (i.e. firebreaks) will assist in</li> </ul> </li> </ol>	the offset areas.	<p>excluded from the offset area during Squatter pigeon (southern) breeding and nesting times being mostly the dry season (April to October).</p> <p>Fire control lines must be inspected quarterly. Maintenance must be undertaken as required and at least biennially (i.e. once every two years).</p> <p>If fire is used, it must be a low intensity fire at &gt;7 years interval immediately</p>	<p>qualified person appointed by the Landholder.</p> <p>The undertaking of an ecological burn will be by a suitably qualified person in consultation with an ecologist.</p>	<p>undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder at least four times annually.</p> <p>Quarterly inspections will monitor and document if there is evidence of wild fire, prohibited burning or force majeure events. Fencing is to be checked and repaired (if necessary) to a stock proof condition within 10 days of any <i>Force Majeure</i> event.</p> <p>Quarterly inspections will monitor and document if a</p>	<p>timber and the occurrence of deliberately lit hot fires</p> <p><b>Corrective action:</b> upon being notified or becoming aware of a prohibited fire in the offset area, Byerwen Coal is to reassess and implement new access protocols for any lessees etc., signage and general access within one fortnight.</p> <p><b>Corrective action:</b> subsequent to any occurrence of fire in the offset area, the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder will:</p> <ol style="list-style-type: none"> <li>inspect and repair, and widen if</li> </ol>	<p>No evidence of fire was detected</p> <p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
	<p>mitigating the risk posed by such natural events</p> <p>4. a low intensity ecological burn permitted by the Pastoral Manager, Landholder or suitably qualified person appointed by the Landholder</p> <p>A low intensity ecological burn permitted under the OAMP may not occur more frequently than once every seven years and the timing of such burns may only occur immediately after the end of the wet season (usually March or April). Furthermore, these low intensity ecological burns are prohibited during the Squatter Pigeon (southern) breeding and nesting times (i.e. the dry season). Consequently, the opportunity to conduct low intensity ecological burns will be very infrequent.</p>		<p>after the end of the wet season, which is generally March to April. Ecological burns should not cover more than 30% of the offset area.</p> <p>If a Force Majeure fire occurs within the offset areas, controlled burning is not to be undertaken for at least 7 years after.</p>		<p>prescribed low intensity ecological burn has occurred.</p> <p>Weed cover is to be monitored by the same methodology and at the same time as the grass cover and weed control undertaken post a fire event to ensure weed cover is &lt;5%.</p> <p>Grass cover measurements must be in accordance with Methodology 2B as stated in the <i>Land Manager's Monitoring Guide</i> (Department of Environment and Resource Management,</p>	<p>necessary, all firebreaks; and</p> <p>5. reassess fuel load reduction practices; and</p> <p>6. exclude grazing until the ground cover present at the end of the dry season of that year is at a minimum of 60%:</p> <p><b>Trigger for corrective action:</b> low intensity ecological burn exceeds 30% of the offset area.</p> <p><b>Corrective action:</b> measures to contain the fire are to be implemented immediately. Controlled back burning from the next fire control line is the preferred method.</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
					2010) (DERM) <sup>2</sup> provided as <i>Attachment 2</i> of the OAMP, or any subsequent published version of this document.	<b>Reporting:</b> the Offset Area Report will document any known incidences of fire that have occurred during the reporting period corrective actions. The report will document how this management action is performing and contributing to the enhancement of the offset area	
<b>Fencing</b>  The proponent commits to installing fencing to protect the offset area. A fencing plan has been provided in <b>Figure 5</b> of the OAMP as provided at Schedule 1.	Install and routinely inspect fencing to secure the offset area and prevent unauthorised access.	All external boundaries of the offset area. A fenced area may include non-offset areas.	Fencing of offset areas will be established within three months of the Queensland Government approving the voluntary declaration.	Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.	Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder at	<b>Trigger for corrective action:</b>  detection of prohibited access, stock grazing outside of allowed times and thresholds, overgrazing. Damage to fencing that could allow unauthorised	All offset area fencing was in a stockproof condition and secure  New fencing has been erected as per the management plan

<sup>2</sup> Land Manager's Monitoring Guide: Ground cover indicator, Department of Environment and Resource Management, 2010, Queensland Government, Brisbane, available at <http://qldgov.softlinkhosting.com.au/liberty/opac/search.do#>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
<p>Consistent with the risk of excess grazing as identified in the Conservation Advice for the Squatter Pigeon (Southern).</p>			<p>If stock are grazing the offset area or adjacent areas, fencing must be inspected monthly. During non-grazing periods, fencing must be inspected quarterly.</p>		<p>least four times annually.</p> <p>Quarterly inspections will identify if fences are preventing stock and unauthorised people from accessing the offset area.</p> <p>Fencing is to be checked and repaired (if necessary) to a stock proof condition within 10 days of any <i>Force Majeure</i> event.</p>	<p>access to people or livestock.</p> <p><b>Corrective action:</b> upon being notified or becoming aware of prohibited access to the offset area, the Landholder is to reassess fencing, signage and general access within one fortnight.</p> <p><b>Corrective action:</b> upon being notified or becoming aware of an unsecure offset area (i.e. fencing is not fit for purpose), the Pastoral Manager is to undertake fence maintenance and repairs to resecure the offset area as soon as possible and within 10 days. This corrective action may include</p>	<p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
						<p>the installation of new fencing.</p> <p><b>Reporting:</b> the Offset Area Report will document the installation, maintenance and repair of fences during the reporting period. The report will document how this management action is performing and contributing to the enhancement of the offset area.</p>	
<p><b>Following extreme weather conditions of drought, flood or cyclone</b></p> <p>Consistent with the general risks as identified in Conservation Advice for the Squatter Pigeon (Southern).</p>	Determine the extent of damage to the offset area and fencing caused by the event.	Throughout the offset area with particular attention paid to riparian areas and the boundary fencing.	<p>As soon as safely possible post a flood or cyclone event.</p> <p>For a drought event, inspections must be monthly.</p>	Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.	Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder within one week of the cessation	<p><b>Trigger for corrective action:</b></p> <p>extreme weather conditions of flood or cyclone</p> <p><b>Corrective action:</b></p> <p>upon being notified or becoming aware of a flood or cyclone event occurring in offset area, the Pastoral Manager is</p>	<p>There was no occurrence of or evidence of extreme weather conditions during the reporting period.</p> <p>The grazing management had adequately managed the groundcover</p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
<p>Drought is defined as the district or property being Drought Declared by the Qld Government.</p>					<p>of an extreme event on Wollombi Station.</p> <p>Within the abovementioned timeframe, fencing will be inspected to determine if the offset area is secure.</p> <p>During drought events, monthly inspections will be conducted to record the vegetation condition in the offset area.</p> <p>Weed cover is to be monitored by the same methodology and at the same time as the grass cover and weed control undertaken post a fire event to</p>	<p>to undertake fence maintenance and repairs to resecure the offset area within one fortnight. Stock should be excluded following Force Majeure rain events until soil is sufficiently dry to prevent pugging.</p> <p><b>Trigger for corrective action:</b></p> <p>extreme weather conditions of drought</p> <p><b>Corrective action:</b></p> <p>upon being notified or becoming aware of a drought event occurring in offset area, the Pastoral Manager is to remove stock from the offset area within 5 days.</p> <p><b>Reporting:</b> the Offset Area Report will document the</p>	<p>during the dry conditions</p> <p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
					<p>ensure weed cover is &lt;5%.</p> <p>Fencing is to be checked and repaired (if necessary) to a stock proof condition within 10 days of any <i>Force Majeure</i> event.</p>	<p>repair of fences and removal of stock from offset areas, as a result of extreme weather conditions, during the reporting period. The report will document how this management action is performing and contributing to the enhancement of the offset area.</p>	
<p><b>Grazing</b></p> <p>Consistent with the risk of excess grazing as identified in the Conservation Advice for the Squatter Pigeon (Southern).</p>	<p>Stocking rates are not fixed as this region is subject to significant changes in grass cover with seasonal conditions.</p> <p>The use of stock in larger numbers for a short period of time in the late dry season and prior to the wet season and if required, again during winter is the preferred method of controlled grazing.</p>	<p>Stock will be grazed in the offset areas for fuel reduction purposes only during the dry season.</p>	<p>As required when ground cover in non-remnant areas exceeds 60% during the dry season.</p> <p>Stock are not to be grazed during Squatter Pigeon breeding season which is between</p>	<p>Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.</p>	<p>Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder at least monthly during grazing periods.</p>	<p><b>Trigger for corrective action:</b></p> <p>detection of stock grazing outside of the dry season, or during the dry season exclusion period</p> <p><b>Corrective action:</b></p> <p>upon being notified or becoming aware of prohibited stock grazing in the offset area, the Pastoral Manager is to remove the stock</p>	<p>Grazing was well managed, and no triggers were activated during the reporting period.</p> <p>In the Brigalow regrowth areas, areas under the sucker clumps were dominated by leaf litter and small amounts of native grasses.</p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
	<p>Throughout the offset area, management actions for fire and grazing are interlinked due to the necessity to manage increased fuel loads that will establish as a consequence of reduced grazing intensity. As canopy trees and the shrub layers in the offset area establish and mature, their resulting canopy cover will naturally diminish the fuel load as Buffel grass will decline in extent as the canopy cover increases. Until such time, intervention in the form of both low intensity grazing and infrequent low intensity ecological burns will achieve this outcome.</p> <p>The management actions seek to avoid adverse impacts by monitoring the offset area more frequently during grazing periods. Importantly, any sign of significant adverse impacts to low-lying offset areas as a result of stock use (e.g. pugging) will trigger the removal of stock from the offset area.</p>		<p>April to August.</p> <p>The dry season is normally between April and December; however, if unseasonal rainfall should occur, then grazing is to be allowed only if there is no evidence of moisture in the stream order one gullies to ensure that “pugging” of the soil by livestock does not occur.</p>		<p>Monthly inspections will record the minimum grass cover, pasture biomass and security (i.e. fences) of the offset area.</p> <p>Monthly inspections will record the evidence of “pugging” in stream order one gullies.</p>	<p>from the area (if present) and assess the adequacy of fencing within 10 days. The Pastoral Manager is to undertake fence maintenance and repairs to resecure the offset area within 10 days.</p> <p><b>Trigger for corrective action:</b> in non-remnant areas ground cover is less than 60%.</p> <p><b>Corrective action:</b> upon being notified or becoming aware of exceedance of the threshold, the Pastoral Manager is to remove stock from the offset area within 5 days. Grazing may recommence prior to the wet season if the ground cover increases to greater than 60% using methodology 2Bin</p>	<p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
	<p>The allowance of stock to the offset area triggers a higher management intensity to mitigate the increased risk of adverse impacts. This management approach will identify adverse impacts as they arise and trigger corrective action/s as necessary. The success of stock grazing in the Ornamental Snake offset area will become apparent during the first dry season under offset area management.</p>					<p>the <i>Land Manager's Monitoring Guide (DERM, 2010)</i> as per Attachment 2 of the OAMP, or any subsequent published version of this document.</p> <p><b>Trigger for corrective action:</b> stock grazing occurs in the offset area during the dry season and ground cover falling below 60%..</p> <p><b>Corrective action:</b> upon being notified or becoming aware that the ground cover drops below 60% during the dry season, the Pastoral Manager is to review and adapt stock grazing practices for the following dry season. Evidence of this review and outcome/s must be</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
						<p>included in the Offset Area Report.</p> <p><b>Trigger for corrective action:</b> detection of stock grazing causing pugging in stream order one gullies or significant adverse impacts to low-lying offset areas, all of which are to be inspected during the quarterly inspections</p> <p><b>Corrective action:</b> upon being notified or becoming aware of stock causing pugging in stream order one gullies or significant adverse impacts to low-lying offset areas, the Pastoral Manager is to remove stock from the offset area within 72 hours.</p> <p><b>Corrective action:</b> upon being notified</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
						<p>or becoming aware of a drought event occurring in offset area, the Pastoral Manager is to remove stock from the offset area within 5 days.</p> <p><b>Reporting:</b> The Offset Area Report will document the grazing periods that occurred in the offset areas during the reporting period and the correlating corrective actions that occurred as part of grazing management. The report will document how this management action is performing and contributing to the enhancement of the offset area.</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
<p><b>Pest animals</b></p> <p>Consistent with the risk of habitat damage and predation identified in the Conservation Advice for the Squatter Pigeon (Southern).</p>	<p>Minimise the introduction of pest animals and control of existing populations of pest animals (wild dogs, pigs, feral cats and foxes) within the offset areas in accordance with the <a href="#">Land Protection (Pest and Stock Route Management) Act 2002</a> (Qld).</p> <p>Wild pig, deer and dog populations are generally small and highly transient, and therefore the scale of impact is small. Major damage to the environment/habitat occurs when large numbers of animals congregate in the area.</p> <p>Current control of pigs and wild dogs is undertaken via a baiting program on the property. Additional to this measure, the Pastoral Manager, during quarterly inspections of the offset area may remove any wild pigs, deer or wild dogs that are seen. If an increase in pig, deer or dog activity is noted, an additional trapping, baiting and/or control program is to</p>	All offset areas.	<p>Preferably in the winter and spring months to minimise impacts to the Squatter Pigeon (southern) during breeding and nesting.</p> <p>Destruction of wetland habitat by feral pigs is also a threat to the Ornamental Snake, along with the associated destruction of frog habitat and direct competition for their food source (frogs).</p> <p>When a group of animals is observed, a control program will</p>	Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.	<p>Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder at least four times annually.</p> <p>Quarterly inspections will involve traversing the offset area with streams, low lying areas and vehicle access tracks being noted for to record the presence of wallow holes, tracks and visual incidents in the offset area. If detected, these areas will be GPS and</p>	<p><b>Trigger for corrective action:</b> detection of twelve or more half grown and/or mature wild pigs, deer or dogs during a quarterly inspection.</p> <p><b>Corrective action:</b> upon being notified or becoming aware of pest animal populations exceeding the threshold, the Pastoral Manager is to implement pest control measures within one month. The Pastoral Manager or Landholder may approach neighbouring landowners to discuss the increased pest animal presence and an integrated control program may be developed.</p>	<p>There was no evidence of pest animals at the time of inspection and none were sighted during the inspection</p> <p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
	<p>be instigated until the increased activity has ceased.</p> <p>There was no evidence of extensive damage from deer, foxes, rabbits or wild cats detected during surveys as part of the Environmental Impact Assessment, however, if the occurrence of these animals is detected, a control program integrated with that for wild pigs and dogs will be implemented.</p>		<p>be implemented. The timing of control program will address the threats to both species.</p>		<p>photographed and rechecked at the next quarterly inspection.</p> <p>Note: baseline levels for pest animals are not able to be established due to the transient nature of the animals. Numbers are established via visual signs recorded during quarterly inspections.</p>	<p><b>Reporting:</b> the Offset Area Report will document the indications or sightings of pest animals during the reporting period and the correlating corrective actions. The report will document how this management action is performing and contributing to the enhancement of the offset area.</p>	
<p><b>Pest plants (i.e. weeds)</b></p> <p>Consistent with the risk of excess fire from excessive weed cover as identified in the Conservation Advice for the Squatter Pigeon (Southern)</p>	<p>Keep the introduction, establishment and spread of non-native weeds including Declared Pest Plants listed under the <a href="#">Land Protection (Pest and Stock Route Management) Act 2002</a> (Qld) to less than 10% weed cover in the offset area.</p> <p>Control existing infestations of non-native weeds including declared pest plants under the</p>	Throughout the offset area	Weed control will be undertaken as early as practicable within the natural regeneration process throughout the offset areas and then	Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.	Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder at	<p><b>Trigger for corrective action:</b> pest plants occur in greater than 10% of the offset area</p> <p><b>Corrective action:</b> upon being notified or becoming aware of pest plants being present in greater than 5% of the offset area, the</p>	<p>There were no significant outbreaks of weeds in any of the offset areas.</p> <p><b>Compliant</b></p>

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
	<p><a href="#"><u>Land Protection (Pest and Stock Route Management) Act 2002</u></a> (Qld) to ensure that the non-native weeds cover less than 10% of the offset area (e.g., Parthenium).</p> <p>Buffel Grass is recognised as being a threat to the vegetation communities and habitat in the offset area however is not referred to as a weed as it is not declared in <i>the Land Protection (Pest and Stock Route Management) Act 2002</i> (Qld). Control measures such as grazing and increasing canopy cover of vegetation are included in this plan to decrease the extent of Buffel Grass over time. Control of Buffel Grass is best managed via grazing during the dry season and increasing tree canopy cover.</p> <p>Spot spraying of patches of Parthenium is permitted.</p>		periodically as required to treat the weeds at the optimum time in their life cycles to control and minimise the spread of the existing weed species.		<p>least four times annually.</p> <p>Weed cover is to be monitored by the same methodology and at the same time and at the same time as the grass cover measurements.</p> <p>Quarterly inspections will observe and record the presence of weeds and success of previously applied weed control measures. The inspection will include before and after photos of the weed control area. The field data sheets provided in Appendix A may assist with documenting</p>	<p>Pastoral Manager is to implement pest control measures within one month. These measures may include, and are not limited to:</p> <ul style="list-style-type: none"> <li>• foliar spraying;</li> <li>• basal bark spraying;</li> <li>• stem injection;</li> <li>• cut stump;</li> <li>• cut and swab;</li> <li>• stem scraper; and</li> <li>• wick applicators.</li> </ul> <p><b>Reporting:</b> the Offset Area Report will document the weed presence and weed control measures during the reporting period and the correlating corrective actions.</p>	

Management action	How the action will be carried out	Where the action will be carried out	When the action will be carried out	Who will be carrying out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Progress Report
					<p>weed presence and control measures.</p> <p>Quarterly inspections will be conducted by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder to record the ground cover in the offset area. The following ground cover is to be present at the end of the dry season which is to be at the minimum of 60% at the end of the dry season.</p>	<p>The report will document how this management action is performing and contributing to the enhancement of the offset area.</p>	

### 3. Offset monitoring and reporting

A detailed schedule and the requirements for the offset area monitoring is provided in the OAMP for this offset site and is shown at *Table 3* for ease of reference. The requirements of the monitoring and reporting are a combination of site survey work and landholder record keeping and collation.

A formal reporting process on the Biocondition monitoring will occur immediately following each Biocondition monitoring event as detailed in *Table 3A and Table 3B*. This reporting process will include an evaluation of all data collected during the preceding five years and make a comparison to earlier report findings including baseline conditions. Importantly this reporting process will re-calculate the condition of the offset areas using the Offset Calculator (DoEE) and make a determination regarding achievement of the specific management outcomes and any recommendations for adaptive management required. The evaluation will enable a determination of trajectory for the longer-term condition of the TECs, and if not on an appropriate trajectory then modifications to management actions can be applied. Should recommended management actions vary drastically from those detailed in this OAMP then DoEE will be informed as part of normal reporting processes. The report will be submitted to the administering authority.

**Table 3A: Offset area monitoring schedule**

Monitoring	Attributes monitored	Frequency	Method	Location/s
Surveys undertaken by Ecologists				
Baseline assessment	Refer 'ecological condition' below	Completed in 2015/16 and is an input into the OAMP	Field observations, vegetation assessment as per the <i>Guide to determining terrestrial habitat quality – a toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy (version 1.1 December 2014)</i> (DEHP, 2014).	Sites listed at <i>Table 10</i> of the OAMP.
Ecological condition assessment	Recruitment of woody perennial species in EDL	In the early dry season (June or July) in years 2020, 2025, 2030, 2035, 2040, and 2044	Field observations, vegetation assessment as per the <i>Guide to determining terrestrial habitat quality – a toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy (version 1.1 December 2014)</i> (DEHP, 2014).	Sites listed at <i>Table 10</i> of the OAMP.
	Native plant species richness – trees			
	Native plant species richness – shrubs			
	Native plant species richness - grasses			

Monitoring	Attributes monitored	Frequency	Method	Location/s
	Native plant species richness – forbs		<i>December 2014</i> ) (DEHP, 2014)*.	
	Tree canopy height		Data for each of the ecological condition attributes monitored will be collected at each site listed in <i>Table 10</i> of the OAMP and reported on and presented in a sequential manner (including previous data collected) to quantify change from the benchmark collected in 2015/16. This will record the change in each attribute measured and hence the condition of the ecological community and habitat, thus enabling a statistical comparison to previous years' data and the progression of the offset site condition and EPBC Act Offset Assessment Guide Calculator inputs.	
	Tree canopy cover			
	Shrub canopy cover			
	Native perennial grass cover			
	Organic litter			
	Large trees			
	Coarse woody debris			
	Non-native plant cover			
	Non-remnant or remnant status			
Squatter pigeon survey	As per the EPBC Act guidelines	In the early dry season (June or July) in years 2020, 2025, 2030, 2035, 2040 and 2044.		As per the EPBC Act guidelines
Landholder/Pastoral Manager/Authority Holder Records				
<i>Record keeping commences within three months of the Queensland Government approving the voluntary declaration</i>				
Photo points	General vegetation condition	Annually in the early dry season (June or July) until, and including, May 2044	Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder will undertake quarterly inspections of the offset area to observe and record grass cover levels, pest plants, accessibility (i.e. condition of fencing), signage, evidence of fire and evidence of pest	Sites listed at <i>Table 10</i> of the OAMP.
Grazing	Stocking rates Grass cover Pasture biomass Pugging of the soil by livestock	Monitored monthly during grazing periods and reported annually until, and including, May 2044		Within Offset Areas

Monitoring	Attributes monitored	Frequency	Method	Location/s
Fire	Occurrence/triggers, corrective actions, timing and result of the control measures	Monitored quarterly and reported annually until, and including, May 2044	animal incursion. The inspection records will serve as the primary data source for the Offset Area Report.	
Pest plants	Occurrence/triggers, corrective actions, timing and result of the control measures	Monitored quarterly and reported annually until, and including, May 2044	Photo points to be undertaken as per the method described in the <i>Land Manager's Monitoring Guide</i> (DERM, 2010) (or any subsequent published version of this document) provided at Attachment 2 of the OAMP,	
Pest animals	Occurrence/triggers, corrective actions, timing and result of the control measures	Monitored quarterly and reported annually until, and including, May 2044		
Access and signage	Occurrence/triggers, corrective actions, timing and result of the control measures	Monitored quarterly and reported annually until, and including, May 2044		

**Table 3B: Monitoring schedule for the additional squatter pigeon offset area**

Monitoring	Attributes monitored	Frequency	Method	Location/s
Surveys undertaken by Ecologists				
Baseline assessment	Refer 'ecological condition' below	Completed in 2015/16 and is an input into the OAMP  A baseline survey for weeds and Squatter Pigeon (as per the <a href="#">Survey Guidelines for Australia's Threatened Birds</a> , EPBC Act survey guidelines 6.2) populations will be undertaken by June 2019 and the results included in the first Annual Report.	Field observations, vegetation assessment as per the <i>Guide to determining terrestrial habitat quality – a toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy (version 1.1 December 2014)</i> (DEHP, 2014).	Sites listed at <i>Table 10</i> of the OAMP.

Monitoring	Attributes monitored	Frequency	Method	Location/s
Ecological condition assessment	Recruitment of woody perennial species in EDL	Early dry season (June or July) in years 2020, 2025, 2030, 2035, 2040 and 2044	Field observations, vegetation assessment as per the <i>Guide to determining terrestrial habitat quality – a toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy (version 1.1 December 2014)</i> (DEHP, 2014)*.  Data for each of the ecological condition attributes monitored will be collected at each site listed in <i>Table 10</i> of the OAMP and reported on and presented in a sequential manner (including previous data collected) to quantify change from the benchmark collected in 2015/16. This will record the change in each attribute measured and hence the condition of the ecological community and habitat, thus enabling a statistical comparison to previous years' data and the progression of the offset site condition and EPBC Act Offset Assessment Guide Calculator inputs.	Sites listed at <i>Table 10</i> of the OAMP.
	Native plant species richness – trees			
	Native plant species richness – shrubs			
	Native plant species richness - grasses			
	Native plant species richness – forbs			
	Tree canopy height			
	Tree canopy cover			
	Shrub canopy cover			
	Native perennial grass cover			
	Organic litter			
	Large trees			
	Coarse woody debris			
	Non-native plant cover			
Non-remnant or remnant status				
Squatter pigeon survey	Squatter pigeon populations	Early dry season (June or July) in years 2020, 2025, 2030, 2035, 2040 and 2044	As per the <a href="#">Survey Guidelines for Australia's Threatened Birds. EPBC Act survey guidelines 6.2</a>	Sites listed at <i>Table 10</i> of the OAMP.
<p>Quarterly Landholder/Pastoral Manager/Authority Holder Records and monitoring</p> <p><i>Record keeping commences within three months of the Queensland Government approving the voluntary declaration</i></p>				

Monitoring	Attributes monitored	Frequency	Method	Location/s
Photo points	General vegetation condition	Annually in the early dry season (June or July) until, and including, May 2044	<p>Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder will undertake quarterly inspections of the offset area to observe and record grass cover levels, pest plants, accessibility (i.e. condition of fencing), signage, evidence of fire and evidence of pest animal incursion. The inspection records will serve as the primary data source for the Offset Area Report.</p> <p>Photo points and monitoring is to be undertaken as per the <i>Level 1 monitoring in the Land Manager's Monitoring Guide (DERM, 2010)</i> (or any subsequent published version of this document) provided at Attachment 2 of the OAMP,</p>	Sites listed at <i>Table 10</i> of the OAMP.
Grazing	Stocking rates  Grass cover  Pasture biomass  Pugging of the soil by livestock	Monitored monthly during grazing periods and reported annually until, and including, May 2044 <i>Level 1 monitoring as per the Land Manager's Monitoring Guide (DERM, 2010)</i>		Within Offset Areas
Fire	Occurrence/triggers, corrective actions, timing and result of the control measures. as per Table 8.	Monitored quarterly and reported annually until, and including, May 2044		
Pest plants	Occurrence/triggers, corrective actions, timing and result of the control measures. as per Table 8.	Monitored quarterly and reported annually until, and including, May 2044.  Weed cover is to be monitored by the same methodology and at the same time and at the same time as the grass cover measurements.		
Pest animals	Occurrence/triggers, corrective actions, timing and result of the control measures. as per Table 8.	Monitored quarterly and reported annually until, and including, May 2044.  Quarterly inspections will involve traversing the offset area with streams, low lying areas and vehicle access tracks being noted for to record		

Monitoring	Attributes monitored	Frequency	Method	Location/s
		the presence of wallow holes, tracks and visual incidents in the offset area. If detected, these areas will be GPS and photographed and rechecked at the next quarterly inspection.		
Access and signage	Occurrence/triggers, corrective actions, timing and result of the control measures as per Table 8.	Monitored quarterly and reported annually until, and including, May 2044		

### 3.1. Site inspection – general observations

A site visit to the property to undertake the annual inspection was conducted on 1 June 2019 (see *Section 3.2* below). During this visit, a number of general observations were made regarding the state of the property and the offset area.

The brigalow and majority of the offset areas are in a good condition. Some areas of 11.3.2 and grassy woodlands were dominated by buffel grass. These areas should be monitored to see if they improve over a number of years with intervention after year 5 if the buffel is not reducing in area.

The brigalow regrowth vegetation across the brigalow offset area is generally in the range of 3-6 metres in height. The patches of brigalow regrowth are shading out the buffel grass (see site photos at *Appendix A*) and the groundcover was high (>70%) at the time of the annual inspection. This has resulted in a low level of weed presence which consisted of scattered parthenium.

There were no signs of erosion apparent at the time of the site visit.

### 3.2. Site inspection – photopoint monitoring

In accordance with the schedule of offset area monitoring as detailed in the OAMP (shown at *Table 3*) photo point monitoring and a general inspection of the area was undertaken at the quaternary survey sites as utilised in the original ecological survey work undertaken in 2015. This annual inspection was undertaken on 31 May 2019 by Earthtrade's Alan Key and Grant Paterson. The sites are at the location shown in *Table 4*. The location of the sites is shown at *Figure 3*.

A full set of photos were also produced, taken at the mid-point of each transect, in a north, east, south and west direction, and then a single photo of the groundcover at the site. These photos are shown at *Appendix A*.

Table 4: Locations of quaternary survey sites

Assessment unit	Polygon	Site number	Related quaternary site number	GPS number	Start point longitude/eastings	Start point latitude/northings	End point longitude / eastings	End point latitude/northings
O_AU6	32	EEM-OA-2	-	205	147.79648	-21.36447	147.79557	-21.36406
					582576	7637305	582484	7637350
O_AU1	34	EEM-OA-9	-	218	147.77793	-21.39548	147.77705	-21.39512
					580,637	7,633,883	580,546	7,633,922
O_AU1	34	EEM-OA-12	-	217	147.77659	-21.39216	147.77560	-21.39214
					580,499	7,634,250	580,397	7,634,253
O_AU6	32	EEM-OA-13	-	216	147.78710	-21.37041	147.78706	-21.36950
					581,601	7,636,652	581,598	7,636,753
O_AU1	1	EEM-OA-15	-	219	147.78210	-21.39536	147.78242	-21.39452
					581,069	7,633,893	581,102	7,633,986
O_AU1	31	EEM-OA-19	-	204	147.81798	-21.31844	147.81697	-21.31825
					584,833	7,642,389	584,727	7,642,409
O_AU1	31	EEM-OA-20	-	201	147.80783	-21.32227	147.80705	-21.32280
					583,778	7,641,969	583,697	7,641,912
O_AU1	8	EEM-OA-21	-	200	147.80925	-21.32699	147.80977	-21.32622
					583,922	7,641,446	583,977	7,641,531
O_AU9	60	EEM-OA-24	-	209	147.78968	-21.35195	147.78958	-21.35285
					581,878	7,638,695	581,868	7,638,595
O_AU4	45	EEM-OA-25	-	214	147.78464	-21.35792	147.78375	-21.35745
					581,353	7,638,036	581,261	7,638,088
O_AU4	45	EEM-OA-26	-	210	147.78390	-21.35048	147.78313	-21.35094
					581,280	7,638,860	581,200	7,638,809
O_AU1	53	EEM-OA-27*	-	211	147.78172	-21.34880	147.78087	-21.34834
					581,055	7,639,047	580,968	7,639,098
O_AU10	56	EEM-OA-28	-	212	147.77903	-21.35153	147.77902	-21.35057
					580,775	7,638,746	580,774	7,638,852
O_AU4	45	EEM-OA-29	-	213	147.77648	-21.35732	147.77562	-21.35768
					580,508	7,638,107	580,418	7,638,067
O_AU11	39	EEM-OA-31	T25	216	147.76781	-21.37040	TBC as part of 2020 ecological condition assessment	
					579,601	7,636,664		
O_AU11	43	EEM-OA-32	T26	215	147.77747	-21.36705	TBC as part of 2020 ecological condition assessment	
					580,604	7,637,030		

Assessment unit	Polygon	Site number	Related quaternary site number	GPS number	Start point longitude/ eastings	Start point latitude/ northings	End point longitude / eastings	End point latitude/ northings
O_AU6	Adjacent 6 and 7	TBD	-		New EEM site to be established in year 2020 ecological condition survey			
O_AU1	25	EEM-OA-15	-	219	New EEM site to be established in year 2020 ecological condition survey			
O_AU1	7	EEM-OA-16	-	221	147.79725	-21.40281	147.79815	-21.40311
					582,635	7,633,061	582,729	7,633,027
O_AU9	60	EEM-OA-33	-		147.79335	-21.35933	TBC as part of 2020 ecological condition assessment	
					582,255	7,637,876		
O_AU9	60	EEM-OA-34	-		147.78954	-21.35707	TBC as part of 2020 ecological condition assessment	
					581,861	7,638,128		
O_AU6	30	EEM-OA-35	-	220	147.79726	-21.39840	TBC as part of 2020 ecological condition assessment	
					582,638	7,633,550		
O_AU6	30	EEM-OA-36	-	222	147.80848	-21.39820	TBC as part of 2020 ecological condition assessment	
					583,802	7,633,566		
O_AU5	66	EEM-OA_37	-	202	147.81124	-21.32246	TBC as part of 2020 ecological condition assessment	
					584,131	7,641,948		
O_AU5	66	EEM-OA-38	-	203	147.81539	-21.32108	TBC as part of 2020 ecological condition assessment	
					584,562	7,642,098		

Figure 2: Wollombi Station offset areas

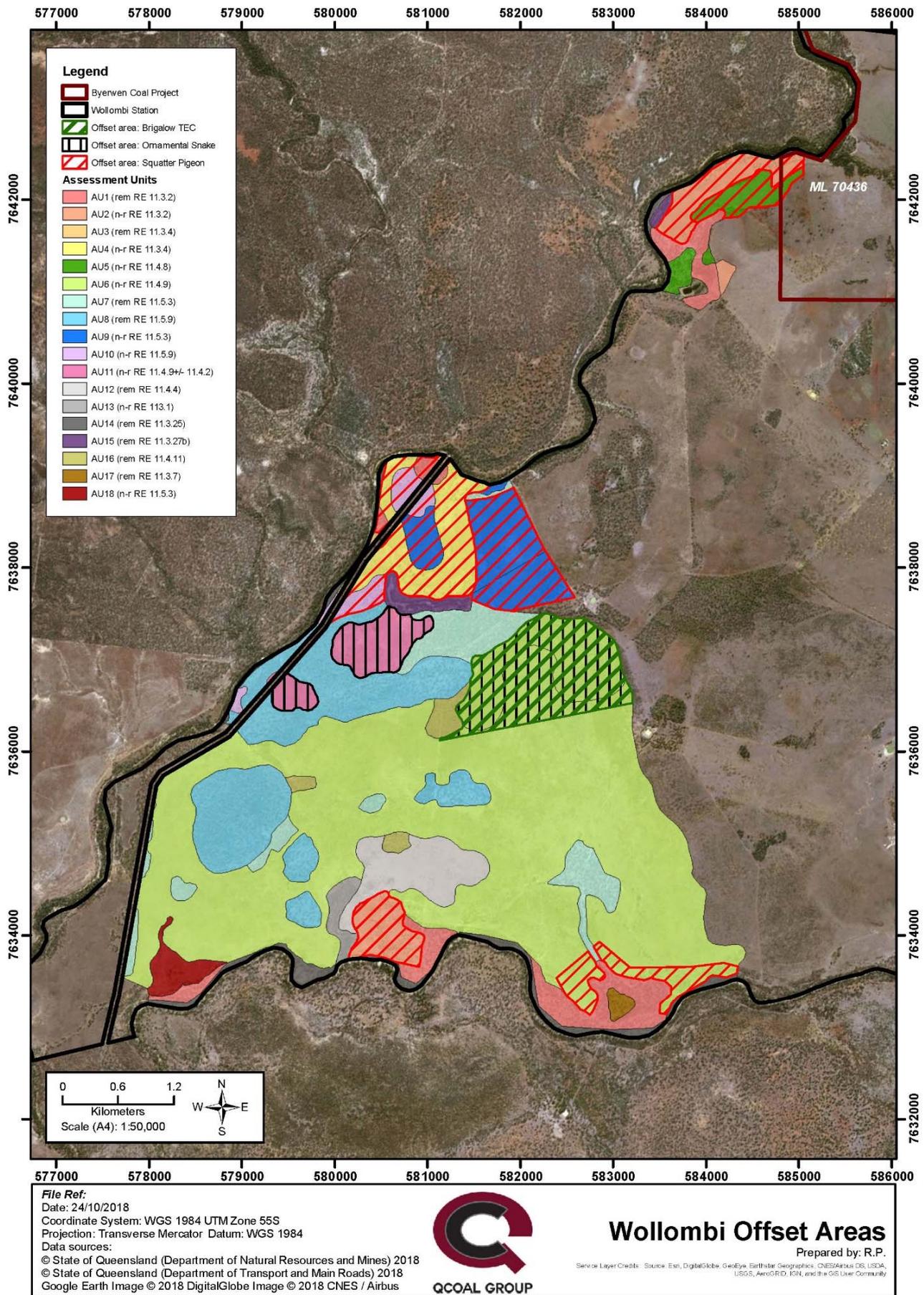
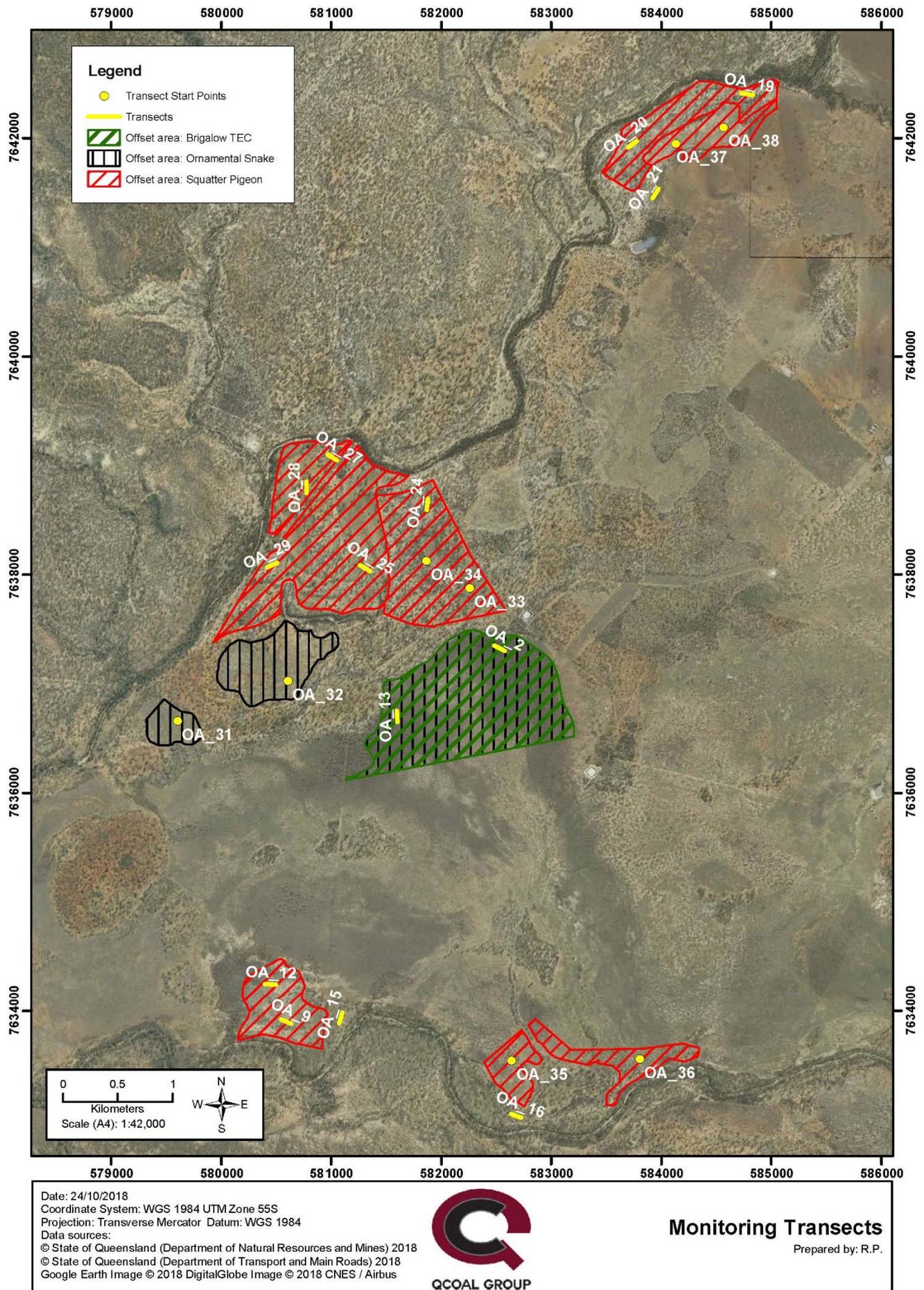


Figure 3: Monitoring site locations



## 4. Project details

The details of the project, approval, and details of the offsets are shown below in *Table 5*. The details of the EPBC approval conditions are shown below in *Table 5*.

*Table 5: Project details*

Item	Details
Project Name	
Project Location	
EPBC Approval number	
Approved Actions	
Approval Holder	
Approval Holder ABN	
Offset Location - address	
Lot/Plan	
Offset area (ha)	
Landholder Name	
Landholder Phone	
Landholder Postal address	

**Table 6: EPBC Approval conditions related to the offsets on Wollombi Station**

Condition number	Condition
5	The approval holder must submit a Biodiversity Offset Management Plan (BOMP) to the Department for the Ministers approval, outlining how offsets to address the residual impacts to Brigalow ( <i>Acacia harpophylla</i> dominant and co-dominant, Semi-evergreen Vine Thickets of the Brigalow Belt (North and South) and Nandewar Bioregions, Natural Grasslands of the Queensland Central Highlands and the northern Fitzroy Basin, the Ornamental Snake ( <i>Denisonia maculata</i> ) and the Squatter pigeon (southern) ( <i>Geophaps scripta scripta</i> ), will be managed. The approved BOMP must be implemented.
6	The BOMP must be submitted for approval within twelve months after the commencement of construction. Clearing of EPBC Act listed species and communities must not occur until the BOMP is approved by the Minister in writing.
7	
a)	maps of the offset area/s inclusive of the distribution and extent (in hectares) of the EPBC Act listed species and communities to be offset in electronic Geographic Information System format
b)	evidence that the offsets are consistent with the <i>Departments Environmental Offsets Policy</i> (October 2012)
c)	details of how the offset area/s have been or will be legally secured to provide long-term protection
d)	detailed on-ground surveys, complying with relevant survey guidelines, and description of the baseline condition, attributes and values of the offset area/s with respect to EPBC Act listed species and communities
e)	management measures (including timing, frequency and longevity) for each of the EPBC Act listed species and communities and other vegetation within the offset area/s with written evidence of input from a suitably qualified expert who has relevant expertise in the management of native vegetation of the Bowen Basin
f)	details of how the management measures align with the relevant Conservation Advice, Recovery Plans and Threat Abatement Plans for the EPBC Act listed species and communities to be offset
g)	discussion of connectivity of the offset area/s with other habitats and biodiversity corridors
h)	a description of the risks to the successful implementation of the BOMP, including mitigation measures and residual risk ratings
i)	a monitoring program for the offset area/s which must:

Condition number	Condition
	<ul style="list-style-type: none"> <li>i) clearly set out performance indicators and milestones</li> <li>ii) detail how the success of the management measures against the performance indicators and milestones will be measured, recorded and reported</li> <li>iii) include monitoring scope and parameters, timing, frequency, triggers and corrective actions</li> <li>iv) detail how adaptive management strategies will be incorporated</li> <li>v) outline how compliance will be reported</li> <li>vi) detail who will be undertaking monitoring, reporting, review, and implementation of the BOMP (if this person is not the approval holder).</li> </ul>

#### 4.1. Offset Site

Wollombi Station is 9,831 ha in area with the western boundary being formed by the Suttor River and the southern boundary being formed by Suttor Creek, both of which are stream order 5 watercourses.

The property lies within the northern Brigalow Belt Bioregion and the region could be considered semi-arid in climatic terms given that the majority of the rainfall falls within the summer period between November and February with evaporation rates exceeding precipitation in a majority of months.

The property is a large-scale grazing operation with the Byerwen Coal Project being located in the north-eastern third of the property. Cattle grazing and associated land management activities are the primary land uses on the Wollombi Station property.

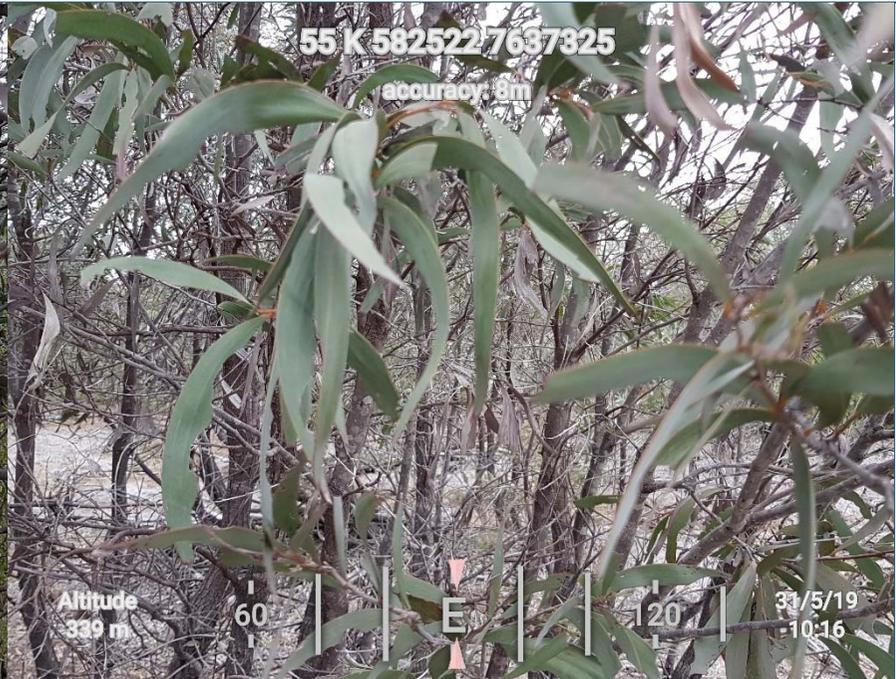
## List of abbreviations

Abbreviations	Description
DoEE	Department of the Environment and Energy (Cth) (formerly DoE)
EPBC	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
ha	hectares
km	kilometres
MNES	Matters of national environmental significance
OAMP	Offset Area Management Plan
RE	Regional ecosystem
TEC	Threatened ecological community

## Appendix A: Survey photographs

Project:
Byerwen
Code:
V033
Site:
Wollombi Station LI SP278043
Transect No.:
EEM-OA-2
Location (E):
582576
Location (N):
7637305
Date:
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station LI SP278043
<b>Transect No.:</b>
EEM-OA-9
<b>Location (E):</b>
580637
<b>Location (N):</b>
7633883
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-12
<b>Location (E):</b>
580499
<b>Location (N):</b>
7634250
<b>Date:</b>
31 May 2019

North



East

South



West

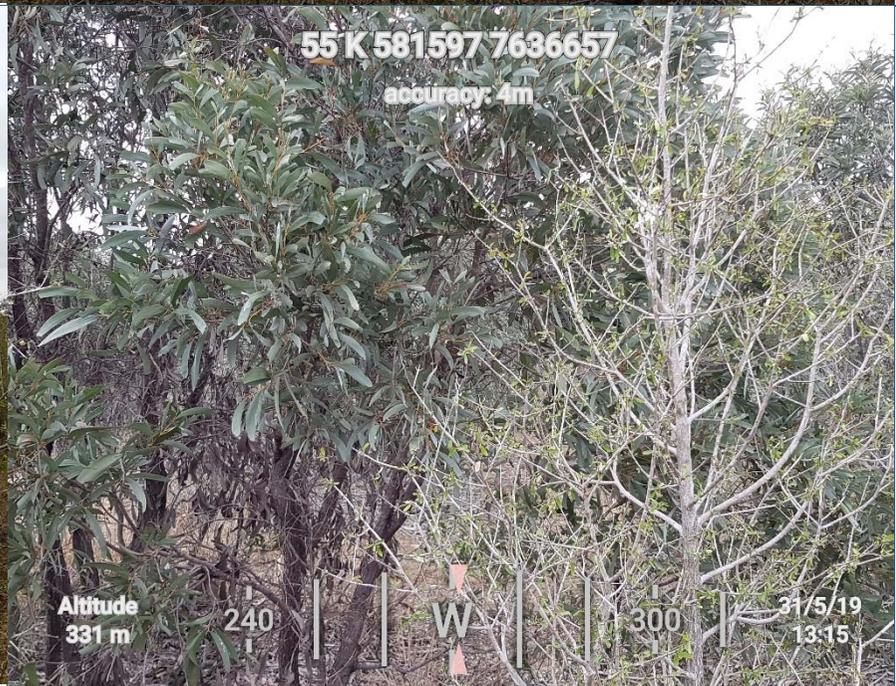
<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-13
<b>Location (E):</b>
581601
<b>Location (N):</b>
7636652
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-15
<b>Location (E):</b>
581069
<b>Location (N):</b>
7633893
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-19
<b>Location (E):</b>
584833
<b>Location (N):</b>
7642389
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-20
<b>Location (E):</b>
583778
<b>Location (N):</b>
7641969
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station LI SP278043
<b>Transect No.:</b>
EEM-OA-21
<b>Location (E):</b>
583922
<b>Location (N):</b>
7641446
<b>Date:</b>
31 May 2019

North



East

South



West

55 K 583960 7641478 accuracy: 16m

55 K 583964 7641484 accuracy: 9m

Altitude 313 m | -30 | | N | | 30 | | 31/5/19 07:22

Altitude 323 m | 60 | | E | | 120 | | 31/5/19 07:23

55 K 583961 7641490 accuracy: 8m

55 K 583956 7641487 accuracy: 4m

Altitude 318 m | 150 | | S | | 210 | | 31/5/19 07:23

Altitude 318 m | 240 | | W | | 300 | | 31/5/19 07:23

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-24
<b>Location (E):</b>
581878
<b>Location (N):</b>
7638695
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-25
<b>Location (E):</b>
581353
<b>Location (N):</b>
7638036
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-26
<b>Location (E):</b>
581280
<b>Location (N):</b>
7638860
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-27
<b>Location (E):</b>
581055
<b>Location (N):</b>
7639047
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-28
<b>Location (E):</b>
580775
<b>Location (N):</b>
7638746
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-29
<b>Location (E):</b>
580508
<b>Location (N):</b>
7638107
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-31
<b>Location (E):</b>
579601
<b>Location (N):</b>
7636664
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-32
<b>Location (E):</b>
580604
<b>Location (N):</b>
7637030
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-16
<b>Location (E):</b>
582635
<b>Location (N):</b>
7633061
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-33
<b>Location (E):</b>
581861
<b>Location (N):</b>
7638128
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-34
<b>Location (E):</b>
581861
<b>Location (N):</b>
7638128
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-35
<b>Location (E):</b>
582638
<b>Location (N):</b>
7633550
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-36
<b>Location (E):</b>
583802
<b>Location (N):</b>
7633566
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station LI SP278043
<b>Transect No.:</b>
EEM-OA-37
<b>Location (E):</b>
584131
<b>Location (N):</b>
7641948
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
EEM-OA-38
<b>Location (E):</b>
584562
<b>Location (N):</b>
7642098
<b>Date:</b>
31 May 2019

North



East

South



West

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
Groundcover
<b>Location (E):</b>
Various
<b>Location (N):</b>
Various
<b>Date:</b>
31 May 2019

EEM-OA-2



EEM-OA-9

EEM-OA-12



EEM-OA-13

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
Groundcover
<b>Location (E):</b>
Various
<b>Location (N):</b>
Various
<b>Date:</b>
31 May 2019

EEM-OA-15



EEM-OA-19

EEM-OA-20



EEM-OA-21

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
Groundcover
<b>Location (E):</b>
Various
<b>Location (N):</b>
Various
<b>Date:</b>
31 May 2019

EEM-OA-24



EEM-OA-25

EEM-OA-26



EEM-OA-27

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
Groundcover
<b>Location (E):</b>
Various
<b>Location (N):</b>
Various
<b>Date:</b>
31 May 2019

EEM-OA-28



EEM-OA-29

EEM-OA-31



EEM-OA-32

<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
Groundcover
<b>Location (E):</b>
Various
<b>Location (N):</b>
Various
<b>Date:</b>
31 May 2019

EEM-OA-16



EEM-OA-33

EEM-OA-34



EEM-OA-35

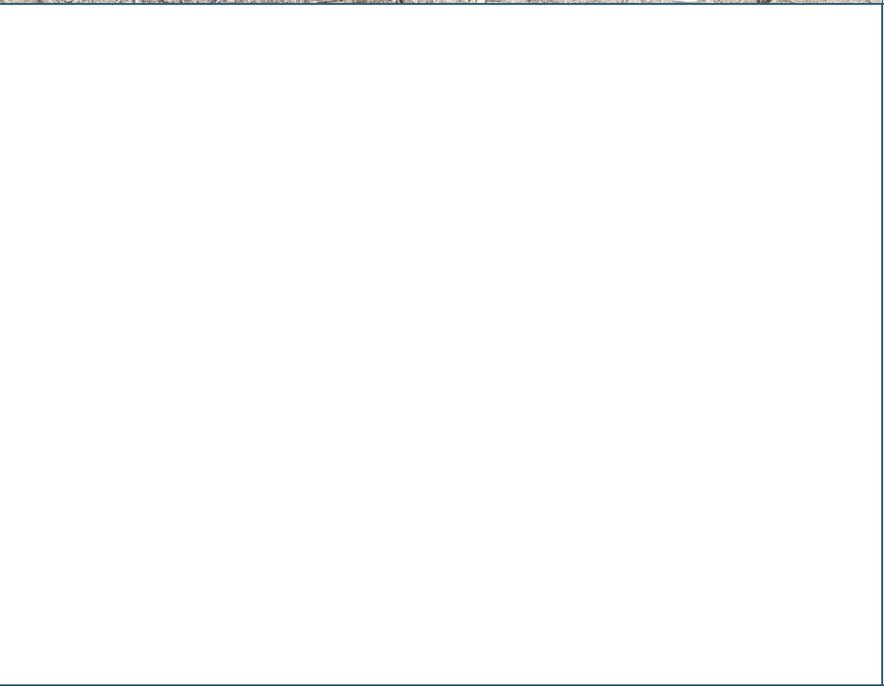
<b>Project:</b>
Byerwen
<b>Code:</b>
V033
<b>Site:</b>
Wollombi Station L1 SP278043
<b>Transect No.:</b>
Groundcover
<b>Location (E):</b>
Various
<b>Location (N):</b>
Various
<b>Date:</b>
31 May 2019

EEM-OA-36



EEM-OA-37

EEM-OA-38



# Appendix B: Landholder's records

## Forestry and timber harvesting – offset area

Refer to “Forestry” section of Schedule of Management Actions table in the Offset Area Management Plan for specific details of required management actions. This record sheet is to be completed at the time of the quarterly inspection. Any supporting photos to be supplied separately.

Paddock name	Wollombi Offset Paddocks		Year	2018-2019
Month of inspection	Date of inspection and details of any illegal forestry operations	Details and dates of corrective action(s) taken	Recorded by	
1 July – 30 September				
1 October – 31 December				
1 January – 31 March	26 February 2019; nil illegal forestry operations detected	Nil	R. Pane and P. Mathews	
1 April – 30 June				

## Fire and Fencing Management Record – offset area

Refer to “Fire” section of Schedule of Management Actions table in the Offset Area Management Plan for specific details of required management actions. This record sheet is to be completed at the time of the quarterly inspection. Any supporting photos to be supplied separately.

Paddock name			Year	
Month of inspection	Date of inspection and details of any fire or fencing events	Details and dates of corrective action(s) taken	Recorded by	
1 July – 30 September				
1 October – 31 December				
1 January – 31 March	26/2/2019; Cattle found within Offset areas 6, 7, and 8.	Agistee notified of fence, which had been cut. Fencing repaired and cattle removed. More intensive monitoring procedures for fencing and cattle presence to be implemented	R. Pane and P. Mathews	
1 April – 30 June				

## Grazing Management and Groundcover Record – offset area

Refer to “Grazing” section of Schedule of Management Actions table in the Offset Area Management Plan for specific details of required management actions. Refer to the methodology in the Land Manager’s Monitoring Guide (attached to the OAMP) to measure ground cover. This record sheet is to be completed at the time of inspection. Any supporting photos to be supplied separately.

Paddock name		Wollombi Offsets			Year		2018-2019	
Month	Date/details of cattle movements in/out of declared area				Groundcover measurements			Recorded by
Opening cattle numbers:								
	Date	Cattle in	Cattle out	Balance	Date	% cover	Comments	
1 July – 30 September								
1 October – 31 December								
1 January – 31 March	26/2/19	n/a	n/a	n/a	26/2/19		See attached spreadsheet and map for groundcover measurements	R. Pane and P. Mathews
1 April – 30 June								

## Pest Weed and Pest Animal Management Record – offset area

Refer to “Pests – Weed Management” section of Schedule of Management Actions table in the Offset Area Management Plan for specific details of required management actions. This record sheet is to be completed at the time of inspection. Any supporting photos to be supplied separately.

Paddock name	Wollombi Offsets		Year	2018-2019
Month of inspection	Date of inspection and details of any illegal access	Details and dates of corrective action(s) taken	Recorded by	
1 July – 30 September				
1 October – 31 December				
1 January – 31 March	26/2/2019; Parthenium was identified in Offset areas 4, 9 and 11, typically in areas associated with heavy cattle movements. These had significantly lower density than in other grazed paddocks.	Ongoing monitoring to continue to determine whether weed management is required.	R. Pane and P. Mathews	
1 April – 30 June				

## Rainfall Records – offset area

Property Name	Wollombi		Land Manager	Paul Young	
Paddock Name	Wollombi Offsets		Year	2018-2019	
Month	Total (mm)	Season Total	Comments/notes		
July	0.5	Winter	Onsite weather station being installed. Data taken from the Collinsville BOM station as an analogue		
August	0.0	0.5			
September	0.0				
October	50.2	Spring			
November	25.0	75.2			
December	68.9				
January	201.3	Summer			
February	126.6	396.8			
March	89.2				
April	67.7	Autumn			
May	26.5	183.4	To 23 May 2019		
June					
Annual Total:		655.9	To 23 May 2019		