



Compliance report

Byerwen Coal Project, Queensland
EPBC 2010/5778
9 December 2022 to 8 December 2023



6 March 2024

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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 (see **Appendix A**). The EPBC Act referral and approval reference is 2010/5778. A variation to the approval was granted on 2 April 2020 to update Conditions 1 and 3, change the definition of Project Area, and update Attachments A1 and A2 (see **Appendix B**)

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 2022 to 8 December 2023.

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:

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

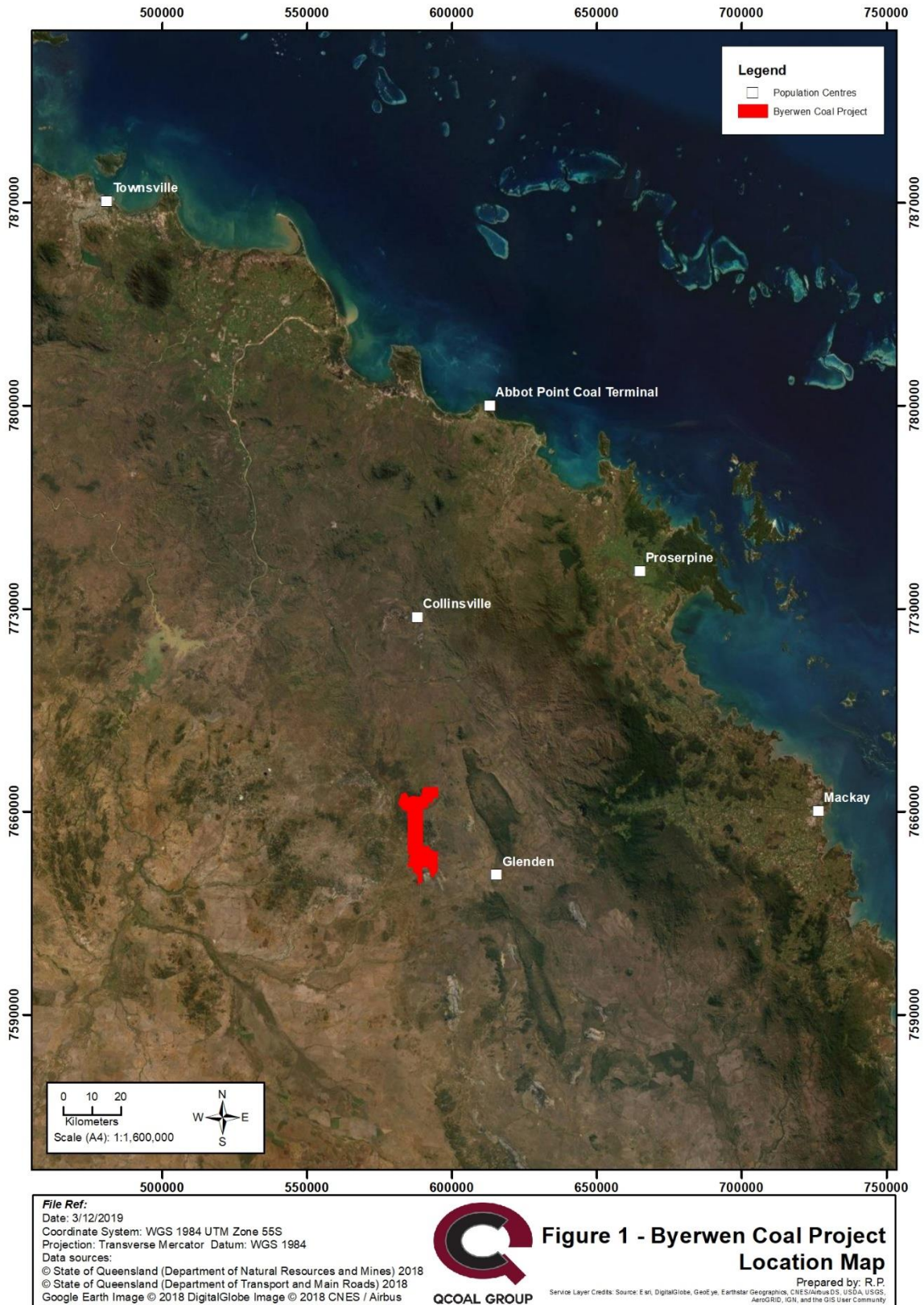


Figure 1 – Byerwen Coal Mine location

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: _____

11 March 2024

2 EPBC approval conditions compliance table

The conditions attached to the varied approval granted on 2 April 2020 are replicated in **Table 1** and a statement of compliance for each condition is included. A copy of the original approval is provided as **Appendix A**, with the varied approval attached as **Appendix B**.

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 comprising the following seven mining lease applications (MLA) 10355, 10356, 10357, 70434, 70435, 70436, 700058.	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, and MLA 700058 was granted on 2 September 2020. 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: <ul style="list-style-type: none"> a) 704 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"> 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. 	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, and was approved on 7 February 2020. A Stage 2a BOMP was submitted to the department on 31 March 2020, and was approved on 29 April 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"> 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 <i>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 	<p>Compliant</p>	<p>The approved BOMP satisfies the requirements of Condition 7.</p> <p>The annual report for the offset areas has been provided as Appendix B.</p>

	<p>i) a monitoring program for the offset area/s which must:</p> <ul style="list-style-type: none"> 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	<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 and 2a offsets was lodged on 3 June 2020 and was certified on 16 September 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"> 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 	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>	Non-Compliant	<p>Publication and submission of this compliance report will be undertaken on 11 March 2023 (3 business days late, as it was due for submission on 6 March 2024).</p> <p>All other requirements of this condition are compliant.</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

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

-
- 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

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.

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.

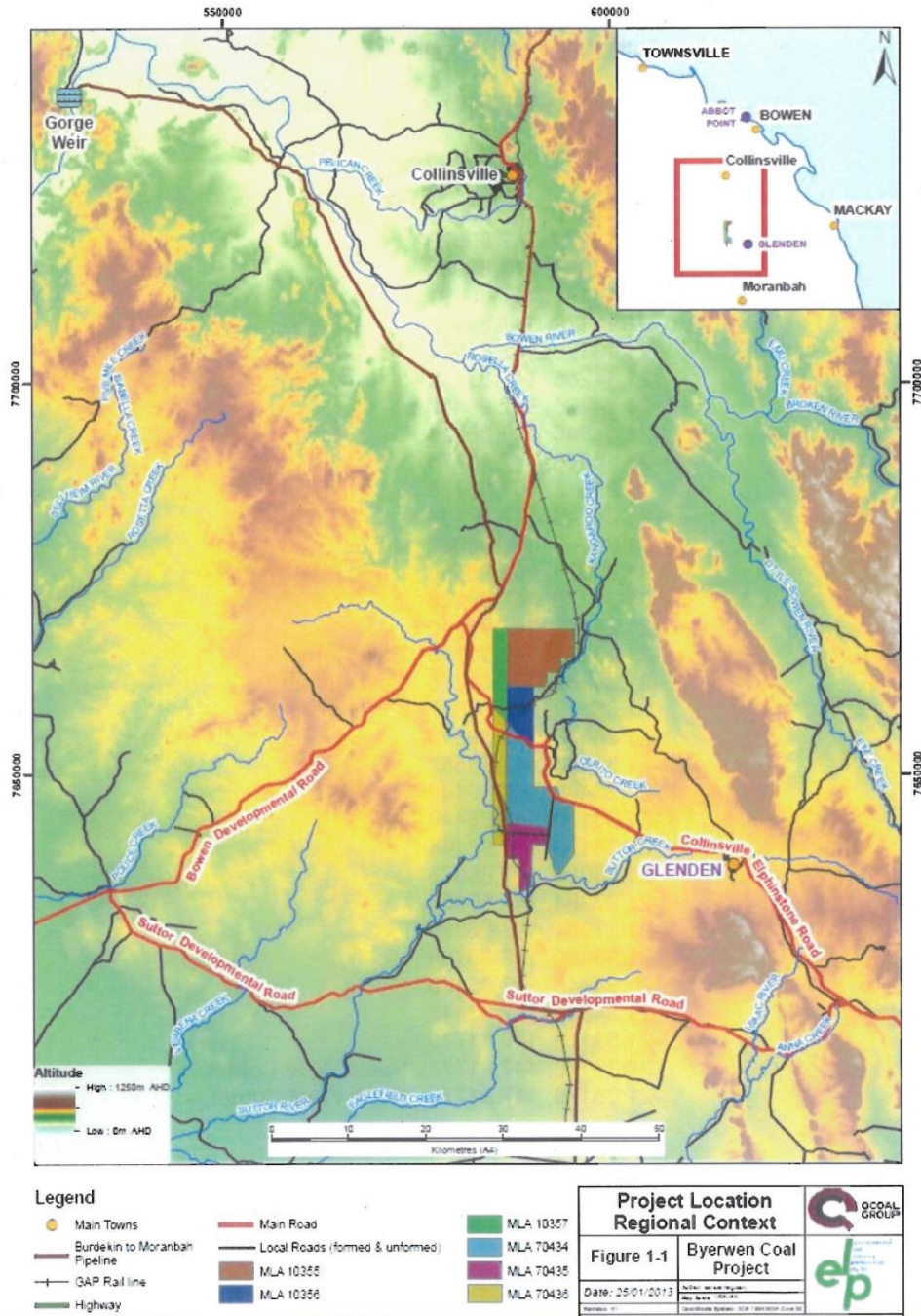
Substantially commenced: the extraction of coal from the **project area** for the purpose of commercial production. Substantially commenced does not include test extraction or extraction of coal samples for quality assurance prior to commercial production.

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

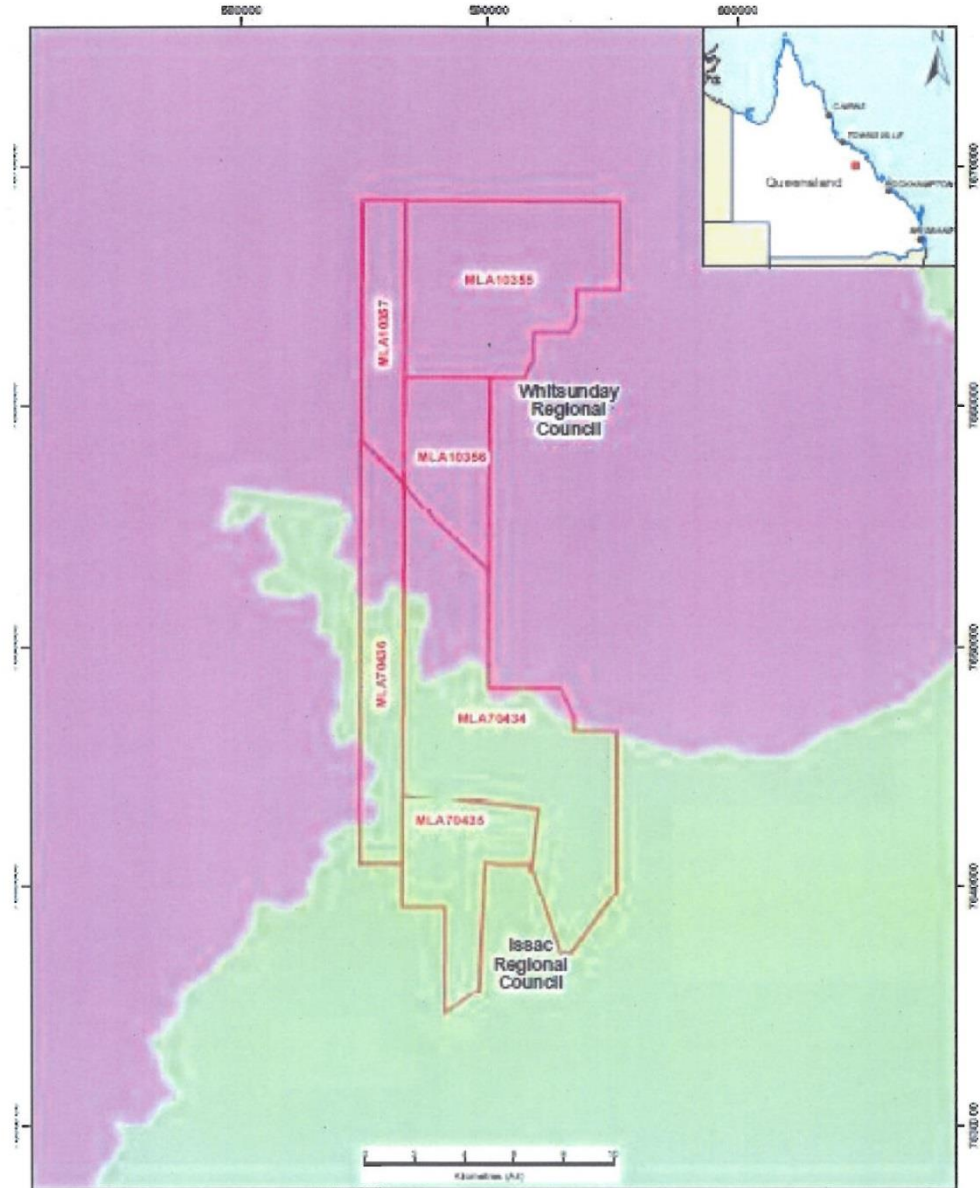


Latitude and Longitude of Mining Leases

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		
Prepared by: [Name] Checked by: [Name] Approved by: [Name]		

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Appendix B Variation Approval, 2 April 2020



Australian Government
Department of Agriculture, Water and the Environment

**VARIATION OF CONDITIONS ATTACHED TO APPROVAL
Byerwen Coal Project, 20 kilometres west of Glenden, Queensland
(2010/5778)**

This decision to vary conditions of approval is made under section 143 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Approved action

Person to whom the approval is granted Byerwen Coal Pty Limited
ACN: 133 357 632

Approved 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].

Variation

Variation of conditions attached to approval The variation is:

Delete conditions 1 and 3 attached to the approval and substitute with the conditions specified in the table below

Delete the definition of **Project Area** attached to the approval and substitute with the definitions specified in the table below

Delete Attachments A1 and A2 attached to the approval and substitute with the attachments specified in the table below

Date of effect This variation has effect on the date the instrument is signed

Person authorised to make decision

Name and position Greg Manning
Assistant Secretary
Assessments (WA, SA, NT), Post Approvals and Policy Branch

Signature



Date of decision 2 April 2020

Date of decision	Conditions attached to approval
As varied on the date this instrument was signed	1. The project area is the area designated at Attachments A1 and A2 comprising the following seven mining lease applications (MLA) 10355, 10356, 10357, 70434, 70435, 70436, 700058.
Original dated 02/10/2014	2. For the purposes of the action, approval holder must not clear outside the project area .
As varied on the date this instrument was signed	3. The approval holder must not clear more than: <ul style="list-style-type: none"> a) 704 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
Original dated 02/10/2014	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: <ul style="list-style-type: none"> 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.
Original dated 02/10/2014	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 <i>Brigalow (Acacia harpophylla</i> dominant and co-dominant, <i>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)</i> and the Squatter pigeon (southern) (<i>Geophaps scripta scripta</i>), will be managed. The approved BOMP must be implemented.
Original dated 02/10/2014	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.

Date of decision	Conditions attached to approval
Original dated 02/10/2014	<p>7. The BOMP must include, but is not limited to:</p> <ul style="list-style-type: none"> 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 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: <ul style="list-style-type: none"> 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).
Original dated 02/10/2014	<p>8. The BOMP must be updated, within a time frame 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>

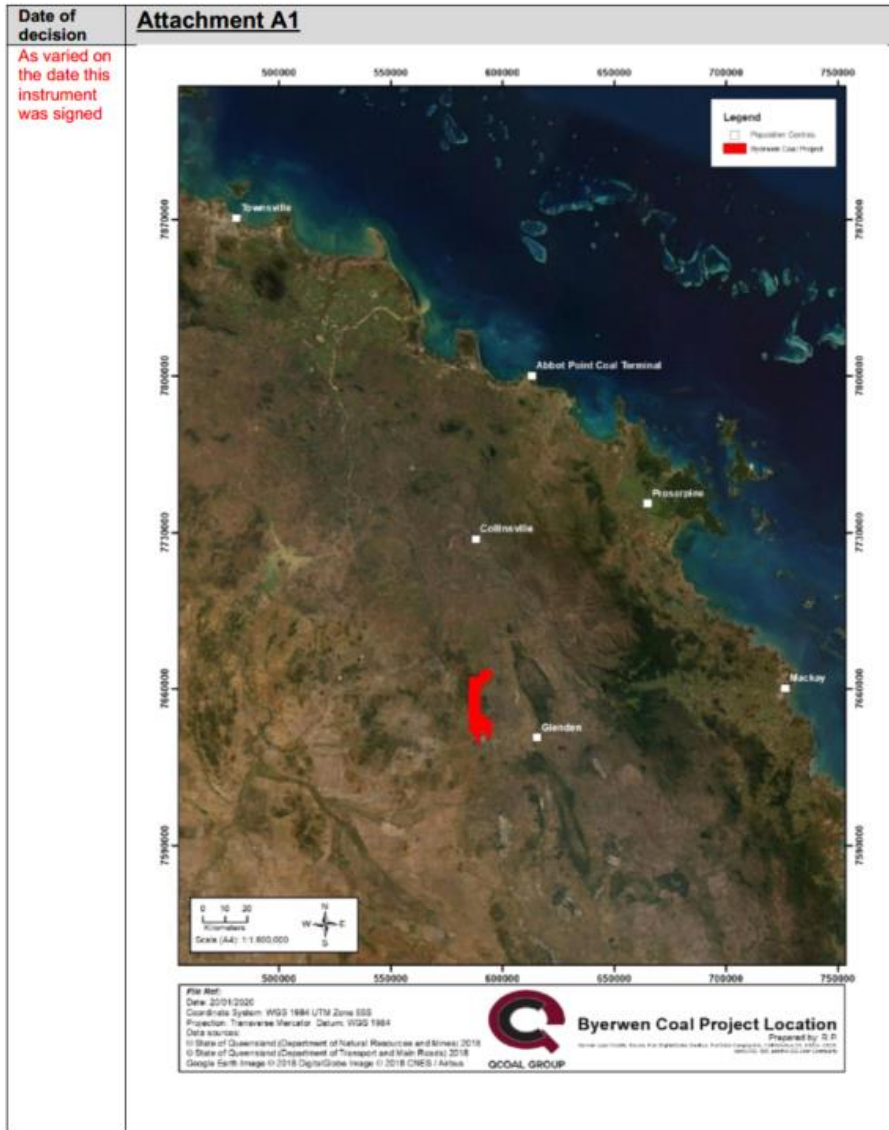
Date of decision	Conditions attached to approval
Original dated 02/10/2014	<p>9. The approval holder must, within two years of the commencement of construction (or as required under relevant Queensland legislation), register a legally binding conservation mechanism to provide long-term protection to the offset area/s approved by the Minister in the BOMP.</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 relevant matters under the conditions of this approval are clearly and adequately addressed.</p>
Original dated 02/10/2014	<p>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.</p>
Original dated 02/10/2014	<p>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.</p>
Original dated 02/10/2014	<p>12. The GMMP must include, but is not limited to:</p> <ul style="list-style-type: none"> 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 <i>National Water Commission Groundwater Modelling Guidelines</i> 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.

Date of decision	Conditions attached to approval
	<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>
Original dated 02/10/2014	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.
Original dated 02/10/2014	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 .
Original dated 02/10/2014	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 published through the general media.
Original dated 02/10/2014	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.
Original dated 02/10/2014	17. 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 unless otherwise stated. All contraventions must be included in the compliance reports.

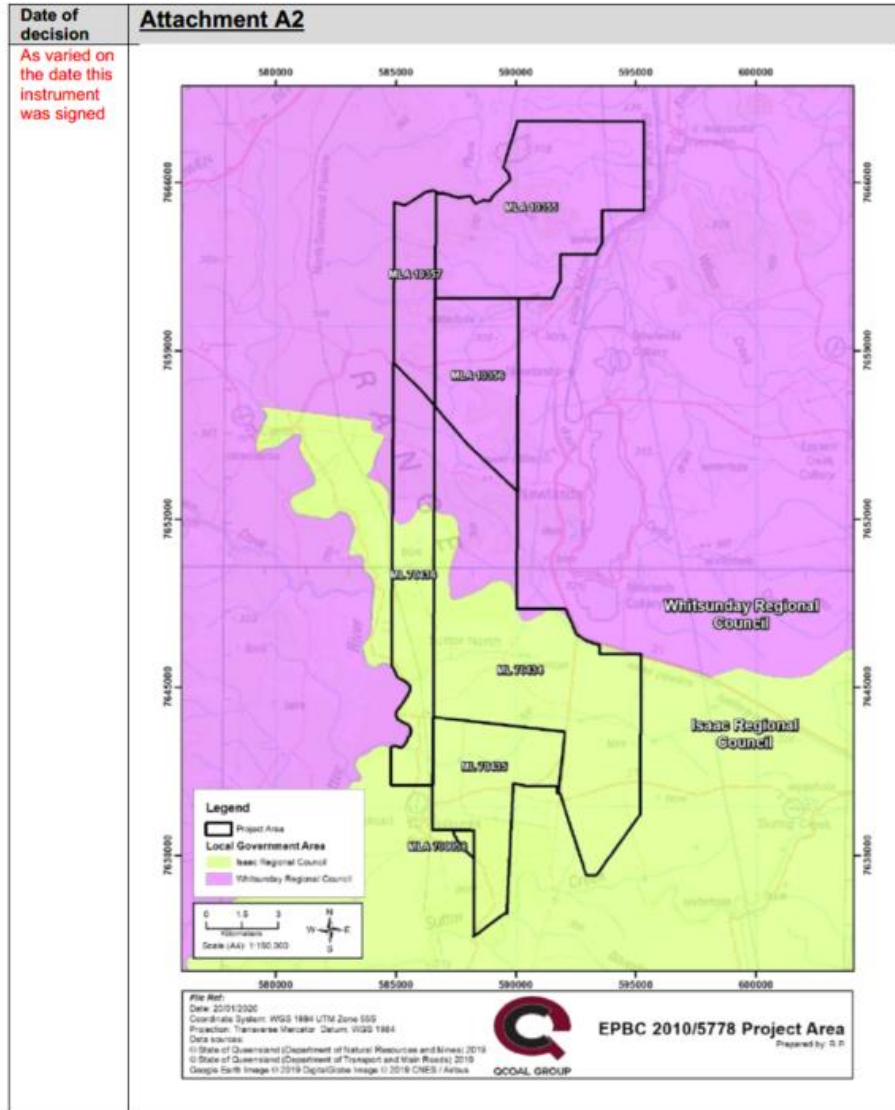
Date of decision	Conditions attached to approval
Original dated 02/10/2014	18. Upon the direction of the Minister , the approval holder must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister . The independent auditor must 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 .
Original dated 02/10/2014	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.
Original dated 02/10/2014	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.
Original dated 02/10/2014	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 .
Original dated 02/10/2014	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.

Date of decision	Definitions attached to approval
Original dated 02/10/2014	Approval holder: person to whom the approval is granted.
Original dated 02/10/2014	Business days: measured in Queensland in relation to the doing of any action, any day other than a Saturday, Sunday or public holiday.
Original dated 02/10/2014	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.
Original dated 02/10/2014	Department: the Australian Government Department administering the EPBC Act.
Original dated 02/10/2014	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.
Original dated 02/10/2014	EPBC Act: the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth).
Original dated 02/10/2014	EPBC Act Environmental Offsets Policy: the <i>EPBC Act Environmental Offsets Policy (October 2012)</i> .
Original dated 02/10/2014	EPBC Act listed species and/or community/ies: threatened species or ecological communities listed under the EPBC Act.
Original dated 02/10/2014	EPBC Act Significant Impact Guidelines: the Matters of National Environmental Significance, Significant Impact Guidelines 1.1, <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
Original dated 02/10/2014	Minister: the Minister administering the EPBC Act and includes a delegate of the Minister.
As varied on the date this instrument was signed	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 seven mining lease applications (MLA) 10355, 10356, 10357, 70434, 70435, 70436 and 700058 held by Byerwen Coal Pty Limited.
Original dated 02/10/2014	Queensland Environmental Authority: the Environmental Authority (Mining Lease) issued by the Queensland Government under the <i>State Development and Public Works Organisation Act 1971</i> for Byerwen Coal Pty Limited.

Original dated 02/10/2014	<p>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.</p>
Original dated 02/10/2014	<p>Survey Guidelines</p> <p>Survey guidelines for Australia's threatened birds, Guidelines for detecting birds listed as threatened under the <i>Environment Protection and Biodiversity Conservation Act 1999</i></p> <p>Survey guidelines for Australia's threatened reptiles, Guidelines for detecting reptiles listed as threatened under the <i>Environment Protection and Biodiversity Conservation Act 1999</i></p>



Date of decision	Attachment A1					
	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Comment	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Comment
	-21.388601	147.851088	Southwest corner	-21.108795	147.830188	
	-21.359156	147.851085		-21.108090	147.833392	
	-21.355272	147.846756		-21.109157	147.835636	
	-21.354158	147.845697		-21.109057	147.837569	
	-21.352973	147.844716		-21.110742	147.843496	
	-21.351695	147.843871		-21.110096	147.848285	
	-21.350993	147.843609		-21.112987	147.850296	
	-21.350307	147.843277		-21.111630	147.853677	
	-21.348877	147.842806		-21.111912	147.856175	
	-21.348460	147.842722		-21.110048	147.857178	
	-21.348460	147.834419		-21.103961	147.864096	
	-21.331793	147.834419		-21.101276	147.863609	
	-21.331793	147.817752	West Corner	-21.099398	147.861375	
	-21.317455	147.817752		-21.081795	147.867060	
	-21.317001	147.818689		-21.081795	147.917749	Northeast corner
	-21.317017	147.819362		-21.115128	147.917749	East Corner
	-21.317347	147.820216		-21.115128	147.901083	
	-21.317712	147.821467		-21.127566	147.901083	
	-21.317373	147.822396		-21.129740	147.899763	
	-21.316385	147.823163		-21.130637	147.899383	
	-21.315514	147.823894		-21.131471	147.898911	
	-21.314772	147.824347		-21.131794	147.898812	
	-21.314093	147.824201		-21.131794	147.884416	
	-21.313112	147.825109		-21.142666	147.884418	
	-21.312012	147.825552		-21.142779	147.884102	
	-21.310873	147.825684		-21.148461	147.881216	
	-21.309739	147.825088		-21.148461	147.867750	
	-21.308832	147.824355		-21.265116	147.867753	
	-21.308318	147.823000		-21.265127	147.887579	
	-21.307773	147.821471		-21.272210	147.890730	
	-21.306934	147.820183		-21.274007	147.891486	
	-21.305409	147.819585		-21.274880	147.891929	
	-21.304540	147.819659		-21.275025	147.892534	
	-21.303982	147.819783		-21.275227	147.892817	
	-21.303004	147.820465		-21.275100	147.892696	
	-21.301759	147.821621		-21.275832	147.893535	
	-21.300051	147.822881		-21.276405	147.894346	
	-21.298096	147.824103		-21.276771	147.894975	
	-21.296306	147.825045		-21.277264	147.896046	
	-21.295364	147.825251		-21.277615	147.897097	
	-21.294654	147.825177		-21.278698	147.901085	
	-21.293798	147.824520		-21.281783	147.901085	
	-21.292566	147.822892		-21.281783	147.917752	East Corner
	-21.292027	147.821483		-21.342317	147.917752	
	-21.291597	147.820679		-21.365116	147.900393	Southeast Corner
	-21.291195	147.820091		-21.365116	147.896185	
	-21.290504	147.819656		-21.334637	147.885579	
	-21.289378	147.819248		-21.334404	147.884418	
	-21.288195	147.818656		-21.331794	147.884418	
	-21.287273	147.817972		-21.331794	147.871435	
	-21.286944	147.817752		-21.330852	147.866753	
	-21.112548	147.817826	Northwest corner	-21.379690	147.864561	
	-21.113760	147.822086		-21.379837	147.863592	



Appendix C Wollombi Offsets Annual Monitoring Report

Wollombi Station: Offset Implementation Monitoring Report 2023



earthtrade

Date: 25 July 2023

Prepared for: Byerwen Coal Pty Ltd

Our Reference: QMR109:20232511A

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DOCUMENT CONTROL

Version No.	Date	Revision details	Prepared by	Approved by
20232511V1	25.07.2023	First Draft	Thomas Key	Alan Key
20232511A	25.07.2023	Issued to Client	Thomas Key	Alan Key

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This report should be cited as: *Wollombi Station: Offset Implementation Monitoring Report 2023*

ACKNOWLEDGEMENTS:

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

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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**) (now the Department of Agriculture, Water and the Environment (**DAWE**)). 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 maculata*) and squatter pigeon (southern) (*Geophaps scripta scripta*).

The Byerwen project has undergone 2 expansions since the opening of the mine. Management plans for the offsets for each stage of the project are detailed as:

- The original footprint is addressed in the *Byerwen Coal Project: Offset Delivery Plan EPBC201015778*, 23 December 2016, Version Number 20151937B6
- *Extended Waste Rock Dump – Offset Area Management Plan Wollombi Station* (Byerwen Coal Pty Ltd, October 2018) (OAMP);
- Stage 2 – *QCoal Byerwen Coal Mine Stage 2 EPBC 2010/5778 Biodiversity Offset Management Plan, Version 'Final'*, dated 4 February 2020
- Stage 2a – *Byerwen Coal Mine Stage 2a Biodiversity Offset Management Plan, version 1*, dated 30 March 2020.

The offsets to satisfy the obligation for the projects 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 respective Offset Area Management Plans (**OAMPs**) listed above.

This document forms the photopoint and landholder records report, as per the reporting schedule detailed in the OAMPs, and reports on the progress against the management outcomes and actions described in those sections of the OAMPs.

An annual inspection of the offset area for monitoring and reporting purposes was undertaken on 22 June 2023 by Alan Key and Thomas Key of Earthtrade.

At the time of the inspection, the offset was found to be **compliant** with the OAMPs.

No physical sightings of feral pigs occurred during the inspection. There was limited evidence of the presence of pigs in the form of tracks and scat in some areas, but in far less frequency than last year. The buffel grass across the offset area is very high and dense. The buffel grass is an emerging risk or threat that is over and above those identified in the management plan, and requires the implementation of the actions detailed against them for mitigation purposes.

Recommendations:

- That a large mob of cattle be grazed across all offset areas over winter to reduce the buffel grass cover and the fuel load.
- That restricted cool burning strategies be investigated in remnant areas following grazing.

1 Offset management activities report

In accordance with the OAMP, management actions have been undertaken in the offset area. *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 2*. *Table 3* shows the schedule of management actions for the additional offset area for squatter pigeon. *Section 1.1* to *Section 1.8* 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*.

Figure 1: Locality map

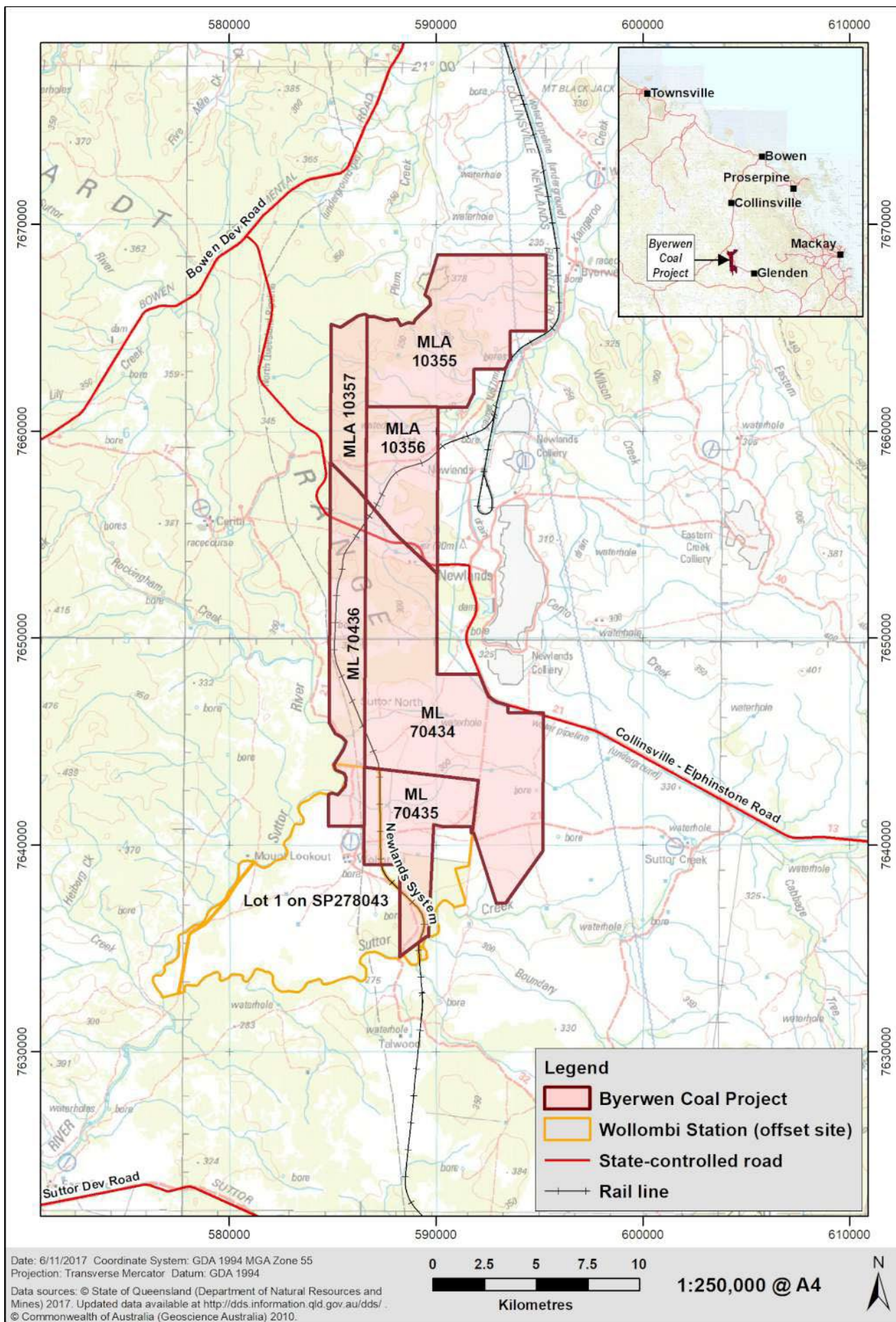


Table 1: Summary timetable of management actions

See Appendix B

1.1 Vegetation clearing/illegal forestry or timber harvesting

No vegetation clearing has been undertaken at the offset area and no illegal forestry activities or timber harvesting have been observed at the offset area for the entire period covered by this report.

1.2 Access and signage

Access to all offset area is restricted as they are located within fenced areas on the property. Restricted access signage is in good condition.

1.3 Fire management

There is no evidence of fire in the offset areas. It is recommended that a restricted cool burn program be investigated in the poplar box area and in the alluvial country after grazing.

1.4 Fencing management

All fencing was in a good and stockproof condition at the time of inspection on 22 June 2023.

1.5 Extreme weather events

No extreme weather events were recorded over the period covered by this report. There was good rainfall during the summer months.

1.6 Grazing

No cattle were observed during the inspection of the property. Furthermore, little evidence of grazing was noted with grass in excess of 1.5 metres in height in some areas. Dry matter yield was in excess of 4,000kg/hectare in some areas indicating a larger density of cattle for a short period of time may be necessary.

1.7 Pest animal management

No evidence of pigs was observed throughout the inspection. A single cat was noticed during the inspection.

1.8 Pest plant management

No significant populations of weeds were observed across the offset areas. Parthenium die-off was noted during the traversal of brigalow regrowth areas.

Table 2: Schedule of management actions for the offset area

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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
<p>Forestry operations, native timber harvesting and general vegetation impacts</p> <p>Consistent with the risk of clearing as identified in the <i>Brigalow Conservation Advice and Draft Recovery Plan, Conservation Advice for Reptiles of the Brigalow Belt and Conservation Advice for the Squatter Pigeon (Southern)</i>.</p>	<p>1. Vegetation clearing on the offset area is restricted to:</p> <ol style="list-style-type: none"> that necessary for the removal of non-native weeds or declared pests ensure public safety maintenance of existing roads, fence lines, water pipelines and firebreaks; and that necessary to establish and maintain access to BioCondition assessment and photo point monitoring sites. <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> 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>Note:</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 document vegetation clearing that has occurred for an approved purpose.</p> <p>Additional monitoring required as a corrective action/s.</p>	<p>Trigger for corrective action: detection of prohibited forestry operations, native timber harvesting and general vegetation impacts.</p> <p>Corrective action: 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>Reporting: 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.</p>	<p>There is no evidence of any tree removal in the offset area.</p> <p>Compliant</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
	<p>Any vegetation clearing must be undertaken in accordance with:</p> <ul style="list-style-type: none"> • best practice management methods; and • 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> <p>Under the <i>Vegetation Management Act 1999</i>, clearing in Least Concern 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>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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
	Additional management action/s required as a corrective action/s to prevent prohibited clearing.						
<p>Access and signage</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 (Qld)</i>.</p> <p>Consistent with the risk of weed incursion as identified in the <i>Brigalow Conservation Advice and Draft Recovery Plan, Conservation Advice for Reptiles of the Brigalow Belt</i>.</p>	<p>1. Installation of signage along the offset area perimeter to alert traffic of the offset area.</p> <p>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, 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>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>	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.	<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 unauthorised access to the offset area.</p> <p>Quarterly inspections will monitor and document if signage is fit for purpose.</p>	<p>Trigger for corrective action: detection of prohibited access by unauthorised persons.</p> <p>Corrective action: upon being notified or becoming aware of prohibited access to the offset area, the Landholder is to reassess access protocols for any lessees etc., signage and general access within one fortnight.</p> <p>Trigger for corrective action: signage is not fit for purpose.</p> <p>Corrective action: signage will be repaired and maintained as required by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder.</p>	<i>Compliant</i>

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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
						<p>Reporting: 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>Fire</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 >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>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). Fire control lines must be inspected</p>	<p>Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder. The undertaking of an ecological burn will be by a suitably qualified person in consultation</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. Quarterly inspections will monitor and document if there is evidence of wild fire, prohibited burning or force majeure events. Quarterly inspections will monitor and document if a</p>	<p>Trigger for corrective action: destruction of regrowth, fallen timber and the occurrence of deliberately lit hot fires.</p> <p>Corrective action: 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</p>	<p>No evidence of fires in offset area.</p> <p><i>Compliant</i></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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
	<p>Note: Fire is not to be used as a tool for regrowth management on the offset areas.</p>		<p>quarterly. Maintenance must be undertaken as required and at least biennially (i.e. once every two years). If fire is used, it must be a low intensity fire at >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>with an ecologist.</p>	<p>prescribed low intensity ecological burn has occurred.</p>	<p>and general access within one fortnight.</p> <p>Corrective action: 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"> 1. inspect and repair, and widen if necessary, all firebreaks; and 2. reassess fuel load reduction practices; and 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"> ○ Brigalow communities 60% grass cover or 1500 kg/ha pasture biomass ○ Eucalypt communities 60% grass 	

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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
						<p>cover or 1500 kg/ha pasture biomass.</p> <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)¹ at <i>Attachment 2</i> of this document, or any subsequent published version of this document.</p> <p>Trigger for corrective action: low intensity ecological burn exceeds 30% of the offset area. Corrective action: measures to contain the fire are to be implemented immediately. Controlled back</p>	

¹ *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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
						burning from the next fire control line is the preferred method. Reporting: 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	
Fencing Consistent with the risk of excess fire as identified in the <i>Brigalow Conservation Advice and Draft Recovery Plan</i> , and overgrazing as identified in the <i>Conservation Advice for Reptiles of the Brigalow Belt</i> and <i>Conservation Advice for the Squatter Pigeon (Southern)</i> .	Install and routinely inspect fencing to secure the offset area and prevent unauthorised access.	All external boundaries of the offset area. Where the boundary coincides with the property boundary, the fence may align with the property boundary. 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. If stock are grazing the offset area, fencing must be inspected monthly. During non-grazing periods, fencing must	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 least four times annually. Quarterly inspections will identify if fences are preventing stock and unauthorised people from accessing the offset area.	Trigger for corrective action: detection of prohibited access, stock grazing outside of allowed times and thresholds, overgrazing. Corrective action: 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.	All offset areas were securely fenced, and fences were in good condition at the time of the inspection. <i>Compliant</i>

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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
			be inspected quarterly.			<p>Corrective action: 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 the installation of new fencing.</p> <p>Reporting: 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>	
Following extreme weather conditions of drought, flood or cyclone	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	As soon as safely possible post a flood or cyclone event. For a drought event,	Pastoral Manager, Landholder or suitable qualified person	Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified	Trigger for corrective action: extreme weather conditions of flood or cyclone	No trigger events during this reporting period. <i>Compliant</i>

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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
Consistent with the general risks as identified in the <i>Brigalow Conservation Advice and Draft Recovery Plan, Conservation Advice for Reptiles of the Brigalow Belt</i> and <i>Conservation Advice for the Squatter Pigeon (Southern)</i> .		boundary fencing.	inspections must be monthly.	appointed by the Landholder.	<p>person appointed by the Landholder within one week of the cessation of an extreme event on Wollombi Station. 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>Corrective action: upon being notified 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>Trigger for corrective action: extreme weather conditions of drought</p> <p>Corrective action: 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>Reporting: the Offset Area Report will document the repair of fences and removal of stock from offset areas, as a result of extreme weather conditions, during the reporting</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
						period. The report will document how this management action is performing and contributing to the enhancement of the offset area.	
<p>Grazing</p> <p>Consistent with the risk of excess fire as identified in the <i>Brigalow Conservation Advice and Draft Recovery Plan</i>, and overgrazing/habitat destruction as identified in the <i>Conservation Advice for Reptiles of the Brigalow Belt</i> and habitat destruction and food competition in the <i>Conservation Advice for the Squatter Pigeon (Southern)</i>.</p>	<p>Stocking rates are not fixed as this region is subject to significant changes in grass cover with seasonal conditions. 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>Fire and grazing management relating to the Ornamental Snake offset area:</p> <p>A fire in the offset area is foreseen under one of two scenarios:</p> <ol style="list-style-type: none"> a natural event beyond the control of the approval holder or the landholder <ul style="list-style-type: none"> the establishment of fire control lines (i.e. firebreaks) will assist in mitigating the risk 	<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. The dry season is normally between April and October; 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>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. Monthly inspections will record the minimum grass cover, pasture biomass and security (i.e. fences) of the offset area. Monthly inspections will record the evidence of "pugging" in stream order one gullies.</p>	<p>Trigger for corrective action: detection of stock grazing outside of the dry season</p> <p>Corrective action: 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 fencing within one fortnight. The Pastoral Manager is to undertake fence maintenance and repairs to resecure the offset area within one fortnight.</p> <p>Trigger for corrective action: in non-remnant areas grass cover is less than 60% or pasture biomass is less than</p>	<p>Grazing evidence was little to none across the offset area. Dry matter yields were between 2,300kg/ha to 4,000kg/ha. More grazing will be needed to reduce fuel load to levels around 1,800kg/ha</p> <p>Compliant</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
	<p>posed by such natural events</p> <p>2. 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).</p> <p>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>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</p>					<p>1,500 kg/ha. (Non-remnant and remnant areas are identified in the most recent ecological condition survey.)</p> <p>Corrective action: 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 1,500 kg/ha.</p> <p>Trigger for corrective action: in remnant Brigalow communities grass cover is less than</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
	<p>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>.</p> <p>At the time of the ecological survey, stock grazing in the offset area was 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</p>					<p>20%. (Non-remnant and remnant areas are identified in the most recent ecological condition survey.)</p> <p>Corrective action: upon being notified or becoming aware of exceedance of 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>Trigger for corrective action: in remnant Eucalypt communities grass cover is less than 35% or pasture</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
	<p>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 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</p>					<p>biomass is less than 1,500 kg/ha. (Non-remnant and remnant areas are identified in the most recent ecological condition survey.)</p> <p>Corrective action: 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 1,500 kg/ha.</p> <p>Trigger for corrective action: stock grazing occurs in 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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
	season under offset area management.					<p>during the dry season and pasture biomass is less than 1,500 kg/ha at the end of the dry season.</p> <p>Corrective action: upon being notified or becoming aware of the pasture biomass being less than 1,500 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>Trigger for corrective action: detection of stock grazing causing pugging in stream order one gullies or significant adverse impacts to low-lying offset areas.</p> <p>Corrective action: upon being notified or becoming aware of stock causing</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
						<p>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>Reporting: 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>	
<p>Pest animals</p> <p>Consistent with the risk of habitat damage and predation identified in the <i>Conservation Advice for Reptiles of the Brigalow Belt</i> and</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 <i>Land Protection (Pest and Stock Route Management) Act 2002</i> (Qld).</p>	<p>All offset areas.</p>	<p>Preferably in the winter and spring months to minimise impacts to the Squatter Pigeon (southern) during breeding and nesting.</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>Trigger for corrective action: detection of twelve or more half grown and/or mature wild pigs, deer or dogs during a quarterly inspection.</p> <p>Corrective action: upon being notified or</p>	<p>No evidence of pigs was noted during the inspection. A single cat was noticed during the inspection. No other pest animals were noted. No other evidence 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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
<i>Conservation Advice for the Squatter Pigeon (Southern).</i>	<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 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>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). 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>Quarterly inspections will record the presence of wallow holes, tracks and visual incidents in the offset area.</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>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 animal presence and an integrated control program may be developed.</p> <p>Reporting: 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>pest animals was noted.</p> <p>Compliant</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
<p>Pest plants (i.e. weeds) Consistent with the risk of excess fire from excessive weed cover as identified in the <i>Brigalow Conservation Advice and Draft Recovery Plan</i>, and and competition food sources and inappropriate habitat as per the <i>Conservation Advice for the Squatter Pigeon (Southern)</i></p>	<p>Keep the introduction, establishment and spread of non-native weeds including Declared Pest Plants listed under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> (Qld) to less than 10% weed cover in the offset area. Control existing infestations of non-native weeds including declared pest plants under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> (Qld) to ensure that the non-native weeds cover less than 10% of the offset area (e.g., parthenium). 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 the <i>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</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 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.	<ul style="list-style-type: none"> 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. 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. Quarterly inspections will be conducted by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder to record the minimum grass cover in the offset area. The following grass cover</p>	<p>Trigger for corrective action: pest plants occur in greater than 10% of the offset area</p> <p>Corrective action: upon being notified or becoming aware of pest plants being present in greater 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"> foliar spraying; basal bark spraying; stem injection; cut stump; cut and swab; stem scraper; and wick applicators. <p>Reporting: the Offset Area Report will document the weed</p>	<p>No significant populations of weeds were observed across the offset area. There was evidence of parthenium die-off observed within the brigalow regrowth areas at the time of the inspection.</p> <p>Compliant</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
	<p>increasing tree canopy cover. Spot spraying of patches of parthenium is permitted.</p>				<p>is to be present at the end of the dry season as a minimum:</p> <ul style="list-style-type: none"> ○ Brigalow communities 60% groundcover or 1,500kg/ha pasture biomass <p>Eucalypt Communities 60% groundcover or 850kg/ha pasture biomass.</p>	<p>presence and 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 3: Schedule of management actions for the additional 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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
<p>Forestry operations, native timber harvesting and general vegetation impacts</p> <p>Consistent with the risk of clearing as identified in the <i>Conservation Advice for the Squatter Pigeon (Southern)</i>. 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 monitoring and reporting.</p>	<p>1. Native forest practice (harvesting of timber for forestry purposes) is <u>not</u> allowed under this Offset Area Management Plan.</p> <p>2. Clearing for new fencing will be on the outside of the offset area boundary or along the property boundary.</p> <p>Note: Any vegetation clearing must be undertaken in accordance with:</p> <ul style="list-style-type: none"> • best practice management methods; and • 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> <p>Additional management action/s required as a corrective action/s to prevent prohibited clearing.</p>	<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. Quarterly inspections will monitor and document if there is evidence of recent forestry or timber harvesting activities. Quarterly inspections will monitor and document vegetation clearing that has occurred for an approved purpose. Additional monitoring required as a corrective action/s.</p>	<p>Trigger for corrective action: detection of prohibited forestry operations, native timber harvesting and general vegetation impacts.</p> <p>Corrective action: 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>Reporting: 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</p>	<p>There is no evidence of any timber harvesting, or vegetation removal in the offset area.</p> <p>Compliant</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
						action is performing and contributing to the enhancement of the offset area.	
<p>Access and signage Note that entry to the offset area can only be gained via the mining lease, which has access restrictions in place under the Mineral Resources Act 1989 (Qld).</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>	<ol style="list-style-type: none"> 1. Installation of signage along the offset area perimeter to alert traffic of the offset area. 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, 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>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>	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	<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 unauthorised access to the offset area.</p> <p>Quarterly inspections will monitor and document if signage is fit for purpose.</p>	<p>Trigger for corrective action: detection of prohibited access by unauthorised persons.</p> <p>Corrective action: upon being notified 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. Damage to signage will be repaired within one fortnight of noting the damage. Access protocols will be reviewed and amended if necessary and the impacted area's regeneration monitored during the quarterly inspections.</p> <p>Trigger for corrective action: signage is not fit for purpose.</p> <p>Corrective action: signage will be repaired</p>	<p>Signage was visible and fencing secure at the time of the annual inspection.</p> <p style="text-align: center;">Compliant</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
						and maintained as required by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder. Reporting: 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	
Fire Consistent with the risk of inappropriate fire regimes as identified in the <i>Conservation Advice for the Squatter Pigeon (Southern)</i> .	Fire is to be excluded from the offset area except for low intensity ecological burns at the end of the wet season by: a) maintaining firebreaks relative to the offset areas; b) using a low intensity fire >7 years interval; and c) firebreaks are to be co-located with roads and fence lines on the property where possible.	May be undertaken throughout the offset areas.	All fire (apart from force majeure events) will be excluded from the offset area during Squatter pigeon (southern) breeding and nesting	Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder . The undertaking of an	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. Quarterly inspections will monitor and document if there is evidence of wildfire,	Trigger for corrective action: destruction of regrowth, fallen timber and the occurrence of deliberately lit hot fires Corrective action: upon being notified or becoming aware of a prohibited fire in the offset area, Byerwen Coal is to reassess and implement new access	No evidence of fires in offset area. <i>Compliant</i>

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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
	<p>Note: Fire is not to be used as a tool for regrowth management on the offset areas. A fire in the offset area is foreseen under one of two scenarios:</p> <ol style="list-style-type: none"> a natural event beyond the control of the approval holder or the landholder <ul style="list-style-type: none"> the establishment of fire control lines (i.e. firebreaks) will assist in mitigating the risk posed by such natural events a low intensity ecological burn permitted by the Pastoral Manager, Landholder or suitably qualified person appointed by the Landholder <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)</p>		<p>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). If fire is used, it must be a low intensity fire at >7 years interval immediately after the end of the wet season, which is generally March to April. Ecological</p>	<p>ecological burn will be by a suitably qualified person in consultation with an ecologist.</p>	<p>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. Quarterly inspections will monitor and document if a prescribed low intensity ecological burn has occurred. 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 <5%. 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, 2010) (DERM)² provided as <i>Attachment 2</i> of the</p>	<p>protocols for any lessees etc., signage and general access within one fortnight.</p> <p>Corrective action: 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"> inspect and repair, and widen if necessary, all firebreaks; and reassess fuel load reduction practices; and exclude grazing until the ground cover present at the end of the dry season of that year is at a minimum of 60%: <p>Trigger for corrective action: low intensity ecological burn exceeds 30% of the offset area.</p>	

² *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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
	breeding and nesting times (i.e. the dry season). Consequently, the opportunity to conduct low intensity ecological burns will be very infrequent.		burns should not cover more than 30% of the offset area. If a Force Majeure fire occurs within the offset areas, controlled burning is not to be undertaken for at least 7 years after.		OAMP, or any subsequent published version of this document.	<p>Corrective action: 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>Reporting: 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>	
<p>Fencing The proponent commits to installing fencing to protect the offset area. A fencing plan has been provided in Figure 5 of the OAMP as provided at Schedule 1. Consistent with the risk of excess grazing as identified in the</p>	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.	<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</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 identify if fences are preventing stock and unauthorised people</p>	<p>Trigger for corrective action: detection of prohibited access, stock grazing outside of allowed times and thresholds, overgrazing. Damage to fencing that could allow unauthorised access to people or livestock.</p> <p>Corrective action: upon being notified or becoming aware of</p>	<p>All offset areas were securely fenced, and fences were in good condition at the time of the inspection.</p> <p><i>Compliant</i></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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
<p><i>Conservation Advice for the Squatter Pigeon (Southern).</i></p>			<p>offset area or adjacent areas, fencing must be inspected monthly. During non-grazing periods, fencing must be inspected quarterly.</p>		<p>from accessing the offset area. 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>prohibited access to the offset area, the Landholder is to reassess fencing, signage and general access within one fortnight.</p> <p>Corrective action: 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 the installation of new fencing.</p> <p>Reporting: 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>	

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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
<p>Following extreme weather conditions of drought, flood or cyclone</p> <p>Consistent with the general risks as identified in <i>Conservation Advice for the Squatter Pigeon (Southern)</i>. Drought is defined as the district or property being Drought Declared by the Qld Government.</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.	As soon as safely possible post a flood or cyclone event. For a drought event, inspections must be monthly.	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 within one week of the cessation of an extreme event on Wollombi Station. Within the abovementioned timeframe, fencing will be inspected to determine if the offset area is secure. During drought events, monthly inspections will be conducted to record the vegetation condition in the offset area. 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 <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>Trigger for corrective action: extreme weather conditions of flood or cyclone</p> <p>Corrective action: upon being notified 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. Stock should be excluded following force majeure rain events until soil is sufficiently dry to prevent pugging.</p> <p>Trigger for corrective action: extreme weather conditions of drought</p> <p>Corrective action: 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>No trigger events during this reporting period.</p> <p>Compliant</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
						Reporting: the Offset Area Report will document the 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>Grazing</p> <p>Consistent with the risk of excess grazing as identified in the <i>Conservation Advice for the Squatter Pigeon (Southern)</i>.</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>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</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. Stock are not to be grazed during squatter pigeon breeding season which is between April to August. The dry season is</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 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>Trigger for corrective action: detection of stock grazing outside of the dry season, or during the dry season exclusion period</p> <p>Corrective action: 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 fencing within 10 days. The Pastoral Manager is to undertake fence maintenance and repairs to resecure the</p>	<p>Grazing evidence was little to none across the offset area. Dry matter yields were between 2,300kg/ha to 4,000kg/ha. More grazing will be needed to reduce fuel load to levels around 1,800kg/ha</p> <p>Compliant</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
	<p>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>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>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>offset area within 10 days.</p> <p>Trigger for corrective action: in non-remnant areas ground cover is less than 60%.</p> <p>Corrective action: 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 2B in 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>Trigger for corrective action: stock grazing occurs in the offset area during the dry season and ground cover falling below 60%.</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
						<p>Corrective action: 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 included in the Offset Area Report.</p> <p>Trigger for corrective action: 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>Corrective action: 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</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
						<p>offset area within 72 hours.</p> <p>Corrective action: 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>Reporting: 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>	
<p>Pest animals</p> <p>Consistent with the risk of habitat damage and predation identified in the <i>Conservation</i></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 <i>Land Protection (Pest</i></p>	<p>All offset areas.</p>	<p>Preferably in the winter and spring months to minimise impacts to the Squatter Pigeon</p>	<p>Pastoral Manager, Landholder or suitable qualified person appointed by the</p>	<p>Monitoring of this management action will be undertaken by the Pastoral Manager, Landholder or suitable qualified person appointed by the</p>	<p>Trigger for corrective action: detection of twelve or more half grown and/or mature wild pigs, deer or dogs during a quarterly inspection.</p>	<p>No evidence of pigs was noted during the inspection. A single cat was noticed during the inspection. No other pest animals</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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
<i>Advice for the Squatter Pigeon (Southern).</i>	<p><i>and Stock Route Management) Act 2002 (Qld).</i> 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 be instigated until the increased activity has ceased. 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>		(southern) during breeding and nesting. 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). 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.	Landholder	Landholder at least four times annually. 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 photographed and rechecked at the next quarterly inspection. 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>Corrective action: 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>Reporting: 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>were noted. No other evidence of pest animals was noted.</p> <p><i>Compliant</i></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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
<p>Pest plants (i.e. weeds) 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 <i>Land Protection (Pest and Stock Route Management) Act 2002</i> (Qld) to less than 10% weed cover in the offset area. Control existing infestations of non-native weeds including declared pest plants under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> (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 the <i>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>	Throughout the offset area	Weed control will be undertaken as early as practicable within the natural regeneration process throughout the offset 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.	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 least four times annually. 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. 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. Quarterly inspections will be conducted by the Pastoral Manager, Landholder or suitable qualified person appointed by the Landholder to record	<p>Trigger for corrective action: pest plants occur in greater than 10% of the offset area Corrective action: upon being notified or becoming aware of pest plants being present in greater than 5% 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"> • foliar spraying; • basal bark spraying; • stem injection; • cut stump; • cut and swab; • stem scraper; and • wick applicators. <p>Reporting: the Offset Area Report will document the weed presence and 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</p>	<p>No significant populations of weeds were observed across the offset area.</p> <p><i>Compliant</i></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 carry out the action	Monitoring scope, frequency and timing	Triggers, corrective actions and performance reporting	Comments/ progress report
	Spot spraying of patches of parthenium is permitted.				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.	enhancement of the offset area.	

2 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 4* and at *Table 5* (the additional offset area for squatter pigeon) 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 4* and *Table 5*. This reporting process will include an evaluation of all data collected during the preceding 5 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 (DAWE) 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 the OAMP then DAWE will be informed as part of normal reporting processes. The report will be submitted to the administering authority.

Table 4: 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	<ul style="list-style-type: none"> • Recruitment of woody perennial species in EDL • 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 	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)*. 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	Sites listed at <i>Table 10</i> of the OAMP.

Monitoring	Attributes monitored	Frequency	Method	Location/s
	<ul style="list-style-type: none"> • Large trees • Coarse woody debris • Non-native plant cover • Non-remnant or remnant status 		comparison to previous years' data and the progression of the offset site condition and EPBC Act Offset Assessment Guide Calculator inputs.	
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	Sites listed at <i>Table 10</i> of the OAMP.
Landholder/Pastoral Manager/authority holder records				
Record keeping commences within three months of the Queensland Government approving the voluntary declaration				
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 animal incursion. The inspection records will serve as the primary data source for the Offset Area Report.	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	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,	Within offset areas
Fire	Occurrence/triggers, corrective actions, timing and result of the control measures	Monitored quarterly and reported annually until, and including, May 2044		
Pest plants	Occurrence/triggers, corrective actions, timing and result of the control measures	Monitored quarterly and reported annually until, and including, May 2044		
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 5: Monitoring schedule for the additional area for squatter pigeon

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 <i>Survey Guidelines for Australia's Threatened Birds. EPBC Act survey guidelines 6.2</i>) 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.
Ecological condition assessment	<ul style="list-style-type: none"> • Recruitment of woody perennial species in EDL • 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 	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)*. 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.
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	Sites listed at <i>Table 10</i> of the OAMP.

Monitoring	Attributes monitored	Frequency	Method	Location/s
Landholder/Pastoral Manager/authority holder records				
Record keeping commences within three months of the Queensland Government approving the voluntary declaration				
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 animal incursion. The inspection records will serve as the primary data source for the Offset Area Report.	Sites listed at <i>Table 10</i> of the OAMP.
Grazing	Stocking rates	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>		
	Grass cover			
	Pasture biomass			
Pugging of the soil by livestock				
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.	Photo points to be undertaken as per the method described in the <i>Land Manager's Monitoring Guide (DERM, 2010)</i> (or any subsequent published version of this document) provided at Attachment 2 of the OAMP,	Within offset areas
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 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		

2.1 Site inspection – general observations

All offset areas appeared to be in a good condition. No evidence of tree death or growing infestation of weeds were noted during the inspection. Natural communities of grasses appeared to be expanding gradually in areas less impacted by buffel colonies. No evidence of pigs was noted during this inspection indicating both company and community efforts to reduce numbers were successful.

It was noted that a substantial body of grass existed across the majority of the area. Little to no evidence of grazing by cattle was noted across the offset. It is recommended that a large mob be utilised during dry months to reduce this body of grass.

2.2 Site inspection – photopoint monitoring

In accordance with the schedule of offset area monitoring as detailed in the OAMP (shown at *Table 4* and *Table 5*) 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 22 June 2023 by Earthtrade's Thomas Key and Alan Key, at the sites listed in *Table 6*, *Table 7*, and *Table 8*. The locations of the survey sites for each of the stages of the Byerwen project are shown in *Figure 5*, *Figure 6*, and *Figure 7*.

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

Figure 2: Wollombi Station offset areas

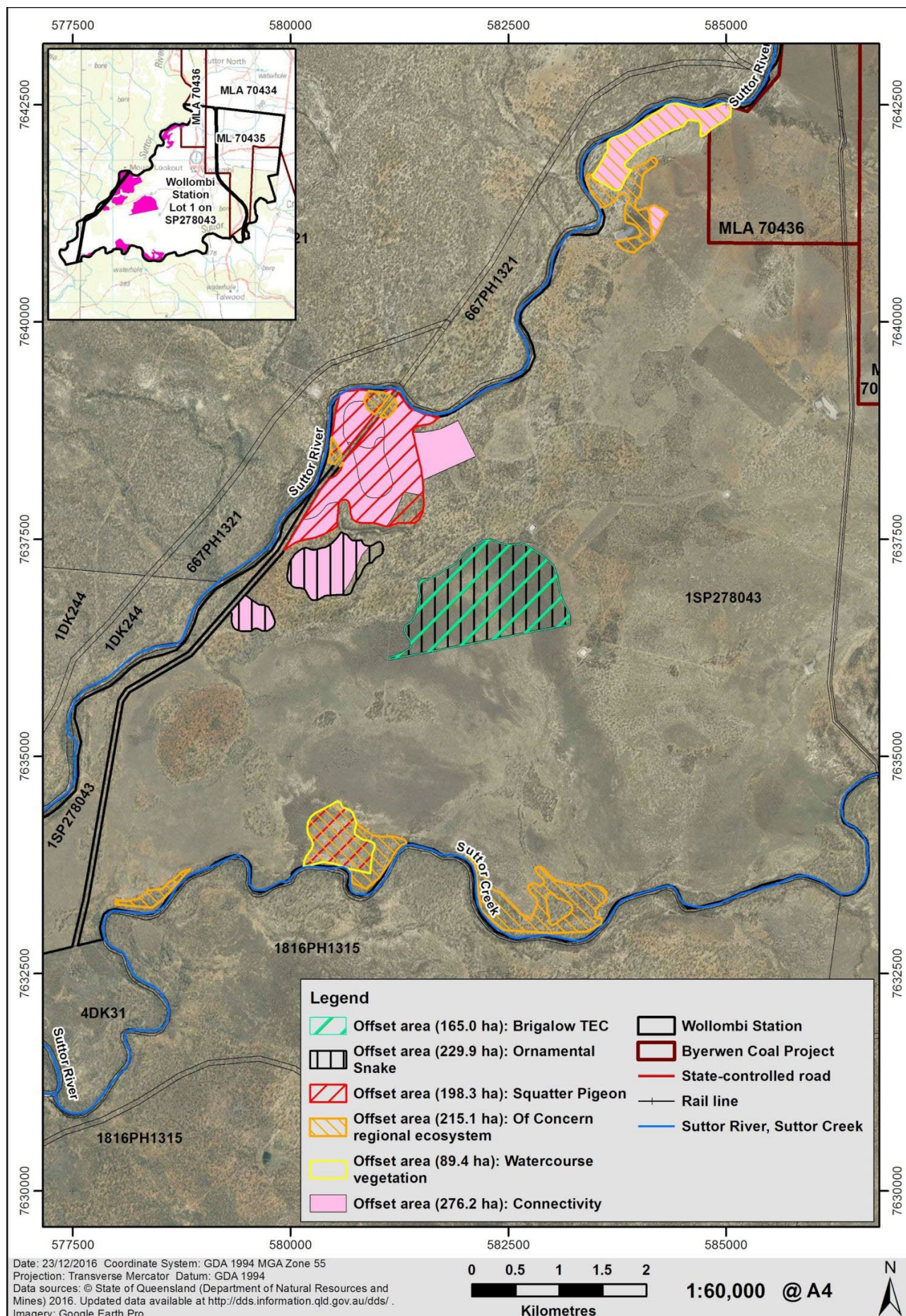


Figure 3: Squatter pigeon offset area

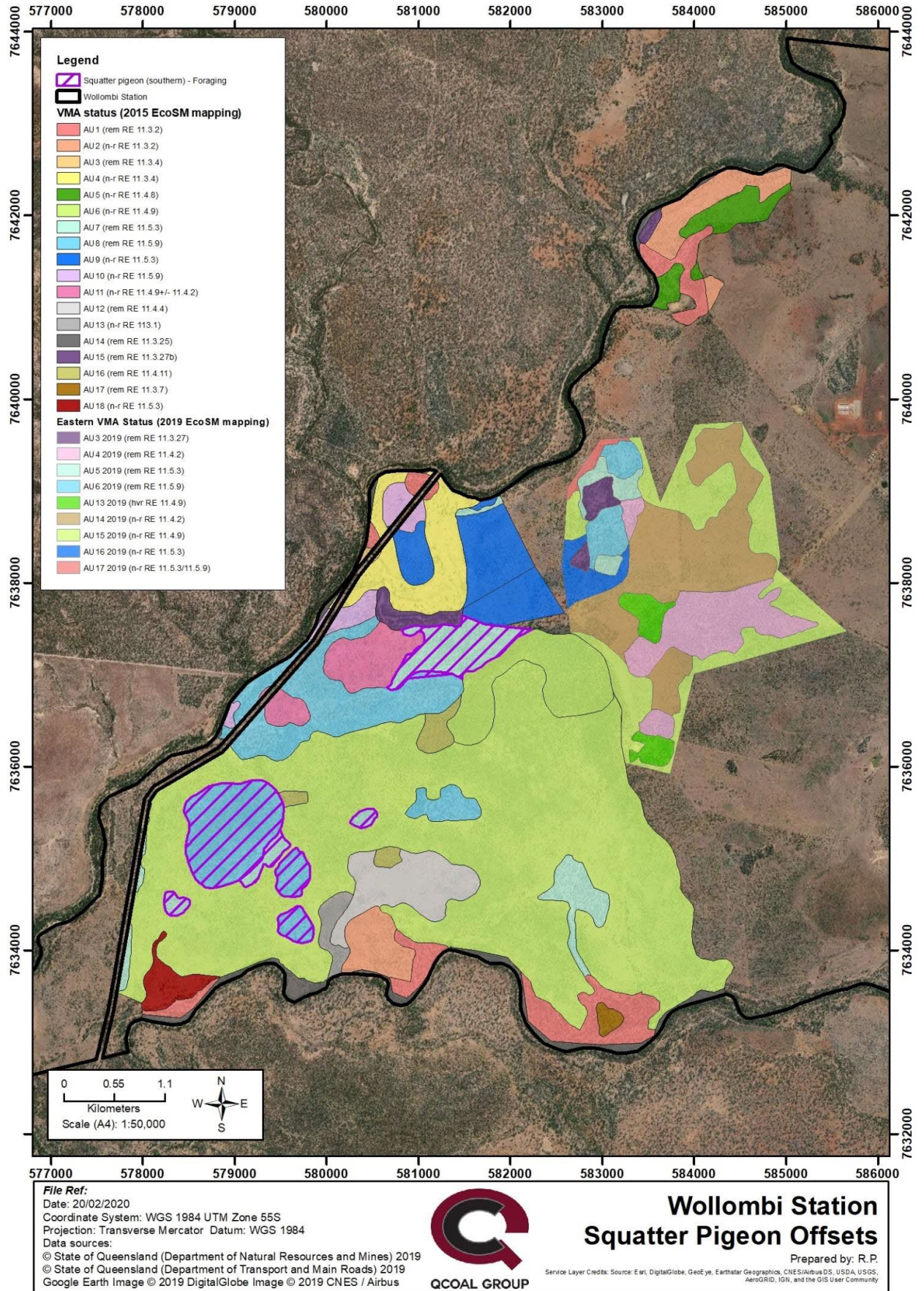


Figure 4: Ornamental snake offset area

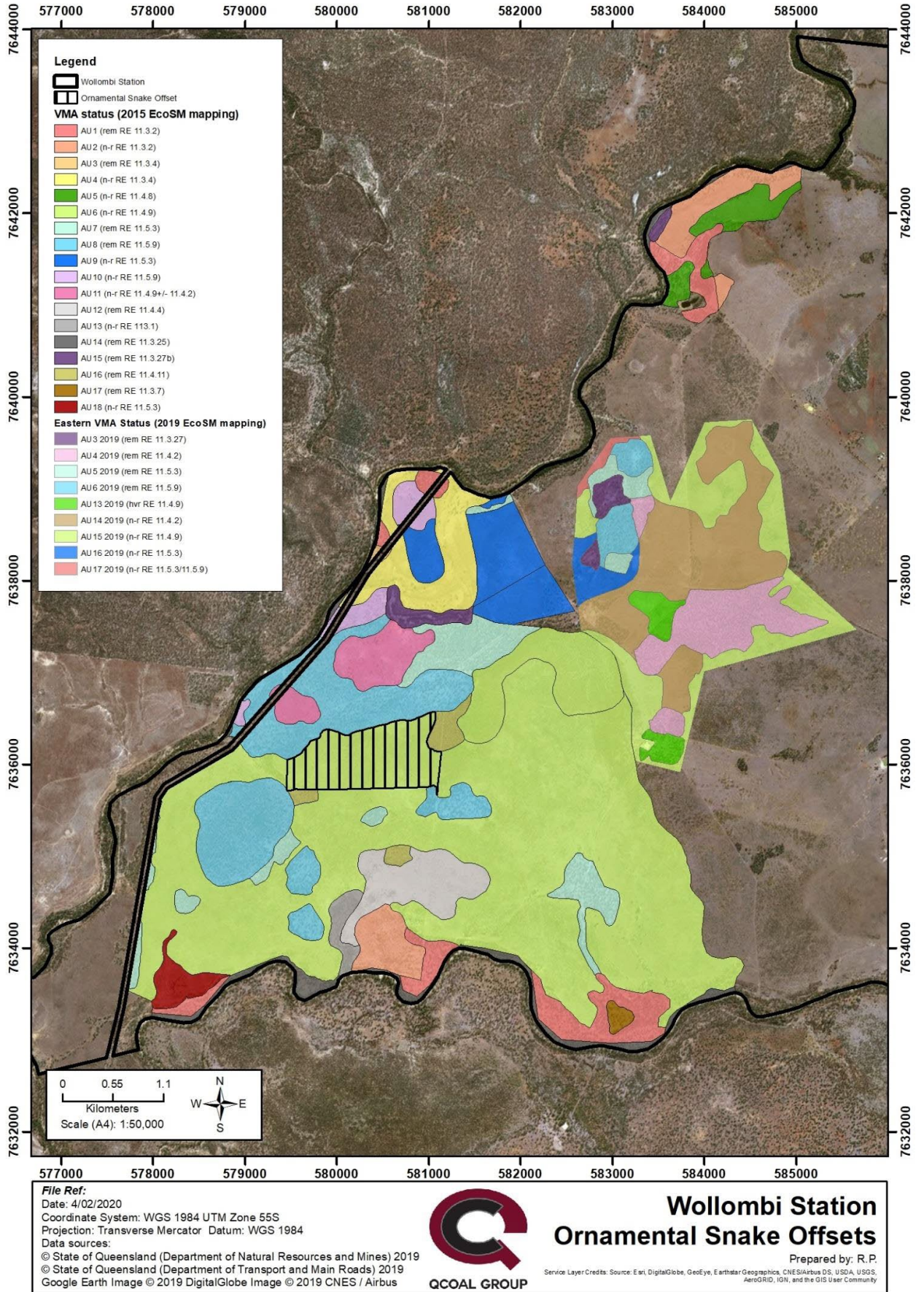


Figure 5: Stage 1 and 1a monitoring site locations

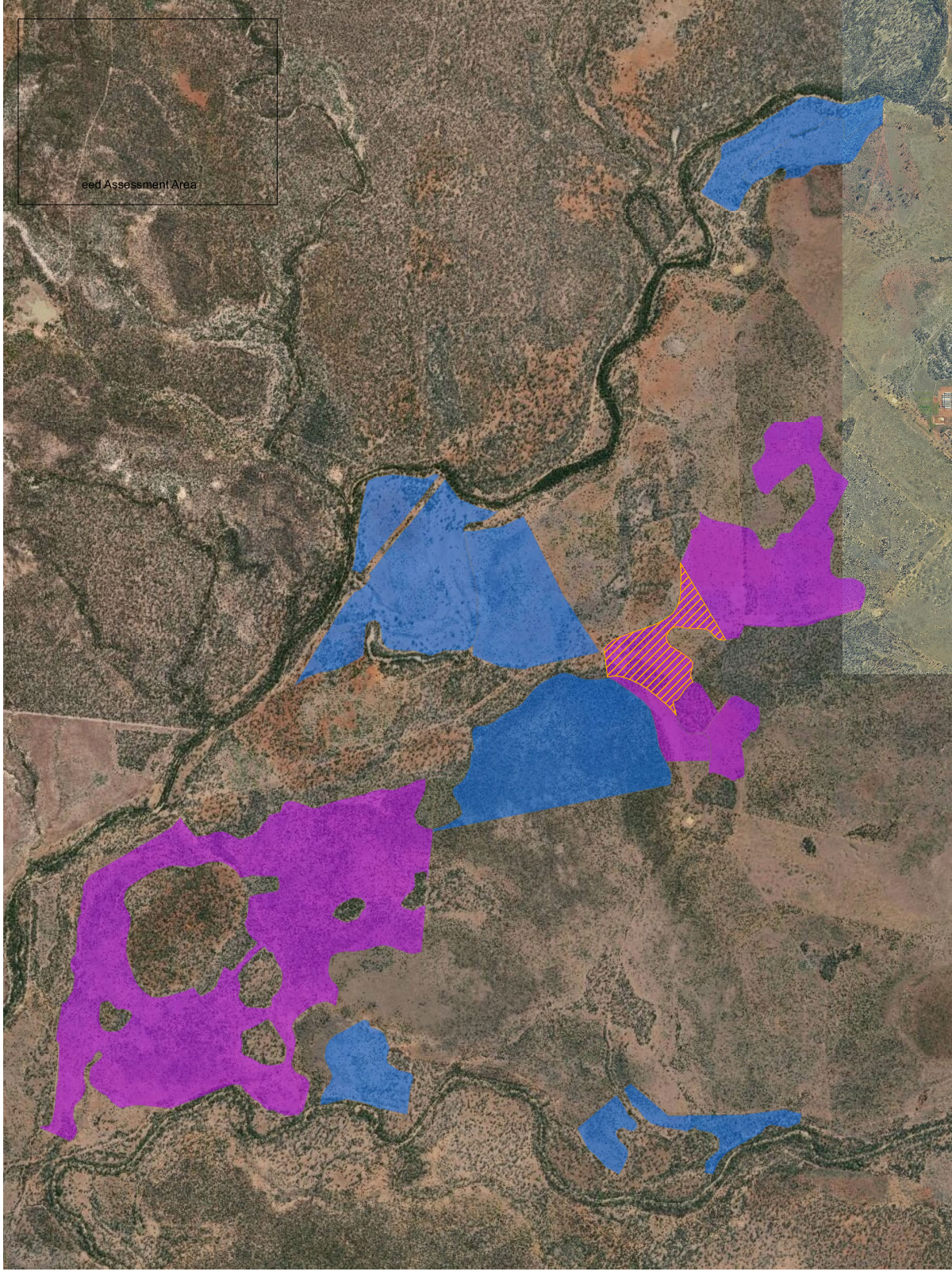


Figure 5: Stage 2 monitoring site locations

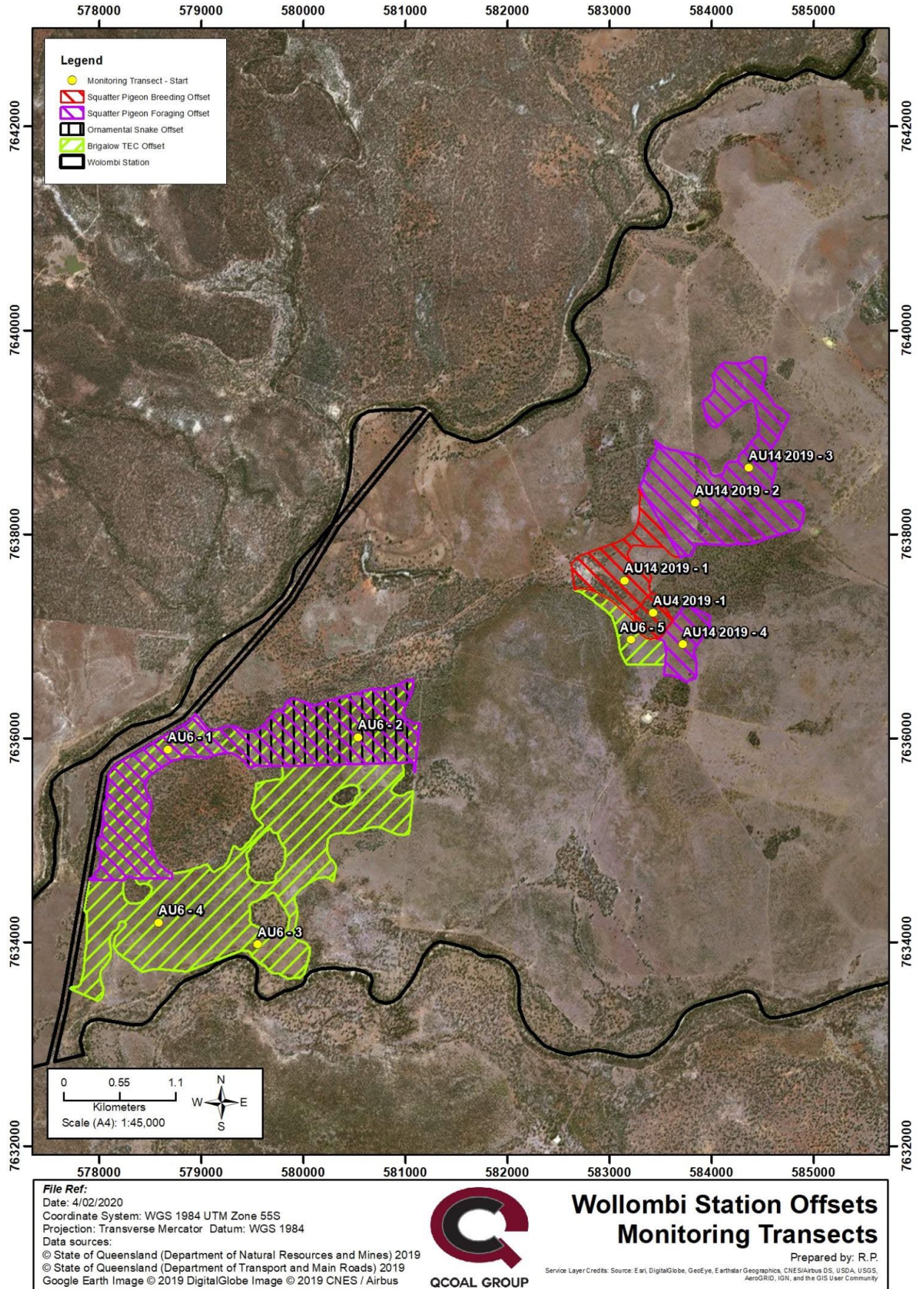


Figure 7: Stage 1a monitoring site locations

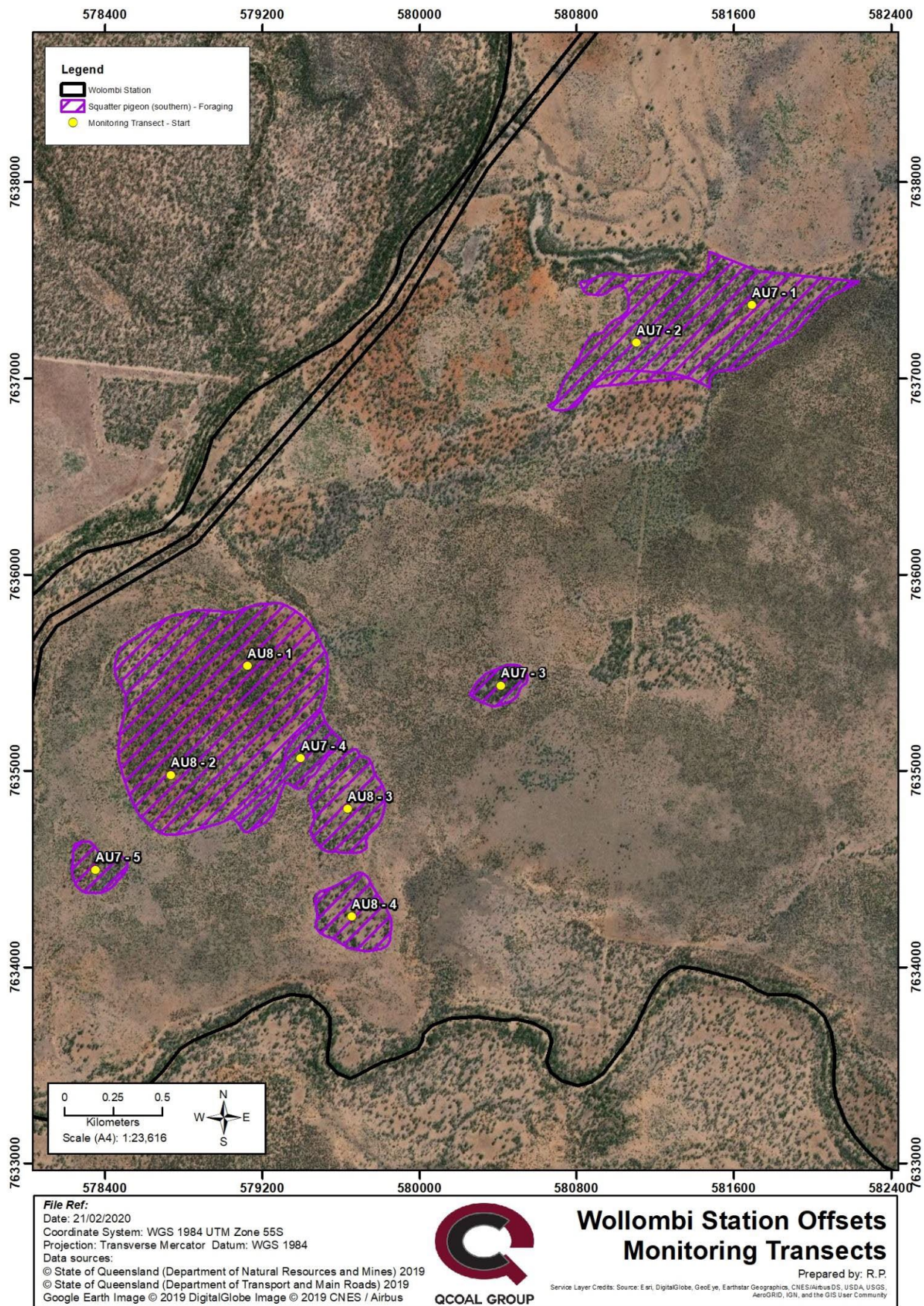


Table 6: Location of quaternary survey sites for Stage 1 and 1a

Assessment unit	Polygon	Site no.	Related quaternary site no.	GPS number	Start point - easting	Start point - northing	End point - easting	End point - northing
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

Assessment unit	Polygon	Site no.	Related quaternary site no.	GPS number	Start point - easting	Start point - northing	End point - easting	End point - northing
O_AU11	39	EEM-OA-31	T25	216	147.76781 579,601	-21.37040 7,636,664	TBC as part of 2020 ecological condition assessment	
O_AU11	43	EEM-OA-32	T26	215	147.77747 580,604	-21.36705 7,637,030	TBC as part of 2020 ecological condition assessment	
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	147.78210 581068	-21.39536 7633893		
O_AU1	7	EEM-OA-16	-	221	147.79725 582,635	-21.40281 7,633,061	147.79815 582,729	-21.40311 7,633,027
O_AU9	60	EEM-OA-33	-		147.79335 582,255	-21.35933 7,637,876	TBC as part of 2020 ecological condition assessment	
O_AU9	60	EEM-OA-34	-		147.78954 581,861	-21.35707 7,638,128	TBC as part of 2020 ecological condition assessment	
O_AU6	30	EEM-OA-35	-	220	147.79726 582,638	-21.39840 7,633,550	TBC as part of 2020 ecological condition assessment	
O_AU6	30	EEM-OA-36	-	222	147.80848 583,802	-21.39820 7,633,566	TBC as part of 2020 ecological condition assessment	
O_AU5	66	EEM-OA_37	-	202	147.81124 584,131	-21.32246 7,641,948	TBC as part of 2020 ecological condition assessment	
O_AU5	66	EEM-OA-38	-	203	147.81539 584,562	-21.32108 7,642,098	TBC as part of 2020 ecological condition assessment	

Table 7: Location of quaternary survey sites for Stage 2

Assessment site number	Monitoring site number	Regional ecosystem	VM Act Status	Location - easting	Location - northing
AU6	1	11.4.9	Endangered	578671	7635885
AU6	2	11.4.9	Endangered	580538	7636005
AU6	3	11.4.9	Endangered	579554	7633973
AU6	4	11.4.9	Endangered	578582	7634189
AU6	5	11.4.9	Endangered	583209	7636963
AU4-2019	1	11.4.2	Of Concern	583426	7637225
AU14 2019	1	11.4.2	Of Concern	583145	7637543
AU14 2019	2	11.4.2	Of Concern	583838	7638305
AU14 2019	3	11.4.2	Of Concern	584364	7638647
AU14 2019	4	11.4.2	Of Concern	583716	7636916

Table 8: Location of quaternary survey sites for Stage 2a

Assessment site number	Monitoring site number	Regional ecosystem	VM Act Status	Location - easting	Location - northing
AU7	1	11.5.3	Least Concern	581692	7637372
AU7	2	11.5.3	Least Concern	581104	7637180
AU7	3	11.5.3	Least Concern	580416	7635434
AU7	4	11.5.3	Least Concern	579397	7635064
AU7	5	11.5.3	Least Concern	578352	7634495
AU8	1	11.5.9	Least Concern	579126	7635533
AU8	2	11.5.9	Least Concern	578736	7634978
AU8	3	11.5.9	Least Concern	579635	7634806
AU8	4	11.5.9	Least Concern	579655	7634257

3 Project details

The details of the project, approval, and details of the offsets are shown below in *Table 9*. The details of the EPBC approval conditions are shown below in *Table 10*.

3.1 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.

Table 9: Project details

Item	Details
Project Names	Byerwen Coal Mine Project
Project Location	20 kilometres west of Glenden, Queensland
EPBC approval number	2010/5778
Approved actions	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 (<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
Approval Holder	Byerwen Coal Pty Limited
Approval Holder ACN	133 357 632
Offset Location - address	Wollombi Station, Suttor Road, Glenden Qld 4702
Lot/Plan (s)	Lot 1 on SP278043; GHPL 30/4120 (State Lease)
Offset area (ha)	Stage 1 – 531.5ha Extended Waste Rock Dump – 536.1ha Stage 2 – 725.23ha Stage 2a – 197.4ha Total – 1,990.23ha
Landholder Name	Christopher Ian Wallin
Landholder Phone	07 30022952
Landholder Postal address	PO Box 10630, Brisbane QLD 4000

Table 10: 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)	<p>a monitoring program for the offset area/s which must:</p> <ul style="list-style-type: none"> 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).

List of abbreviations

Abbreviation	Description
BOMP	Biodiversity Offset Management Plan
Byerwen	Byerwen Coal Pty Ltd; the Byerwen Coal Mine
DAWE	Department of Agriculture, Water and the Environment
DES	Department of Environment and Science (Qld)
DoE	Department of Environment (former)
EO Act	<i>Environmental Offsets Act 2014</i> (Qld)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ha	hectares
km	kilometres
ML	mining lease
mm	millimetres
MNES	matters of national environmental significance
OAMP	Offset Area Management Plan
ODP	Offset Delivery Plan
RE	regional ecosystem
TEC	threatened ecological community
VDEC	voluntary declaration
VMA	<i>Vegetation Management Act 1999</i> (Qld)

Appendix A: Survey photographs

Appendix A1: Stage 1 and 1a survey sites

Project:	North			East		
Byerwen Coal						
Code:		South			West	
QMR109						
Site:	Lot 1 SP278043					
Transect No.:	EEM-OA-2					
Location (E):	582876					
Location (N):	7637305					
Date:	22 June 2023					

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-9				
Location (E):				
580637				
Location (N):				
7633883				
Date:				
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-12				
Location (E):	South			West
580499				
Location (N):				
7634250				
Date:	22 June 2023			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-13				
Location (E):	South			West
581601				
Location (N):				
7636652				
Date:	South			West
22 June 2023				









Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-15				
Location (E):	South			West
581069				
Location (N):				
7633893				
Date:				West
22 June 2023				

Project:	North			East		
Byerwen Coal		Code:	QMR109	Site:	Lot 1 SP278043	
Transect No.:		EEM-OA-19	Location (E):	584833	Location (N):	7642389
Date:		22 June 2023	Location (E):	584833	Location (N):	7642389
South			West			









Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-20				
Location (E):	South			West
583778				
Location (N):				
7641969				
Date:			West	
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-21				
Location (E):	South			West
Location (E):				
583922				
Location (N):				
7641446				
Date:	South			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-24				
Location (E):	South			West
581878				
Location (N):				
7638695				
Date:	South			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-25				
Location (E):	South			West
581353				
Location (N):				
7638036				
Date:				West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-26				
Location (E):	South			West
581280				
Location (N):				
7638860				
Date:			West	
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-27				
Location (E):	South			West
581878				
Location (N):				
7638695				
Date:			West	
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-28				
Location (E):	South			West
580775				
Location (N):				
7638746				
Date:	South			West
22 June 2023				

Project:
Byerwen Coal
Code:
QMR109
Site:
Lot 1 SP278043
Transect No.:
EEM-OA-29
Location (E):
580508
Location (N):
7638107
Date:
22 June 2023

North



East

South






West

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-31				
Location (E):	South			West
579601				
Location (N):				
7636664				
Date:	South			West
22 June 2023				


Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-16				
Location (E):	South			West
582635				
Location (N):				
7633061				
Date:	South			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-32				
Location (E):	South			West
580604				
Location (N):				
7637030				
Date:	South			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-33				
Location (E):	South			West
582255				
Location (N):				
7637876				
Date:	South			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-34				
Location (E):	South			West
581861				
Location (N):				
7638128				
Date:	South			West
22 June 2023				






Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-35				
Location (E):	South			West
582638				
Location (N):				
7633550				
Date:	South			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-36				
Location (E):	South			East
583802				
Location (N):				
7638566				
Date:	South			East
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-37				
Location (E):	South			West
584131				
Location (N):				
7641948				
Date:	South			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
EEM-OA-38				
Location (E):	South			West
581878				
Location (N):				
7638695				
Date:	South			West
22 June 2023				

Project:	EEM-OA-2			EEM-OA-9
Byerwen Coal				
Code:				
QMR109				
Site:	EEM-OA-12			EEM-OA-13
Lot 1 SP278043				
Transect No.:				
Groundcover				
Location (E):	EEM-OA-12			EEM-OA-13
Various				
Location (N):				
Various				
Date:	EEM-OA-12			EEM-OA-13
22 June 2023				

Project:	EEM-OA-15			EEM-OA-19
Byerwen Coal				
Code:				
QMR109				
Site:	EEM-OA-20			EEM-OA-21
Lot 1 SP278043				
Transect No.:				
Groundcover				
Location (E):	EEM-OA-20			EEM-OA-21
Various				
Location (N):				
Various				
Date:	EEM-OA-20			EEM-OA-21
22 June 2023				

Project:	EEM-OA-24			EEM-OA-25
Byerwen Coal				
Code:				
QMR109				
Site:	EEM-OA-26			EEM-OA-27
Lot 1 SP278043				
Transect No.:				
Groundcover				
Location (E):	EEM-OA-26			EEM-OA-27
Various				
Location (N):				
Various				
Date:	EEM-OA-26			EEM-OA-27
22 June 2023				

Project:	EEM-OA-28			EEM-OA-29
Byerwen Coal				
Code:				
QMR109				
Site:	EEM-OA-31			EEM-OA-16
Lot 1 SP278043				
Transect No.:				
Groundcover				
Location (E):	EEM-OA-31			EEM-OA-16
Various				
Location (N):				
Various				
Date:	EEM-OA-31			EEM-OA-16
22 June 2023				

Project:	EEM-OA-32			EEM-OA-33
Byerwen Coal				
Code:				
QMR109				
Site:	EEM-OA-34			EEM-OA-35
Lot 1 SP278043				
Transect No.:				
Groundcover				
Location (E):	EEM-OA-34			EEM-OA-33
Various				
Location (N):				
Various				
Date:	EEM-OA-34			EEM-OA-35
22 June 2023				

Project:	EEM-OA-36			EEM-OA-37
Byerwen Coal				
Code:				
QMR109				
Site:	EEM-OA-38			
Lot 1 SP278043				
Transect No.:				
Groundcover				
Location (E):				
Various				
Location (N):				
Various				
Date:				
22 June 2023				

Appendix A2: Stage 2 survey sites

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU6 -1				
Location (E):				
578671				
Location (N):				
7635885				
Date:				
22 June 2023				

Project:
Byerwen Coal
Code:
QMR109
Site:
Lot 1 SP278043
Transect No.:
AU6 -2
Location (E):
580538
Location (N):
7636005
Date:
22 June 2023

North



East

South



West

Project:
Byerwen Coal
Code:
QMR109
Site:
Lot 1 SP278043
Transect No.:
AU6 -3
Location (E):
579554
Location (N):
7633973
Date:
22 June 2023

North



East

South



West

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU6 -4				
Location (E):				
578582				
Location (N):				
7634189				
Date:				
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU6 -5				
Location (E):	South			West
583209				
Location (N):				
7636963				
Date:	South			West
22 June 2023				

Project:
Byerwen Coal
Code:
QMR109
Site:
Lot 1 SP278043
Transect No.:
AU4-2019 -1
Location (E):
583426
Location (N):
7637225
Date:
22 June 2023

North



East

South



West

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU14-2019-1				
Location (E):	South			West
583145				
Location (N):				
7637543				
Date:	South			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU14-2019-2				
Location (E):	South			West
583838				
Location (N):				
7638305				
Date:	South			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU14-2019-3				
Location (E):	South			West
584364				
Location (N):				
7638647				
Date:	South			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU14-2019-4				
Location (E):	South			West
583716				
Location (N):				
7636916				
Date:	South			West
22 June 2023				

Project:	AU6-1			AU6-2
Byerwen Coal				
Code:				
QMR109				
Site:	AU6-3			AU6-4
Lot 1 SP278043				
Transect No.:				
Groundcover				
Location (E):	AU6-3			AU6-4
Various				
Location (N):				
Various				
Date:	AU6-3			AU6-4
22 June 2023				

Project:	AU6-5			AU4-2019-1
Byerwen Coal				
Code:				
QMR109				
Site:	AU14-2019-1			AU14-2019-2
Lot 1 SP278043				
Transect No.:				
Groundcover				
Location (E):	AU14-2019-1			AU14-2019-2
Various				
Location (N):				
Various				
Date:	AU14-2019-1			AU14-2019-2
22 June 2023				

Project:	AU14-2019-3			AU14-2019-4
Byerwen Coal				
Code:				
QMR109				
Site:				
Lot 1 SP278043				
Transect No.:				
Groundcover				
Location (E):				
Various				
Location (N):				
Various				
Date:				
22 June 2023				

Appendix A3: Stage 2a survey sites

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU7-1				
Location (E):				
581692				
Location (N):				
7637372				
Date:				
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU7-2				
Location (E):	South			West
581104				
Location (N):				
7637180				
Date:	South			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU7-3				
Location (E):	South			West
580416				
Location (N):				
7635434				
Date:	South			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU7-4				
Location (E):	South			West
579397				
Location (N):				
7635064				
Date:	South			West
22 June 2023				

Project:
Byerwen Coal
Code:
QMR109
Site:
Lot 1 SP278043
Transect No.:
AU7-5
Location (E):
578352
Location (N):
7634495
Date:
22 June 2023

North



East

South



West

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU8-1				
Location (E):	South			West
579126				
Location (N):				
7635533				
Date:	South			West
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU8-2				
Location (E):				
578736				
Location (N):				
7634978				
Date:				
22 June 2023				

Project:	North			East
Byerwen Coal				
Code:				
QMR109				
Site:	South			West
Lot 1 SP278043				
Transect No.:				
AU8-3				
Location (E):	South			West
579635				
Location (N):				
7634806				
Date:	South			West
22 June 2023				

Project:
Byerwen Coal
Code:
QMR109
Site:
Lot 1 SP278043
Transect No.:
AU8-4
Location (E):
579655
Location (N):
7634257
Date:
22 June 2023

North



East


South



West

Project:	AU7-1			AU7-2
Byerwen Coal				
Code:				
QMR109				
Site:	AU7-3			AU7-4
Lot 1 SP278043				
Transect No.:				
Groundcover				
Location (E):	AU7-3			AU7-4
Various				
Location (N):				
Various				
Date:	AU7-3			AU7-4
22 June 2023				

Project:	AU7-5			AU8-1
Byerwen Coal				
Code:				
QMR109				
Site:	AU8-2			AU8-3
Lot 1 SP278043				
Transect No.:				
Groundcover				
Location (E):	AU8-2			AU8-3
Various				
Location (N):				
Various				
Date:	22 June 2023			AU8-3
22 June 2023				

Project:	AU8-4			
Byerwen Coal				
Code:				
QMR109				
Site:				
Lot 1 SP278043				
Transect No.:				
Groundcover				
Location (E):				
Various				
Location (N):				
Various				
Date:				
22 June 2023				

Appendix B: Landholder records

