Oak Park Mine Offset Area Management Plan

EPBC 2003/1005

DOCUMENT DETAILS

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OAK PARK MINE: OFFSET AREA MANAGEMENT PLAN

- **EPBC number:** 2003/1005
- **Project name:** Open cut coal mine at Oak Park
- **Approval holder:** Anglo Coal (Capcoal Management) Pty Ltd, ABN: 73 010 037 564
- **Approved action:** To construct and operate an open cut coal mine at Oak Park, as an extension to the existing German Creek Coal Mine.
- **Location of the action:** Oak Park, near Middlemount, Central Queensland, Australia.
- **Date of preparation of the offset area management plan**: 27 June 2025
- **Person accepting responsibility for the offset area management plan as per the signed declaration (see below):**

DECLARATION OF ACCURACY

In making this declaration, I am aware that section 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth). The offence is punishable on conviction by imprisonment or a fine, or both. 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 [redacted]

Full name (please print) [redacted]

Organisation (please print) Anglo American - Steelmaking Coal

Date 30 / 06 / 2025

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
ALA	Atlas of Living Australia
Approval holder	Anglo Coal (Capcoal Management) Pty Ltd
AU	Assessment unit
BBOP	Business and Biodiversity Offsets Programme
C&M	Care and maintenance
CBD	Convention on Biological Diversity
Cth	Commonwealth
DAWE	Department of Agriculture, Water and the Environment (former)
DCCEEW; the Department	Department of Climate Change, Energy, the Environment and Water
DES	Department of Environment and Science (Qld) (former)
DETSI	Department of Environment, Tourism, Science and Innovation (Qld)
EA	Environmental authority
E&C	Environment and Community
EO Act	*Environmental Offsets Act 2014* (Qld)
EO Policy	Environmental Offsets Policy (October 2012) (EPBC Act)
EPA	Environment Protection Agency (Qld) (former)
EPBC Act	*Environment Protection & Biodiversity Conservation Act 1999* (Cth)
ERM	Environmental Resources Management Australia Pty Ltd
GBR	Great Barrier Reef
GHPL	Grazing Homestead Perpetual Lease
ha	hectares
HVR	high-value regrowth
ICMM	International Council on Mining and Metals
IFC PS	International Finance Corporation Performance Standard
IUCN	International Union for the Conservation of Nature
km	kilometres

Acronym	Description
m	metres
ML	Mining lease
MNES	Matters of national environmental significance
NC Act	*Nature Conservation Act 1992* (Qld)
NG	Net gain
NNL	No net loss
OAG	Offset Assessment Guide (DCCEEW)
OAMP	Offset Area Management Plan
Qld	Queensland
RE	Regional ecosystem
TEC	Threatened ecological community
UN	United Nations
VM Act	*Vegetation Management Act 1999* (Qld)
VMP	Vegetation Management Plan

1 Purpose and Objectives

This Offset Area Management Plan (OAMP) for Conservation Area A - Oak Park Covenant (here on referred to as the Oak Park Covenant) is required under a Directed Variation from the Department of Climate Change, Energy, the Environment and Water (DCCEEW). This OAMP, in conjunction with the Oak Park Vegetation Management Plan (VMP), will replace the existing Oak Park Conservation Strategy (Anglo American, 2012).

The purpose of this OAMP is to address the requirements of the variation of conditions attached to approval EPBC ref 2003/1005, outlined below:

- Describe the area covered by the OAMP;
- Outline the regulatory framework guiding the development of the OAMP and demonstrate compliance with requirements, where applicable;
- Determine the baseline habitat quality for the Brigalow threatened ecological community (TEC) and listed threatened species within the conservation area, where listed threatened species means, "the threatened fauna species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for which this approval [2003/ 1005] has effect, including:
  - Corben's Long-eared Bat (*Nyctophilus corbeni*);
  - Dunmall's Snake (*Furina dunmalli*);
  - Squatter Pigeon (southern) (*Geophaps scripta scripta*); and
  - Yakka Skink (*Eqernia rugosa*)."
- Specify conservation outcomes that are:
  - Derived from the baseline habitat quality; and
  - Improve the habitat quality for the Brigalow TEC and listed threatened species;
- Detail management measures to achieve conservation outcomes;
- Detail monitoring measures that will:
  - Detect changes in habitat quality of the Brigalow TEC and listed threatened species from the baseline assessment; and
  - Demonstrate progress to achieving conservation outcomes;
- Establish the requirements for reporting and corrective measures; and
- Assess the risks associated with achieving the conservation outcomes.

Compliance with the relevant approved updated conditions of the EPBC Act Approval (2003/ 1005) is shown in Table 1-1.

TABLE 1-1 EPBC ACT APPROVAL CONDITIONS RELEVANT TO THE OAMP

EPBC Act Approval (2003/ 1005) Condition Number	Conditions relevant to the OAMP (where Conservation Area A refers to Conservation Area A – Oak Park Covenant)	OAMP reference
1D	By 30 June 2025, the approval holder must submit to the **department** for the **Minister's** written approval, an Offset Area Management Plan (OAMP) for **Conservation Area A**.	This document
1E	The OAMP submitted for the **Minister's** approval must be prepared by an **independent suitably qualified** ecologist and include:	
	a. a general description of **Conservation Area A**;	Section 4
	b. maps that clearly show the boundaries of **Conservation Area A**;	Figure 2-2
	c. ecological surveys, conducted subsequent to 15 November 2024 that determine the baseline **habitat quality** for **Brigalow** and **listed threatened species** within **Conservation Area A**;	Section 4.4
	d. measurable timebound offset outcomes to be achieved prior to 1 April 2030 and maintained or enhanced for at least for the duration of this approval, that: i. are specific to **Conservation Area A**; ii. derived from the baseline **habitat quality** for **Brigalow** and **listed threatened species**; and iii. improve the **habitat quality** for **Brigalow** and **listed threatened species** within **Conservation Area A** from the baseline **habitat quality.**	Section 5.2.1
	e. details of management measures, including the timeframes and circumstances for implementing those measures, that will be implemented to achieve offset outcomes;	Section 5
	f. scientific justification for the proposed management measures and attainment of specified offset outcomes;	Section 5.1
	g. details of monitoring measures, including the timeframes and circumstances for implementing those measures, that will: i. detect changes in **habitat quality** of **Brigalow** and for **listed threatened species** from the baseline assessment; and ii. demonstrate progress to achieving offset outcomes;	Section 5.2
	h. details of corrective measures, including timeframes and circumstances for implementing those measures, that will be implemented in the event **habitat quality** for any **listed threatened species** and/or **Brigalow** within **Conservation Area A** decreases from the baseline assessment;	Section 5.2

EPBC Act Approval (2003/ 1005) Condition Number	Conditions relevant to the OAMP (where Conservation Area A refers to Conservation Area A – Oak Park Covenant)	OAMP reference
	i. a risk management strategy that includes: i. an assessment of the events or circumstances (risk events) that may prejudice attainment of the offset outcomes; ii. a risk rating for each identified risk event based on the likelihood and consequence of occurrence; iii. measures that will mitigate identified risk events (mitigation measures) by reducing the likelihood and/or consequence of each risk event; iv. the timeframes and circumstances for implementing mitigation measures; and v. a rating of the residual risk for each risk event, based on the likelihood and consequence of occurrence, assuming mitigation measures are implemented;	Section 5.3
	j. a table comprised of the time-bound management measures, monitoring activities and corrective measures specified in the OAMP and a reference to where those measures and activities are detailed in the OAMP.	**Error! Reference source not found.**Table 5-4 (management measures) and this table (references in the OAMP)
1F	Following submission of the OAMP, if the **Minister** makes a written request to the approval holder to make specified revisions to the OAMP, the approval holder must revise the OAMP and submit the revised OAMP to the **department** in accordance with any such request.	As required.

2 Introduction

2.1 Site Context

Oak Park Mine (Oak Park) is part of the Capcoal Complex, a metallurgical coal mining operation owned and operated by Anglo Coal (Capcoal Management) Pty Ltd (approval holder) and located approximately 25 km south-west of the Middlemount township in Queensland, Australia. The Capcoal Complex consists of the following surface mining areas, shown in Figure 2-1:

- German Creek and German Creek East (ML1831, ML1998) – historical open cut mining areas that were operated from the 1980's;
- Lake Lindsay (ML70336, ML700076) – an open cut mining area which commenced in 2006 and is currently operational; and
- Oak Park (ML70311) – an open cut mining area that commenced operation in 2003 and was subsequently placed in Care and Maintenance (C&M) in 2014. Operations resumed in 2022.

Prior to mining activities commencing in the area, the land was held as part of a Grazing Homestead Perpetual Lease (GHPL).

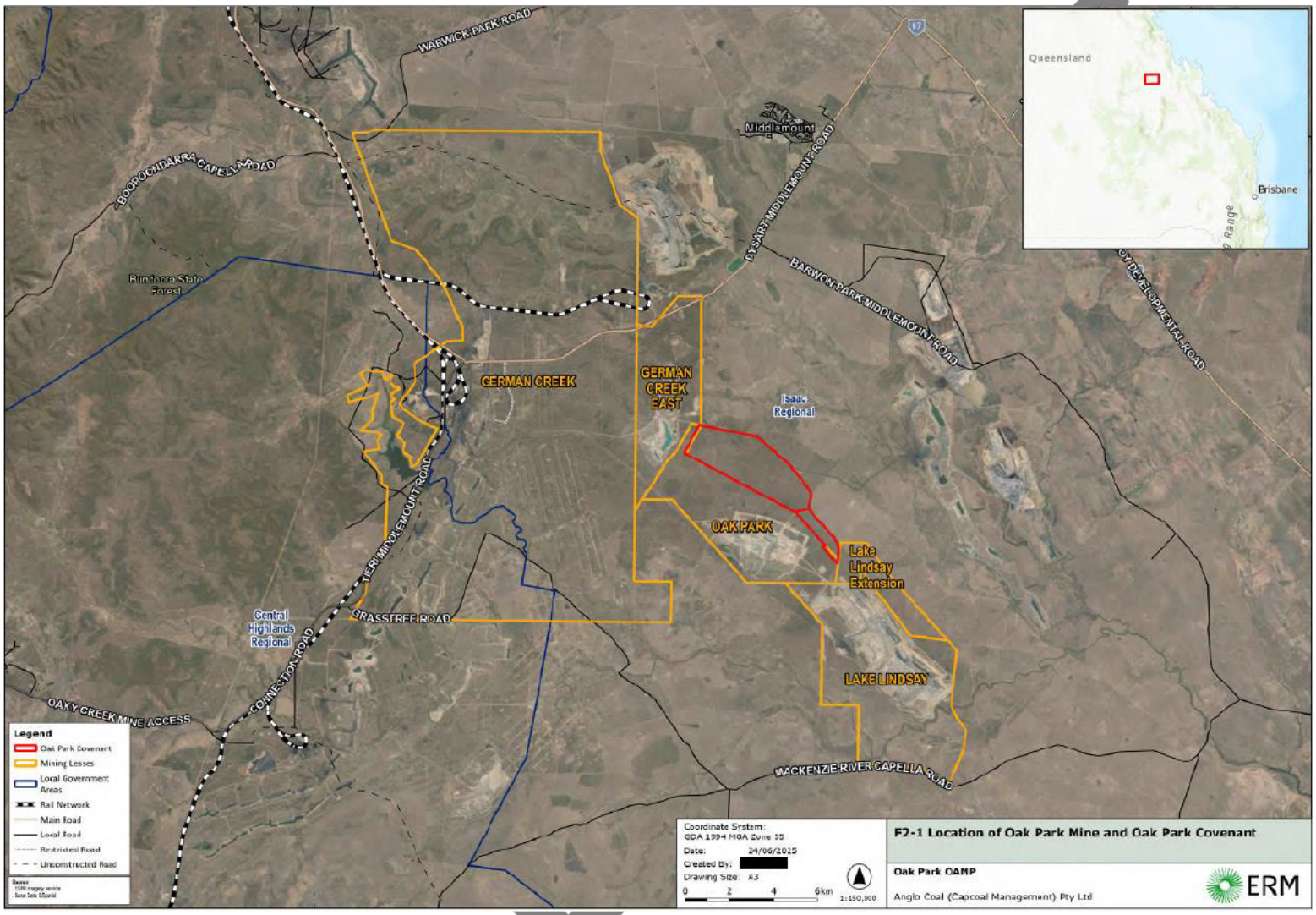
In 2003, the construction and operation of an open cut coal mine at Oak Park, as an extension to the existing German Creek Mine, was referred to the Commonwealth Department of Environment and Heritage (which has since become the Department of Climate Change, Energy, the Environment and Water, DCCEEW) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The project was deemed a controlled action under the EPBC Act, with the controlling provision being 'Listed threatened species and communities (sections 18 and 18A)' and was approved with conditions on 15 October 2003 (reference EPBC 2003/ 1005).

Under the original conditions of the EPBC Act approval (2003/ 1005), the approval holder was required to establish a network of conservation areas, including two areas adjacent to Oak Park: Conservation Area A and the Corridor (collectively referred to as the 'Oak Park Conservation Area'), and develop a strategy for the ongoing management of these areas. The strategy for the Oak Park Conservation Area, 'Strategy to Manage the Impacts of Mining upon Threatened Species and Communities ML 70311 Oak Park' (herein referred to as the Oak Park Conservation Strategy, or the Strategy) was subsequently developed and implemented, effective as of 14 December 2012.

A recent variation to the EPBC Act approval (2003/ 1005) was approved as effective as of the 15 November 2024. This variation has revised the naming and definition of conservation areas to Conservation Area A - Oak Park Covenant (referred to in this OAMP as the Oak Park Covenant) and Conservation Area B (German Creek Nature Refuge). Management conditions for conservation areas were also redefined, in part requiring this OAMP to be developed and implemented for the Oak Park Covenant.

The Oak Park Covenant is currently subject to a Conservation Covenant under the Queensland Nature Conservation Act 1992 (NC Act), between the approval holder and the Queensland Department of the Environment, Tourism, Science and Innovation (DETSI), formerly the Queensland Environment Protection Agency (EPA). This was executed on 3 July 2003 and the duration of the covenant was as follows, "Both the covenantor and the covenantee agree that these covenants shall remain in effect until such time as the nature refuge agreement is entered into between the covenantor and the Environmental Protection Agency at which time the covenant shall be reviewed." Currently there is no Nature Refuge Agreement under the NC Act in place for the Oak Park Covenant.

FIGURE 2-1 LOCATION OF OAK PARK MINE AND OAK PARK OCVENANT



2.2 Oak Park conservation management history

The Oak Park Conservation Strategy has managed the conservation areas established for the Oak Park mine project under the original approval conditions. Under this Strategy, it was noted that no nationally threatened species had been recorded from the site or identified in surveys and that only the Brigalow TEC was found on or in the vicinity of the Oak Park mine project; with Brigalow TEC planned to be disturbed as part of the mining development.

It was accepted by the regulator at the time (the Commonwealth Department of Environment and Heritage, now the DCCEEW), that the proposed conservation areas protected under the Conservation Covenants (under the Queensland NC Act), being large, uncleared areas of natural woodland, would provide permanent protected areas of intact habitat for local fauna species, including any listed threatened species that, at the time of the approval, had the potential to occur in the Oak Park mine project. However, there is no evidence of specific offsetting principles (as described in Section 3) being applied in the creation of the conservation areas.

DCCEEW issued a Directed Variation on the 15 November 2024 with updated approval conditions. Updated condition 1D requires that 'By 30 June 2025, the approval holder must submit to the department for the Minister's written approval, an OAMP' for Conservation Area A'.

2.3 Objectives

The overarching objective of the OAMP is to improve the habitat quality for Brigalow TEC and listed threatened species in the Oak Park Covenant from the baseline habitat quality prior to 1 April 2030 and to maintain and enhance the habitat quality for at least the duration of this approval [2003/ 1005], where listed threatened species means, "the threatened fauna species listed under the EPBC Act for which this approval [2003/ 1005] has effect, including:

- Corben's Long-eared Bat *(Nyctophilus corbeni)*;
- Dunmall's Snake *(Furina dunmalli)*;
- Squatter Pigeon (southern) *(Geophaps scripta scripta)*; and
- Yakka Skink (Eqernia rugosa)."

These will be achieved through the following management measures, discussed further in Section 5.1:

- Establish a baseline for habitat condition of Brigalow and listed threatened species determined to likely use the Oak Park Covenant;
- Improve habitat for Brigalow and listed threatened species determined as likely to use the Oak Park Covenant;
- Establish a baseline of weed species extent and cover, invasive animal species occurrence, fuel loads (high biomass exotic grasses) and erosion, where invasive species is defined as, "those species of plants and animals respectively identified at Restricted matter; Invasive plants and Restricted matter; Invasive animals at Schedule 2, Part 2 of the *Biosecurity Act 2014* (Qld)";
- Reduce weed species extent and cover, invasive animal species occurrence, and fuel loads;
- Minimise and reduce weed and invasive animal species incursions to the Oak Park Covenant;
- Remediate erosion;
- Maintain firebreaks and implement controlled burns in accordance with species-specific requirements;
- Implement control strategies to minimise unauthorised access; and
- Compliance with this OAMP and the enforcement of non-compliance.

The conservation outcomes, based on the overarching objective of this OAMP, are discussed in Section 5.2.1 and outlined in Table 5-4**Error! Reference source not found.**, with their associated management measures, performance criteria, timing and frequency.

2.4 Limitations

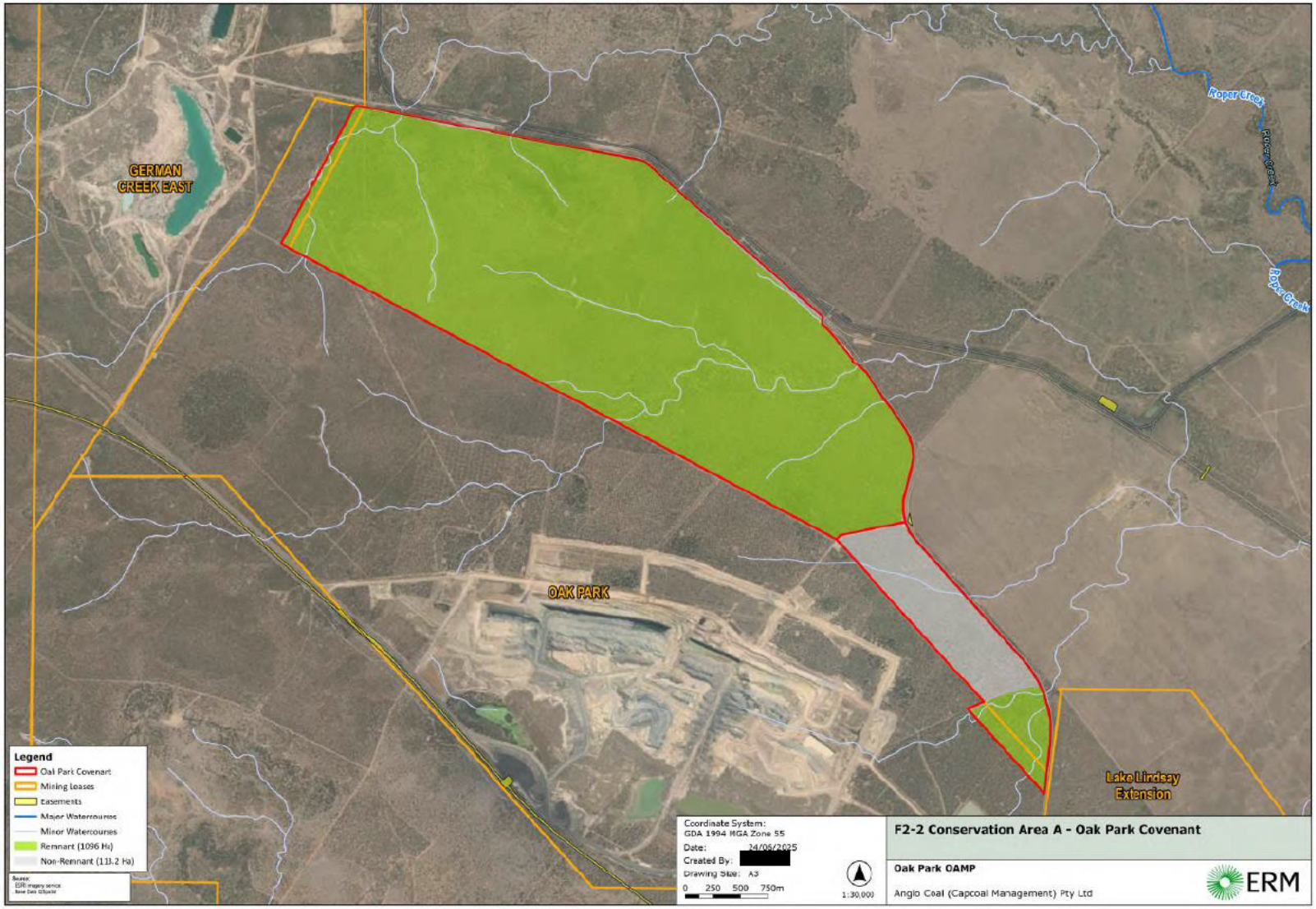
Due to the age of the original approval, some contemporary legislative requirements as to the suitability of an area as an offset are not applicable to this OAMP (refer to Table 3-1).

2.5 Area managed under the OAMP

The Oak Park Covenant is shown in Figure 2-2. Protection of 1209 ha has been committed to for the Oak Park Covenant, as per the 15 November 2024 Approval Decision for EPBC Act approval 2003/ 1005. The vegetation is characterised by predominantly eucalypt woodland with areas of *Acacia* woodland, over soils ranging from sandy-loam to clay-loam (Queensland Herbarium, 2023). A description of the current condition of the Oak Park Covenant is provided in Section 4.

The land was originally part of a cattle grazing property for the 100 years prior to commencement of mining activities in the area. Approximately 25 percent of the Oak Park ML (70311) directly adjacent to the Oak Park Covenant, had been cleared of native vegetation and planted to buffel grass (*Cenchrus ciliaris*) pastures for improved grazing capability. Common feral animals such as cats (*Felis catus)*, wild dogs (*Canis familiaris)*, pigs (*Sus scrofa)*, house mice (*Mus musculus)* and cane toads (*Bufo marinus)* are regularly sighted in the area.

FIGURE 2-2 OAK PARK COVENANT AREA



3 Legislative context

As summarised in Section **Error! Reference source not found.**, Oak Park received EPBC Act approval on 15 October 2003 (EPBC 2003/ 1005), with conditions requiring the approval holder to prepare a strategy to manage the impacts of mining operations on listed Commonwealth threatened species and communities, and the management of the conservation of areas (which includes the Oak Park Covenant area to which this OAMP applies, and other areas on the lease and in the surrounding area, which are managed through a separate process). The original approval conditions did not note which Commonwealth listed species were to be protected within the Oak Park Covenant, except for the Brigalow TEC (*Acacia harpophylla* dominant and co-dominant, as defined under the EPBC Act). The DCCEEW issued a variation of conditions of approval on the 15 November 2024.

It is noted that the Oak Park Covenant was established prior to contemporary offsetting best practice frameworks. As such, the specific principles of no net loss (NNL) for specific listed threatened species were not applied. However, global biodiversity offsetting governance was used to guide the development of the conservation outcomes and associated management measures for this OAMP moving forward.

3.1 Commonwealth

The EPBC Act provides the legal framework to protect and manage national environmental assets (known as matters of national significance, MNES) and other protected matters (including nationally and internationally important flora and fauna species and ecological communities) in Australia. Under the EPBC Act, policy guiding the use of offsets in Australia is provided in the Environmental Offsets Policy (2012). As is considered best practice, the Environmental Offsets Policy follows a principle-based approach and contains eight (8) principles which explain what an offset must do to be considered suitable under the EPBC Act. These principles, and how the conservation area meets these principles (where applicable, given it was not originally managed as an offset under the current legislation), are shown in Table 3-1.

Additionally, the Environmental Offsets Policy (2012) states that where possible, the offset should address key priority actions outlined for the impacted protected matter in any approved recovery plans, threat abatement plan, conservation advice, ecological character description or approved Commonwealth management plan. A summary of how this OAMP addresses relevant conservation advice and threat abatement plans is provided in Table 3-2.

TABLE 3-1 COMPLIANCE WITH ENVIRONMENTAL OFFSET POLICY PRINCIPLES UNDER THE EPBC ACT

Relevant EPBC Act Environmental Offsets Policy Principles (2012)	Oak Park Covenant Compliance
1. Must deliver an overall conservation outcome that improves or maintains the viability of the aspect of the environment that is protected by national environment law and affected by the proposed action.	The Oak Park Covenant (originally referred to as Conservation Area A and Corridor) was established in 2003 for the protection and improvement of the Brigalow TEC and habitat of Commonwealth listed threatened species, which were not defined within the original approval The Oak Park Covenant will now be managed exclusively for conservation purposes and will be protected and managed under this OAMP for the life of the approval. Management measures will be undertaken to ensure the habitat quality of the Brigalow TEC and the listed threatened species, as now defined in the approval, is improved within the Oak Park Covenant, throughout the lifetime of the approval.
2. Must be built around direct offsets but may include other compensatory measures.	All actions defined in this OAMP are direct measures designed to achieve a conservation outcome for Brigalow TEC and the relevant listed threatened species habitat quality.
3. Must be in proportion to the level of statutory protection that applies to the protected matter.	Considered not applicable to this OAMP given the conservation area was approved prior to contemporary offsets policy and managed through a different process (Conservation Covenant).
4. Must be of a size and scale proportionate to the residual impacts on the protected matter.	Considered not applicable to this OAMP given the conservation area was approved prior to contemporary offsets policy and managed through a different process (Conservation Covenant).
5. Must effectively account for and manage the risks of the offset not succeeding.	A risk assessment has been provided in this OAMP, which details the relevant mitigation measures and residual risk ratings (refer to Section 5.3). Adaptive management is the basis of this OAMP, and this will ensure that changes and updates can be made to the management actions, as/ if circumstances in the conservation area change.

Relevant EPBC Act Environmental Offsets Policy Principles (2012)	Oak Park Covenant Compliance
6. Must be additional to what is already required, determined by law or planning regulations or agreed to under other schemes or programs (this does not preclude the recognition of state or territory offsets that may be suitable as offsets under the EPBC Act for the same action)	The conservation area and associated management plans are considered additional because: • Contemporary standards have now been applied to the Oak Park Covenant management through this OAMP; and • The conservation area will be actively managed to achieve set, measurable and time-bound outcomes to improve the habitat of the relevant listed threatened species.
7. Must be efficient, effective, timely, transparent, scientifically robust and reasonable.	The Oak Park Covenant will be governed by this OAMP, which includes an adaptive management, monitoring and reporting program. The OAMP provides transparency around conservation area delivery and clear requirements around timing and required outcomes. The monitoring program is informed by the latest best practice for monitoring terrestrial species (Guide to determining terrestrial habitat quality: Methods for assessing habitat quality under the Queensland Environmental Offsets Policy, v1.3, 2020) and will be updated as new information arises. The management actions have been informed by species-specific requirements and technical knowledge regarding key threats and effective control measures and will also be updated as new information arises.
8. Must have transparent governance arrangements including being able to be readily measured, monitored, audited and enforced.	The OAMP includes clear and detailed objectives (Section 2.3), monitoring methodologies (Section 5.2.2) and management measures (Section 5.1). Clear timeframes for auditing and enforcement of the OAMP, and corrective actions, are provided in Section 5.2.

TABLE 3-2 RELEVANT CONSERVATION ADVICE AND THREAT ABATEMENT PLANS ADDRESSED IN THIS OAMP

Document	Key Threats	Comment/ Relevant Section in OAMP
Approved Conservation Advice – the Brigalow (*Acacia harpophylla* dominant and co-dominant) ecological community (2013)	**Vegetation clearing** The Brigalow TEC was listed as Endangered on the basis of extensive clearing. This has altered the Brigalow TEC typical landscape context, with most remnants now occurring as fragments within substantially modified landscapes (Butler, 2007). Mining in the Bowen Basin in Qld continues to threaten significant areas of the Brigalow TEC (Butler, 2007) and illegal clearing remains an ongoing concern for both remnant and regrowth areas of the Brigalow TEC.	**Section 5.1.1** No clearing of Brigalow within the Oak Park Covenant will be permitted. No unapproved and/ or intentional clearing of other native vegetation is permitted within the Oak Park Covenant except for clearing that is required for fencing, firebreaks, fuel load management and actions required for implementation of this OAMP. No forestry or timber harvesting activities (excluding thinning recommended by a suitably qualified ecologist) will be undertaken during the period this OAMP is in force.
	Fire (change in fuel characteristics) The low density of herbage that is characteristic of Brigalow vegetation suggests that fire has been historically rare in the Brigalow TEC. Therefore, it becomes a serious threat to remnant Brigalow where fuel characteristics have been changed (e.g. by the presence of high biomass introduced grass species such as Buffel grass (*Cenchrus ciliaris*) in or adjacent to Brigalow TEC. Fragmentation and disturbance can interact with invasive grasses to increase the risk of fire to remnant Brigalow TEC.	**Section 5.1.4** The most appropriate fire regime for Brigalow TEC is fire-exclusion (Butler, 2007), with grazing permitted under this OAMP to manage high biomass exotic grass fuel loads. Outside the Brigalow TEC, in the grassy woodland areas, low intensity burns in mosaic patches (<30% area burnt in any year) can be used (when plants are actively growing) and in the shrubby woodland areas low intensity mosaic burning can also be used but with longer time intervals (>6 years) between burns to allow for post-fire regrowth. Where shrubby woodlands occur within a broader grassy woodland landscape, as in the Oak Park Covenant, if possible attempt to burn the shrubby woodland during every second fire rotation in the grassy woodland, by burning early breaks around the shrubby areas.

Document	Key Threats	Comment/ Relevant Section in OAMP
	Invasive species **Weeds** Restricted weeds (Category 3) and introduced grasses can alter the structure and function of the Brigalow TEC and affect their suitability as habitat for native species. Introduced grasses, such as Buffel grass, pose the greatest threat by drawing fires into the Brigalow TEC and increasing fire severity (Butler, 2007). Gaps in the tree canopy and/ or disturbance to the soil generally assist weed establishment. The most easily controlled and widespread source of disturbance are those associated with human activities such as clearing for fences and roads, or by grazing stock (Butler, 2007). Limiting disturbance is important to minimize the threat from weeds. Early detection and rapid response are essential to long-term preventative weed management. **Feral animals** Feral pigs are the most problematic pest animal in the Brigalow TEC, although cats and cane toads are also serious threats. Feral pigs can cause substantial degradation by destroying young plants and disturbing soil (Choquenot et al., 1996). Cane toads and feral cats can have devastating effect on native fauna populations.	**Section 5.1.2** Category 3 restricted weed species cover will be reduced to ≤ 10% of the total cover. Introduced grass cover will be managed throughout the Oak Park Covenant. **Section 5.1.3** The presence of feral animals will be monitored and control of existing populations of feral animals will be undertaken within the Oak Park Covenant in accordance with the *Biosecurity Act 2014* (Qld).
	Inappropriate grazing regimes Trampling and grazing by large herbivores has a number of impacts, including compressing soil, reducing the amount of leaf litter and woody debris, and altering the composition and density of herbs and shrubs in the understorey of the Brigalow TEC. Grazing, in particular, can strongly affect recruitment and growth of shrubs and trees in Brigalow vegetation (Wilson et al., 1976; Chesterfield and Parsons, 1985)	**Section 5.1.5** Stock will be grazed in the Oak Park Covenant only for fuel load reduction purposes outside the wet season; exotic grass biomass levels will be carefully monitored and managed.

Document	Key Threats	Comment/ Relevant Section in OAMP
Approved Conservation Advice - *Nyctophilus corbeni* - Corben's long-eared bat (2015)	**Vegetation clearing; reduction in hollow availability** Extensive clearing of woodland and mallee vegetation, resulting in habitat loss and fragmentation, is likely to have been a major factor in the decline of Corben's long-eared bat (Duncan et al., 1999; Woinarski et al., 2014). Habitat loss threatens the species by reducing habitat availability, such as important roosting sites (Schulz and Lumsden, 2010). Given the species' requirements for large areas of land, smaller fragments may not provide viable habitat for the species (Woinarski et al., 2014), leaving bats more vulnerable to local extinction and reductions in fitness (Schulz and Lumsden, 2010). The availability of suitable roosting habitat is essential and a reduction in hollows would likely put pressure on the species, through direct habitat loss but also increased competition for remaining hollows from other animals (Reardon, 2012).	**Section 5.1.1** No clearing of Brigalow within the Oak Park Covenant will be permitted. No unapproved and/ or intentional clearing of other native vegetation is permitted within the Oak Park Covenant except for clearing that is required for fencing, firebreaks, fuel load management and actions required for implementation of this OAMP. No forestry or timber harvesting activities (excluding thinning recommended by a suitably qualified ecologist) will be undertaken during the period this OAMP is in force.
	Fire Bushfires are suspected to be a threat in the remaining uncleared areas of the Corben's long-eared bat habitat (Duncan et al., 1999). Bushfires pose a threat to the conservation of the species by both causing direct mortality during bushfire events and through the loss of foraging habitat and roosting sites, which take a long time to develop (Schulz and Lumsden, 2010). Given the level of habitat loss that has occurred across the species' range, further habitat loss through natural processes such as normal fire regimes are more significant than they would have been in the past.	**Section 5.1.4** Outside the Brigalow TEC, which must not be burnt, in the grassy woodland areas, low intensity burns in mosaic patches (<30% area burnt in any year) can be used (when plants are actively growing) and in the shrubby woodland areas low intensity mosaic burning can also be used but with longer time intervals (>6 years) between burns to allow for post-fire regrowth. Where shrubby woodlands occur within a broader grassy woodland landscape, as in the Oak Park Covenant, attempt to burn the shrubby woodland during every second fire rotation in the grassy woodland, by burning early breaks around the shrubby areas.
	Exposure to agrichemicals As an insectivorous species that occurs in habitat in or adjacent to agricultural areas, Corben's long-eared bat may be susceptible to exposure from insecticides.	**Section 5.1.2** No broadscale application of herbicides or insecticides is permitted within the Oak Park Covenant under this OAMP.

Document	Key Threats	Comment/ Relevant Section in OAMP
	Grazing Grazing is a suspected threat in the uncleared areas of habitat (Duncan et al., 199) as it may reduce foraging habitat through the removal of shrubs and by limiting regeneration, as well as potentially causing significant changes to the structure and diversity of such habitats (Schulz and Lumsden, 2010).	**Section 5.1.5** Stock will be grazed in the Oak Park Covenant only for fuel load reduction purposes outside the wet season; exotic grass biomass levels will be carefully monitored and managed.
Approved Conservation Advice - *Furina dunmalli* - Dunmall's snake (2014)	**Vegetation clearing and fragmentation; modification of habitat for grazing and agriculture; pasture improvement** The main threat identified to Dunmall's snake is a continued legacy of broadscale land clearing and habitat modification for grazing and agriculture.	**Section 5.1.1** No clearing of Brigalow within the Oak Park Covenant will be permitted. No unapproved and/ or intentional clearing of other native vegetation is permitted within the Oak Park Covenant except for clearing that is required for fencing, firebreaks, fuel load management and management actions as part of this OAMP. No forestry or timber harvesting activities (excluding thinning recommended by a suitably qualified ecologist) will be undertaken during the period this OAMP is in force.
	Overgrazing and trampling by livestock	**Section 5.1.5** Stock will be grazed in the Oak Park Covenant only for fuel load reduction purposes outside the wet season; exotic grass biomass levels will be carefully monitored and managed. Stocking densities will be managed to minimize negative impacts on this species.
	Predation by feral animals; potential poisoning resulting from ingestion of cane toads	**Section 5.1.3** The presence of feral animals will be monitored and control of existing populations of feral animals will be undertaken within the Oak Park Covenant in accordance with the *Biosecurity Act 2014* (Qld).

Document	Key Threats	Comment/ Relevant Section in OAMP
Approved Conservation Advice - *Geophaps scripta scripta* - squatter pigeon (southern) (2015)	**Vegetation clearing and fragmentation** The squatter pigeon is a ground-dwelling pigeon that inhabits the grassy understorey of open eucalypt woodland and is nearly always found near permanent water. It nests on the ground and roosts in low trees at night. It appears to be locally dispersive, with no long-distance seasonal movements recorded (Higgins and Davies, 1996). The population declined rapidly during the late 19th and early 20th centuries and continued to decline in NSW and southern Queensland where it is now rare (Cooper et al., 2014). In NSW, the disappearance of the subspecies has been attributed to clearing of vegetation, amongst other factors.	**Section 5.1.1** No clearing of Brigalow within the Oak Park Covenant will be permitted. No unapproved and/ or intentional clearing of other native vegetation is permitted within the Oak Park Covenant except for clearing that is required for fencing, firebreaks, fuel load management and actions required for implementation of this OAMP. No forestry or timber harvesting activities (excluding thinning recommended by a suitably qualified ecologist) will be undertaken during the period this OAMP is in force.
	Overgrazing of habitat by livestock and feral herbivores; trampling of nests by livestock. The population declined rapidly during the late 19th and early 20th centuries and continued to decline in NSW and southern Queensland where it is now rare (Cooper et al., 2014). In NSW, the disappearance of the subspecies has been attributed to overgrazing at times of drought, followed by clearing of vegetation.	**Section 5.1.5** Given squatter pigeon breeding is greatly influenced by heavy rainfall (Higgins and Davies, 1996), grazing is not permitted during the local wet season. Stock will be grazed in the Oak Park Covenant only for fuel load reduction purposes outside the wet season.; Exotic grass biomass levels will be carefully monitored and managed to ensure overgrazing during the dry season or in drought years does not occur.
	Introduction of weeds Squatter pigeons have a mainly granivorous diet, mostly feeding on the seeds of legumes in the family Fabaceae (45% of food volume) including those of exotic pasture plants such as *Stylosanthes* spp., and native grasses in the family Poaceae (23% of food volume) (Higgins and Davies, 1996). They occasionally forage in sown grasslands and pastures, feeding on exotic legumes such as *Stylosanthes* spp. A high weed cover results in competition for the bird's diet.	**Section 5.1.2** Category 3 restricted weed species cover will be reduced to ≤ 10% of the total cover. Introduced grass cover will be managed throughout the Oak Park Covenant.

Document	Key Threats	Comment/ Relevant Section in OAMP
	Inappropriate fire regimes; thickening of understorey vegetation Hot fires that impact vegetation community structure and increase the likelihood of weed invasion after the initial reduction in groundcover.	**Section 5.1.4** Outside the Brigalow TEC, which must not be burnt, in the grassy woodland areas, low intensity burns in mosaic patches (<30% area burnt in any year) can be used (when plants are actively growing) and in the shrubby woodland areas low intensity mosaic burning can also be used but with longer time intervals (>6 years) between burns to allow for post-fire regrowth. Where shrubby woodlands occur within a broader grassy woodland landscape, as in the Oak Park Covenant, attempt to burn the shrubby woodland during every second fire rotation in the grassy woodland, by burning early breaks around the shrubby areas.
	Predation by feral animals	**Section 5.1.3** The presence of feral animals will be monitored and control of existing populations of feral animals will be undertaken within the Oak Park Covenant in accordance with the *Biosecurity Act 2014* (Qld).
	Illegal shooting	**Section 5.1.7** Access by unauthorized personnel is not permitted under this OAMP. Bi-annual inspections will monitor for fence and gate condition and any evidence of unauthorized personnel accessing the Oak Park Covenant.
Approved Conservation Advice - *Eqernia rugosa* - Yakka skink (2014)	**Vegetation clearing and fragmentation; modification of habitat for grazing and agriculture; pasture improvement** The main threat identified to the Yakka skink is a continued legacy of broadscale land clearing and habitat modification for grazing and agriculture.	**Section 5.1.1** No clearing of Brigalow within the Oak Park Covenant will be permitted. No unapproved and/ or intentional clearing of other native vegetation is permitted within the Oak Park Covenant except for clearing that is required for fencing, firebreaks, fuel load management and actions required for implementation of this OAMP. No forestry or timber harvesting activities (excluding thinning recommended by a suitably qualified ecologist) will be undertaken during the period this OAMP is in force.

Document	Key Threats	Comment/ Relevant Section in OAMP
	Inappropriate roadside management Roadsides often provide suitable reptile habitat, and species within these linear remnants are particularly vulnerable to disturbances that remove essential microhabitat features (rocks, logs, dense leaf litter and fallen bark) and destroy burrows (road widening and maintenance).	**Section 5.1.1** No clearing of Brigalow within the Oak Park Covenant will be permitted. No unapproved and/ or intentional clearing of other native vegetation is permitted within the Oak Park Covenant except for clearing that is required for fencing, firebreaks fuel load management and actions required for implementation of this OAMP. A fauna survey of roadsides will be conducted before undertaking road widening within the Oak Park Covenant. Fallen logs, leaf litter and rocks will be retained within the Oak Park Covenant.
	Removal of microhabitat features (woody debris, rocks, etc)	**Section 5.1.1** Fallen logs, leaf litter and rocks will be retained within the Oak Park Covenant.
	Predation by feral animals	**Section 5.1.3** The presence of feral animals will be monitored and control of existing populations of feral animals will be undertaken within the Oak Park Covenant in accordance with the *Biosecurity Act 2014* (Qld).
Threat abatement plan for predation by feral cats. Australian Government, 2015	**Predation by cats** (applies to each fauna species)	**Section 5.1.3** The presence of feral animals will be monitored and control of existing populations of feral animals (feral cats, dogs and pigs) will be undertaken within the Oak Park Covenant in accordance with the *Biosecurity Act 2014* (Qld).
Threat abatement plan for predation, habitat degradation, competition and disease transmission by feral pigs (*Sus scrofa*). Australian Government, 2017.	**Presence of wild pigs** (applies to each fauna species and Brigalow TEC)	
Threat abatement plan for the biological effects, including lethal toxic ingestion, caused by cane toads (*Bufo marinus*, now revised to *Rhinella marina*). Australian Government, 2011.	**Presence of cane toads** (applies to each fauna species)	

3.2 Roles and responsibilities

The key OAMP roles and associated responsibilities are outlined below.

3.2.1 Approval holder

The approval holder (Capcoal General Manager) is accountable for:

- Legally securing the Oak Park Covenant;
- OAMP compliance;
- OAMP reviews and updates;
- Annual compliance report to be submitted to DCCEEW; and
- Independent audit report to be submitted to DCCEEW.

The approval holder must implement the OAMP from **within 5 business days** of the Minister's approval of the OAMP, and at least until the expiry of the approval (2003/ 1005). The approval holder must, **within 5 business days** of commencing implementation of the OAMP, notify the department, where 'the department' means the Australian Government Agency responsible for administering the EPBC Act, of the date on which implementation of the OAMP commenced. The approval holder must secure the Oak Park Covenant **within 24 months** of the Minister's written approval of the OAMP.

3.2.2 Conservation area provider

The conservation area provider (Capcoal General Manager) is accountable for:

- Conservation area delivery including overseeing on-ground works such as monitoring, management and reporting;
- Ecological surveys, vegetation and habitat quality assessments; and
- Weed management activities, revegetation, assisted regeneration, fire management activities and pest animal management.

It will be the conservation area provider's responsibility to engage suitably qualified persons to undertake the ecological, vegetation and habitat quality assessments, fauna surveys, prepare reports and undertake inspections as required. These suitably qualified persons will be reviewed and approved by the approval holder.

3.3 Legally secured offset area details

Under the EPBC Act approval conditions, legal security under Queensland legislation is required for environmental offsets to provide enduring protection and management of a prescribed environmental matter(s) contained on an offset site. The *Environmental Offsets Act 2014* (EO Act) (Qld) outlines that a terrestrial environmental offset may be legally secured through any of the following mechanisms:

- An environmental offset protection area under the EO Act;
- A voluntary declaration under the *Vegetation Management Act 1999* (VM Act);
- A protected area (including a nature refuge) under the *Nature Conservation Act 1992* (NC Act); or
- Another mechanism specified under the regulation, (including a statutory covenant) under *the Land Act 1994* or *Land Title Act 1994*.

Within 24 months of this OAMP being approved by the Minister, the Oak Park Covenant will be secured through one of the above legal mechanisms. The approved OAMP will be attached to the legal mechanism used to legally secure the environmental offset and the department will be notified within **five business days** of the Oak Park Covenant being secured.

4 Baseline conservation area condition

4.1 Climate

The Oak Park Mine is located within the Bowen Basin of Central Queensland, Australia and has a sub-tropical climate. A summary of long-term (1870-2004) meteorological monitoring data (temperature, humidity, evaporation, wind speed, and rainfall) from the nearest Bureau of Meteorology (BOM) weather station to Oak Park (the Clermont Post Office Station 035124) was provided. Summary data were discontinued at this station in 2018, although calculation of more up to date data is possible from the raw data still produced by this station. Baseline data, updated with relatively current data from Clermont Post Office (to August 2021, except for relative humidity at 9am and 3pm, which extend up to 2010) are presented in Table 4-1. The current monthly median rainfall values are considerably less than the long-term baseline, with likely repercussions for future vegetation growth.

TABLE 4-1 CLIMATIC DATA- BASELINE (CURRENT)

Month	Avg. Maximum Temp (°C)	Avg. Minimum Temp (°C)	Median Rainfall (mm)	Avg. Evaporation (mm)	Avg. Relative Humidity (%) 9 am	Avg. Relative Humidity (%) 3 pm
January	34.4 (34.2)	21.5 (21.4)	93.3 (92.6)	235.6 (233.5)	65 (66)	40 (42)
February	33.0 (33.1)	21.0 (20.9)	85.1 (77.0)	190.4 (187.7)	70 (71)	45 (47)
March	32.0 (31.9)	19.4 (19.5)	47.6 (44.2)	198.4 (193.0)	69 (69)	42 (42)
April	29.5 (29.4)	15.7 (15.7)	30.0 (17.6)	150.0 (150.7)	66 (67)	40 (41)
May	26.0 (26.0)	11.5 (11.5)	23.1 (16.9)	111.6 (115.5)	68 (68)	43 (42)
June	23.1 (23.1)	8.1 (8.0)	20.5 (16.6)	90.0 (91.9)	68 (69)	40 (41)
July	23.0 (23.1)	6.7 (6.7)	10.3 (8.1)	99.2 (102.6)	65 (66)	36 (37)
August	25.2 (25.4)	8.2 (8.1)	8.7 (8.1)	127.1 (135.2)	60 (61)	32 (33)
September	28.7 (28.7)	12.0 (11.9)	6.5 (4.7)	171.0 (178.9)	54 (55)	28 (29)
October	31.9 (31.8)	16.2 (15.9)	27.3 (25.4)	207.7 (223.9)	54 (54)	29 (30)
November	34.0 (33.7)	19.0 (18.8)	44.0 (39.9)	219.0 (234.1)	55 (57)	32 (34)
December	34.9 (34.5)	20.8 (20.6)	71.1 (69.8)	254.2 (252.1)	60 (60)	36 (38)

Future climate reports of the Whitsunday, Hinterland and Mackay region (which includes the area the Oak Park Mine is located in) have provided indicative changes in temperature and rainfall for two future years, including 2030 and 2070 (Queensland Government, 2019). The indicative changes are shown in Table 4-2. Temperatures are predicted to rise, and rainfall is likely to reduce.

TABLE 4-2 WHITSUNDAY, HINTERLAND AND MACKAY REGION TEMPERATURE AND RAINFALL CLIMATE CHANGE FORECASTS

Parameter		2030 RCP* 4.5 emission scenario	2070 RCP 4.5 emission scenario
Temperature (°C)	Maximum	+1.4	+2.6
	Average	+1.0	+1.6
	Minimum	+0.5	+1.1
Rainfall (annual) (%)	Maximum	+9.0	+15
	Average	-8.0	-7.0
	Minimum	-21	-29

**The RCP (representative concentration pathway) refers to a greenhouse gas concentration trajectory. The trajectory or pathway was labelled according to the potential radiative forcing (W/m2) resulting from the representative greenhouse gas concentration. RCP 4.5 describes a lower emissions future, where greenhouse gas emissions are substantially reduced. Therefore, this represents the best-case scenario.*

Applying these forecast changes in temperature and rainfall to the baseline climate data provided in Table 4-1, Figure 4-1 and Figure 4-2 provide an indication of future weather. The temperature results indicate the shift from baseline using monthly average maximum temperature for 2030 and 2070. The 2030 and 2070 rainfall scenarios are nearly identical to one another. This will inform the criteria being chosen to measure the achievement of conservation outcomes, as it is likely to affect vegetation growth in the future.

FIGURE 4-1 TEMPERATURE BASELINE, 2030 AND 2070 PREDICTIONS

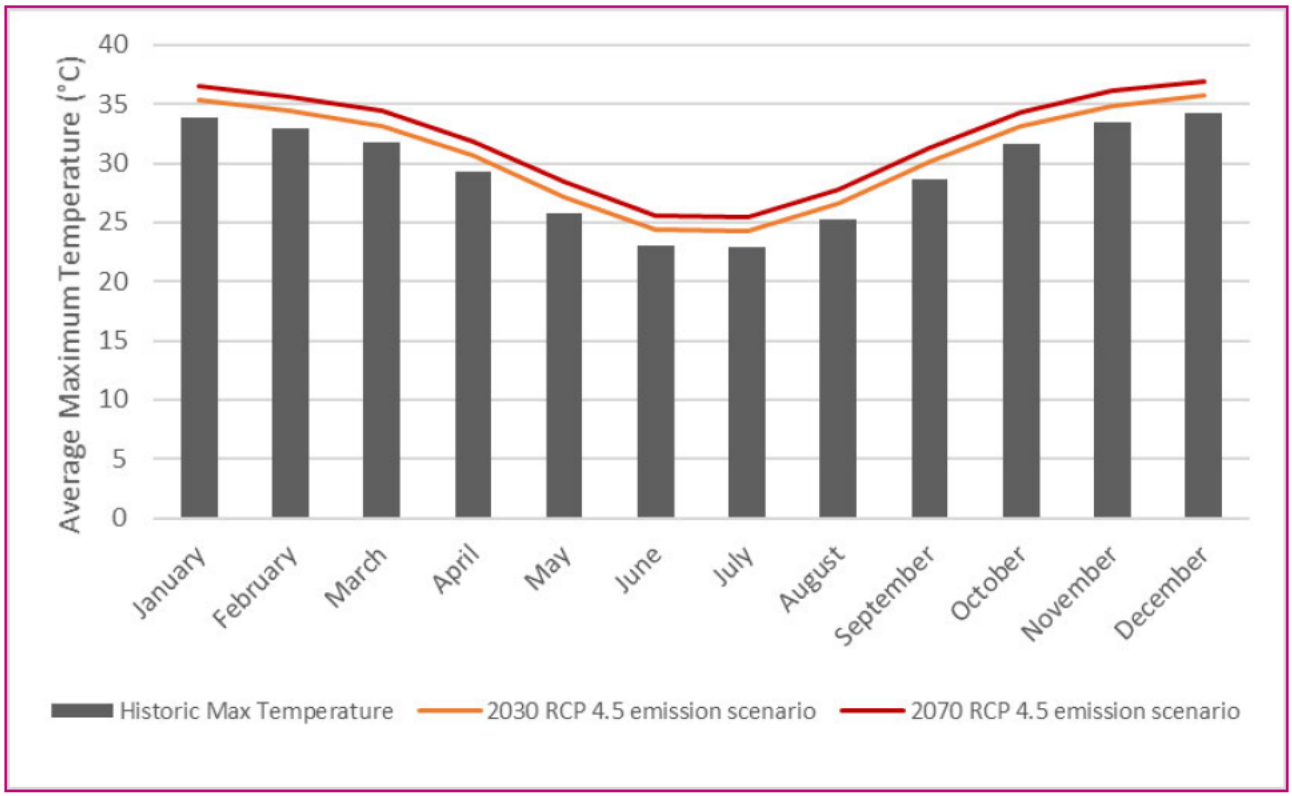
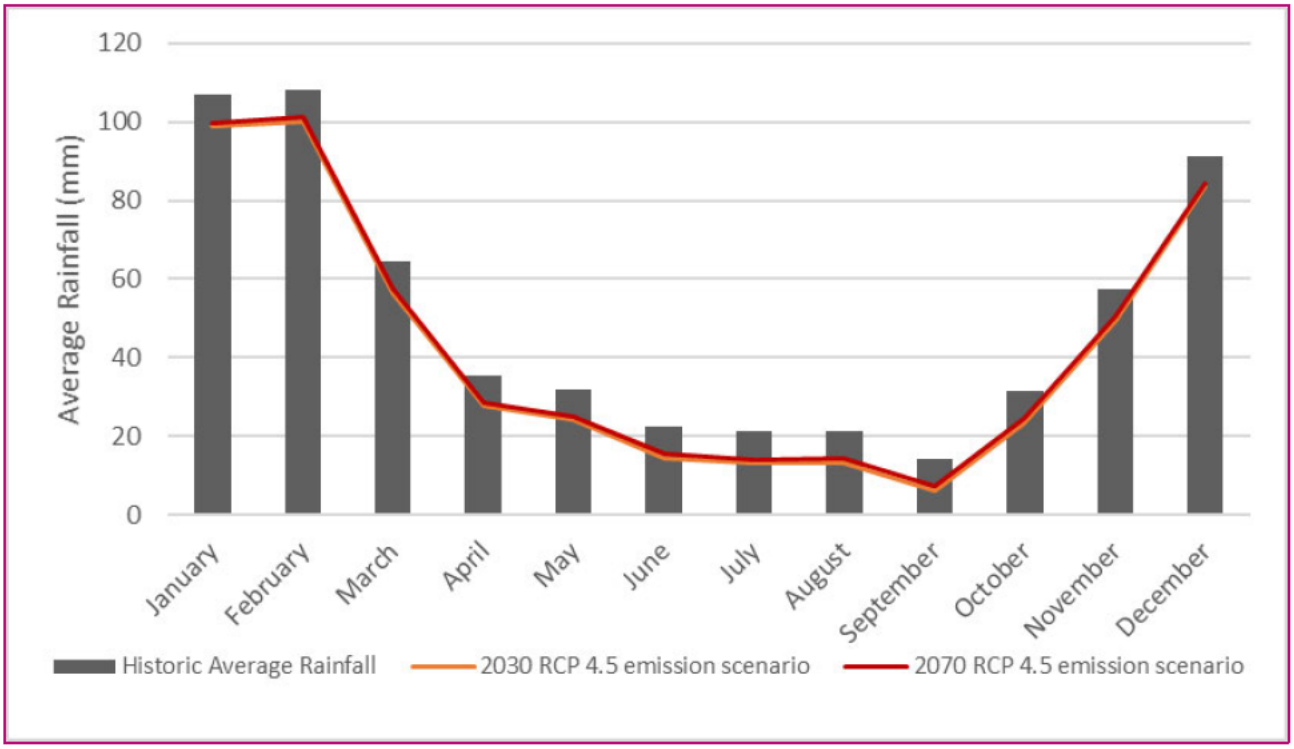


FIGURE 4-2 RAINFALL BASELINE, 2030 AND 2070 PREDICTIONS



4.2 Soils

The soils in the area have been derived from deeply weathered Tertiary sediments and unconsolidated Tertiary-Quaternary sediments (Burgess, 2002). Those derived from the deeply weathered Tertiary sediments typically have low fertility and a moderate to high erosion hazard on slopes >1%. These soil types occupy the majority of the Oak Park Covenant area. They are represented on the Oak Park Covenant by:

- **Anncrouye**, Ac, a hard setting, loamy or clay loamy surfaced, sporadically bleached, acid, mottled, red texture contrast soil over deeply weathered sediments from 0.3-0.8 m, supporting Eucalypt woodland.
- **Bul Bul**, Bb, a hard setting, uniform or gradational, loamy or clay surfaced, acid, brown massive earth over ferricrete or deeply weathered sediments from 0.4-1.0 m supporting Narrow-leaved Ironbark or Eucalypts with shrubby heath Myrtle.
- **Bundoora**, Bd, a hard setting, sandy surfaced, conspicuously bleached, alkaline, mottled, grey or brown, sodic texture contrast soil with coarse columnar structure over deeply weathered sediments from 0.7->1.5 m supporting Eucalypts with Bull Oak, also minor Brigalow-Eucalypt woodland.
- **Parrot,** Pr, a thick (0.5-1.0 m), sandy surfaced, conspicuously or sporadically bleached, acid to alkaline, mottled, brown texture contrast soil over recent alluvium on alluvial plains and levees, supporting Eucalypt woodland.
- **Warwick,** Ww, a normal or shallow melonhole gilgai complex (VI 0.25-0.5 m) with: a hard setting, firm pedal or weakly self-mulching, alkaline, grey or brown, sodic cracking clay on mounds and shelves; and a hard setting, firm pedal or weakly to moderately self-mulching, supporting pasture - sown pastures and native pasture on high fertility soils.
- **Wyndham**, Wm, a deep, soft or loose, acid, brown or yellow uniform sand (>1.1 m) grading to a thick (0.4-1.1 m), sandy surfaced, conspicuously bleached, acid to alkaline, mottled, grey, sodic texture contrast soil with coarse columnar structure over ferricrete or deeply weathered sediments below 0.8 - >1.5 m, supporting Eucalypts with shrubby Teatree.

Soils derived from the unconsolidated Tertiary-Quaternary sediments have low to moderate fertility and moderate to extreme erosion hazard on slopes >1%. They are represented on the Oak Park Covenant by:

- **Foxleigh**, Fx, a sandy surfaced, conspicuously bleached, alkaline, mottled, brown or grey, sodic texture contrast soil with coarse columnar structure supporting Poplar Box or Poplar Box-Bloodwood-Morton Bay Ash, occasionally Poplar Box-Ironbark or Eucalypts with Bull Oak.
- **Foxleigh clay loamy phase**, FxLp, a hard setting, loamy or clay loamy surfaced, conspicuously or sporadically bleached, alkaline, brown, sodic texture contrast soil with coarse columnar structure (loamy surfaced version of Foxleigh) supporting Poplar Box, Poplar Box-Ironbark, Gum-Topped Box or Yapunyah and minor Brigalow-Eucalypt woodland.
- **Racetrack**, Rt, a hard setting, clay loamy surfaced, conspicuously or sporadically bleached, alkaline, brown, sodic textured contrast soil with coarse columnar structure supporting Brigalow-Dawson Gum, occasionally Dawson Gum or Brigalow-Yapunyah.

Minimal erosion has been observed throughout the Oak Park Covenant area (Kleinfelder, 2021; 2024); only minor erosion was observed along vehicle access tracks when crossing drainage lines. Generally, the soils are sodic in nature and susceptible to erosion once disturbed.

4.3 Hydrology

The Oak Park Mine is part of the Roper Creek catchment, that drains into the Mackenzie River, which in turn drains into the Fitzroy River.

No watercourses (as defined under the Queensland *Water Act 2000*) run through the Oak Park ML or Oak Park Covenant. However, three ephemeral drainage lines run through the Oak Park Covenant from west to east, known locally as Tea & Sugar Creek, Sandy Creek and Kaiu Creek. These streams only briefly carry flow after rainfall events. Kaiu Creek has been altered by mining, with the western end of the creek separated from the eastern section by spoil areas. The western end now drains into a waterbody bounded on the east by spoil mounds.

The topography of the area is gently undulating, with no outstanding natural features within the landscape.

4.4 Vegetation and habitat

As per approval condition 1E(c), ecological surveys are required to determine the baseline habitat quality for Brigalow TEC and listed threatened species within the Oak Park Covenant. This will enable the detection of changes in vegetation and habitat condition and be used to assess if conservation outcomes are ultimately achieved.

A vegetation and habitat quality condition ecological survey was completed 15-18 November 2024 within the Oak Park Covenant by Kleinfelder. This was conducted under the Oak Park Conservation Strategy, however the habitat data obtained from this assessment was reviewed through the lens of the target species' preferred habitat and found suitable for the listed threatened species in the Directed Variation. Further field data was collected for the Brigalow TEC (patch size, dominant woody tree species, maturity and exotic perennial plant cover) to verify the presence and extent of the Brigalow TEC at the Kleinfelder monitoring locations where Brigalow was observed.

A combination of desktop analysis and field survey was conducted (Kleinfelder, 2024). The desktop analysis leveraged publicly available environmental data to collate up to date ecological information. Databases reviewed included (Kleinfelder, 2024):

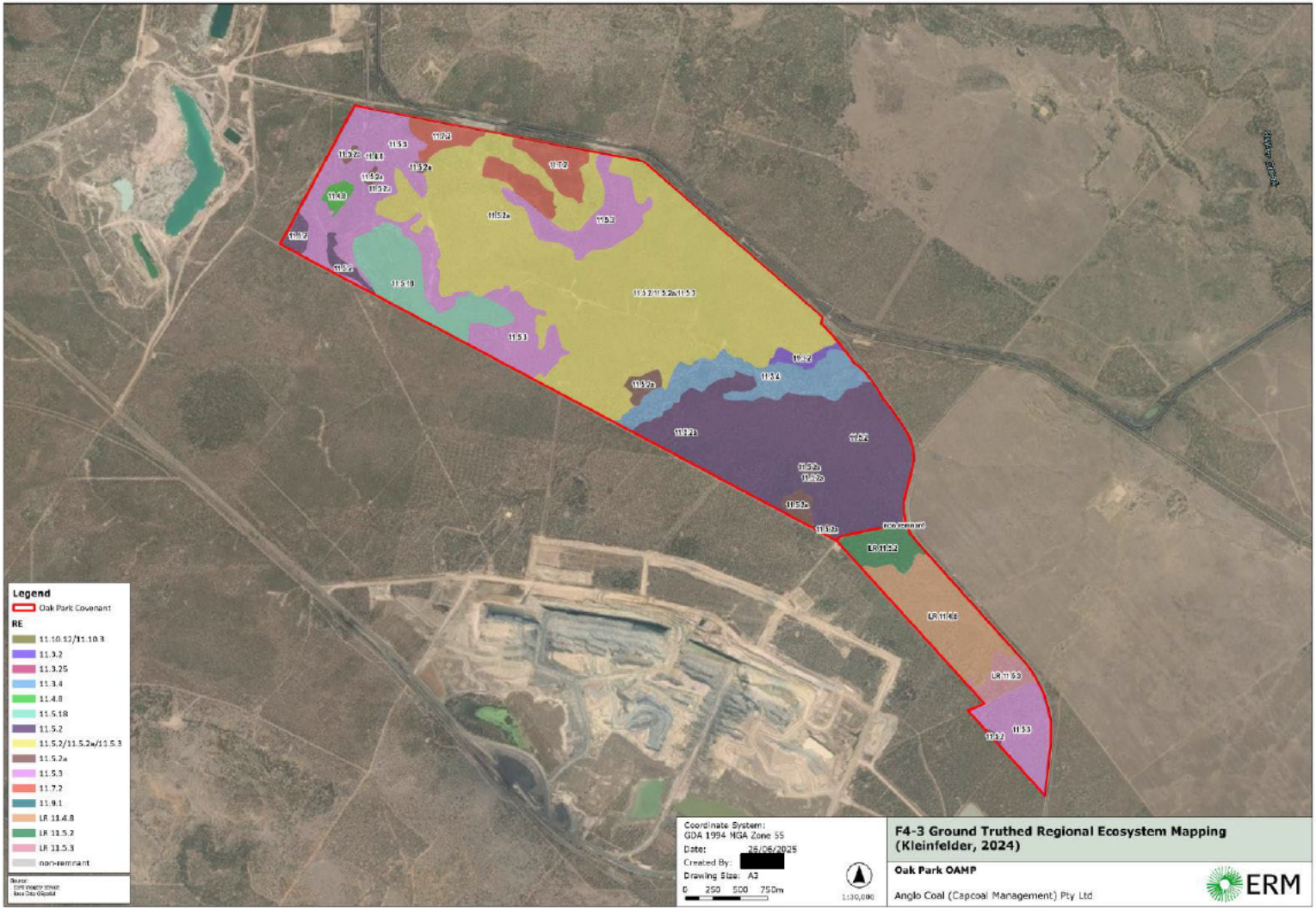
- DCCEEW EPBC Protected Matters Search Tool (PMST) (Cth);
- DCCEEW Species Profile and Threats Database (Cth);
- Queensland Herbarium Regional Ecosystem (RE) Description Database (Qld);

- DETSI WildNet database (Qld)
- Queensland Regulated Vegetation Mapping and Essential Habitat Mapping (Queensland Globe); and
- Matters of State Environmental Significance State Planning Policy Interactive Mapping System.

BioCondition monitoring and habitat quality assessments were conducted as per the BioCondition Assessment Manual v2.2 (Eyre et al., 2015) and the Terrestrial Habitat Quality Guidelines v1.3 (Queensland Government, 2020) (Kleinfelder, 2024). This is considered best practice as per the Environmental Offsets Policy and will provide a more accurate baseline and repeatable methodology for future assessments under the OAMP.

The majority of the vegetation within the Oak Park Covenant is classed as remnant vegetation, except for a small area which is classed as high value regrowth (HVR) under the VM Act, as it has not been cleared in the last 15 years. The ecosystems within the remnant vegetation are primarily mapped as Least Concern, with parcels of threatened species present, as discussed in following sections. The HVR is recovering pasture lands. The ground-truthed vegetation mapping is provided in Figure 4-3.

FIGURE 4-3 GROUND TRUTHED REGIONAL ECOSYSTEM MAPPING (KLEINFELDER, 2024)



4.4.1 Threatened ecological communities

As per the Commonwealth Government's Species Profile and Threats Database (SPRAT) the Brigalow TEC is characterised as *Acacia harpophylla* dominant in the tree layer or co-dominant with other species such as *Casuarina cristata* (Belah), other species of *Acacia*, or species of *Eucalyptus*. In Queensland, the listed Brigalow TEC comprises 16 regional ecosystems (REs) (Threatened Species Scientific Committee, 2001), with only one mapped to occur in the Oak Park Covenant: RE 11.4.8- *Eucalyptus cambageana* open forest with *Acacia harpophylla* or *A. argyrodendron* on Cainozoic clay plains (Kleinfelder, 2024). It is considered endangered.

Whilst not called out in the Directed Variation, one other endangered TEC, the Poplar Box Grassy Woodland on Alluvial Plains, was mapped to occur along one of the ephemeral watercourses (Sandy Creek) within the Oak Park Covenant: RE 11.3.2- *Eucalyptus populnea* woodland on Cainozoic alluvial plains (Kleinfelder, 2024).

The following information regarding Brigalow TEC's habitat and threats has been obtained from the relevant TEC's approved Conservation Advice and National Recovery Plan (where applicable), from the Commonwealth SPRAT on 4 October 2024. The baseline condition as surveyed by Kleinfelder (2021 and 2024) and ERM (2025) is discussed with reference to the Conservation Advice.

4.4.1.1 Brigalow

4.4.1.1.1 Known habitat

The Brigalow TEC has a considerable range of vegetation structure and composition united by a suite of species that tend to occur on acidic and salty clay soils. The canopy is usually dominated by *Acacia harpophylla* with or without *Casuarina cristata* or *Eucalyptus* trees. Eucalyptus species commonly present include *E. argophloia* (Chinchilla white-gum), *E. brownii* (Reid River box), *E. cambageana* (blackbutt, coowarra box, Dawson gum), *E. largiflorens* (black box) *E. microcarpa* (grey box), *E. moluccana* (grey-topped box), *E. pilligaensis* (gum-topped box, ribbon gum, mallee box, Molly box, narrow-leaved grey box), *E. populnea* (poplar box, bimble box) or *E. thozetiana* (mountain yapunyah), or less often *E. coolabah* (coolibah) or *E. orgadophila* (mountain coolibah). A moderately dense low tree layer or tall shrub layer is frequently present in the Brigalow TEC. It typically includes *Eremophila mitchellii* (sandalwood) and *Geijera parviflora* (wilga), or in northern areas, *Terminalia oblongata* (yellowwood). The Brigalow TEC typically has a sparse ground layer. However, ground litter, particularly woody debris, is important to certain fauna.

The key faunal habitat features of the Brigalow TEC are litter and woody debris on the forest floor, large trees providing hollows or pockets under their bark and sources of nectar and fruit.

4.4.1.1.2 Known threats

The most important threats and risks, in order of significance, include clearing, fire, weeds, feral animals and inappropriate grazing (Butler, 2007). Climate change is also an emerging threat that needs consideration in management; in addition to directly threatening species that cannot adapt, increased temperatures and decreased, more erratic, rainfall will likely mean unplanned, high-intensity fires will become a greater threat. This can substantially reduce the understory diversity.

The low density of herbage in most types of brigalow vegetation suggests that fire has been historically rare in the Brigalow TEC. It becomes a serious threat to remnant brigalow where fuel characteristics have been changed (e.g. by the presence of high biomass introduced grass pasture species such as Buffel grass (*Cenchrus ciliaris*), Rhodes grass (*Chloris gayana*) or Green Panic grass (*Panicum maximum*) in, or adjacent to, brigalow woodlands (Butler, 2007).

Weed invasion is a significant concern, particularly due to disturbances such as clearing for roads or by grazing stock. Introduced grasses, such as buffel grass, Rhodes grass and green panic grass, posing a significant threat by drawing fires into the Brigalow TEC and increasing fire severity (Butler, 2007). Feral pigs are probably the most widespread and problematic pest animal, although goats, cane toads, cats and foxes are also serious threats (Butler, 2007). Pigs can cause substantial degradation by destroying young plants and disturbing soil. Additionally, the noisy miner (*Manorina melanocephala*), whilst being a native bird, is also a problem species within the Brigalow TEC because this species cooperates to aggressively exclude almost all bird species from the areas they occupy (often degraded woodlands). Inappropriate grazing regimes also have a number of impacts on the Brigalow TEC, including trampling by hard hooved stock compressing the soil and grazing strongly affecting the recruitment and growth of shrubs and trees.

Several of these threats are listed as key threatening processes under the EPBC Act. A threatening process is defined as a key threatening process if it threatens or may threaten the survival, abundance or evolutionary development of a native species or ecological community. Disturbances such as clearing, intense fires and overgrazing, tend to reduce one or more of the key habitat characteristics for the listed threatened fauna species.

4.4.1.1.3 Baseline condition

Within the Oak Park Covenant, there are patches of field verified vegetation that meet the definition of Brigalow TEC, based on RE types. This includes RE 11.4.8 (*Eucalyptus cambageana* woodland to open forest with *Acacia harpophylla* or *A. argyrodendron* on Cainozoic clay plains), in both a remnant and regrowth condition. These areas are generally in a low-quality condition, with dominant tree species including *Acacia harpophylla* (Brigalow), *Eucalyptus populnea* (Poplar Box), *Acacia rhodoxylon* (Rosewood), *Acacia bancroftiorum* (Dysart Wattle) and *Grevillea striata* (Beefwood).

The majority of the Brigalow TEC is associated with an area of regrowth RE 11.4.8, which has been assessed as having an average BioCondition score of 0.59. A habitat quality score of 6 was determined for brigalow baseline condition. Field survey conducted in 2025 confirmed presence of Brigalow TEC within regrowth RE 11.4.8, as all monitoring sites indicated perennial non-native cover was less than 50% and patch size is greater than 0.5 ha.

4.4.2 Listed threatened species

As per the Directed Variation, listed threatened species means, "the threatened fauna species listed under the EPBC Act for which this approval has effect, including:

i. Corben's Long-eared Bat (*Nyctophilus corbeni*);
ii. Dunmall's Snake (*Furina dunmalli*);
iii. Squatter Pigeon (southern) (*Geophaps scripta scripta*); and
iv. Yakka Skink (*Eqernia rugosa*)."

According to the Commonwealth SPRAT, all four species are listed as Vulnerable under the EPBC Act. The following sections, regarding the species' habitat and threats, has been obtained from the relevant species' approved Conservation Advice and National Recovery Plan (where applicable), from the Commonwealth SPRAT on 8 October 2024. The baseline habitat condition as surveyed by Kleinfelder (2024) is discussed with reference to the Conservation Advice.

Note that Kleinfelder (2024) assessed the habitat condition of the koala (*Phascolarctos cinereus*), greater glider (*Petauroides volans*), squatter pigeon (southern subspecies) (*Geophaps scripta scripta*) and ornamental snake (*Denisonia maculata*), with observations including, but not limited to, seed availability, grass cover, hollow density and size, tree species, cracking clays and water proximity. This habitat data was cross-referenced against the target species preferred habitats (as per their Conservation Advice under the Commonwealth SPRAT) to assess if the habitat condition is suitable for the target species; for example, the

number of hollows available for the Corben's long-eared bat, or the amount of woody debris for the yakka skink, and it was determined to be sufficient to assess habitat for the four listed threatened fauna species.

4.4.2.1 Occurrence within the Oak Park Covenant

A recent search of the Atlas of Living Australia (ALA) shows that only the squatter pigeon has a likely distribution that includes the Oak Park Covenant area and has been recorded within 50 km of the Oak Park Covenant. The likely distributions for the yakka skink and Dunmall's snake are very small and patchy in the region, whilst the likely distribution for Corben's long-eared bat is to the south of the Oak Park Covenant. There are no records for these species within 50 km of the Oak Park Covenant.

4.4.2.2 Corben's Long-eared Bat

4.4.2.2.1 Known habitat

Corben's long-eared bat (also referred to as the south-eastern long-eared bat) is found in a wide range of inland woodland vegetation types. These include box/ ironbark/ cypress pine woodlands, Buloke woodlands, Brigalow woodland, Belah woodland, smooth-barked apple woodland, river red gum forest, black box woodland, and various types of tree mallee (Duncan et al., 1999; Schulz and Lumsden, 2010; Woinarski et al., 2014). In Queensland, it is distinctly more common in box/ ironbark/ cypress-pine vegetation. The species is more abundant in extensive stands of vegetation in comparison to smaller woodland patches (Turbill and Ellis, 2006), suggesting its home range is probably large (Lumsden et al., 2008). The species has also been found to be much more abundant in habitats that have a distinct tree canopy and a dense, cluttered understorey layer (Turbill and Ellis, 2006).

Foraging appears to be concentrated around patches of trees in the landscape, with many individuals from different species of bat sharing the same foraging area. Studies have found that the Corben's long-eared bat roosts solitarily, mainly in dead trees or dead spouts of live trees. It appears that most roost sites are used just for a single day and large distances are travelled at night, with consecutive roost sites generally within 4 km (Lumsden et al., 2008).

4.4.2.2.2 Known threats

Habitat loss and fragmentation are considered the key known threats to the survival of the Corben's long-eared bat. Given the species' requirements for large areas of land, smaller fragments may not provide viable habitat for the species (Woinarski et al., 2014).

Bushfires pose a threat to the conservation of the species by both causing direct mortality during bushfire events and through the loss of foraging habitat and roosting sites, which take a long time to develop (Schulz and Lumsden, 2010). Schulz and Lumsden (2010) suggest that bushfires, fuel reduction burns and frequent burning regimes for increased productivity in Queensland have an unknown but likely detrimental impact on the species.

The availability of suitable roosting habitats is essential for the conservation of this species. Corben's long-eared bat mainly roosts in tree hollows and so a reduction in hollow availability would likely put pressure on the species. The loss of hollows is a threat on its own to the species; however, habitat loss also leads to increased competition for remaining hollows from other animals (Reardon, 2012). Additionally, grazing in the uncleared areas of habitat may reduce foraging habitat through the removal of shrubs and by limiting regeneration, as well as potentially causing significant changes to the structure and diversity of such habitats (Schulz and Lumsden, 2010).

4.4.2.2.3 Baseline condition

Potential habitat for Corben's long-eared bat is associated with areas of remnant eucalypt open forest within the Oak Park Covenant. Habitat quality for this species was generally assessed as low for the species, due to a paucity of hollow-bearing trees and low shrub canopy cover. This demonstrates a lack of breeding resources, as well as reduced complexity in the shrub layer. Using the EPBC Act offset assessment guide scoring, the current baseline habitat quality score has been assigned a score of 3.

4.4.2.3 Dunmall's Snake

4.4.2.3.1 Known habitat

Dunmall's snake is found in open forest, particularly *Acacia harpophylla* forest and woodland growing on floodplains of deep-cracking black clay and clay loam soils (Covacevich et al., 1998; Cogger et al., 1993). The distribution of this species is associated with the Brigalow TEC.

4.4.2.3.2 Known threats

Habitat loss and fragmentation is the key threat identified to the survival of Dunmall's snake, with its preferred habitat having been extensively cleared and/ or modified. Its habitat continues to be threatened by overgrazing, replacement with grazing and agriculture, and predation by feral animals.

4.4.2.3.3 Baseline condition

Existing, potential habitat for Dunmall's snake occurs within REs 11.4.8, 11.5.1, 11.5.2 and 11.5.3 within the Oak Park Covenant. Coarse woody debris is present within these REs, including log piles which are used for shelter. Cracking clay soils are generally absent, with some observations of this soil-type in RE 11.4.8 only. Using the EPBC Act offset assessment guide scoring, the current baseline habitat quality score has been assigned a score of 4.

4.4.2.4 Squatter Pigeon (southern)

4.4.2.4.1 Known habitat

The squatter pigeon (southern) inhabits the grassy understorey of open eucalypt woodland, and less often savannas. It is nearly always found near permanent water such as rivers, creeks and waterholes. The squatter pigeon (southern) nests on the ground, usually laying two eggs among or under vegetation. It forages for seeds among sparse and low grass, in improved pastures, and beside railway lines and with domestic fowl around settlements. It roosts in low trees at night. Its movements are poorly known, but it appears to be locally dispersive or resident, with no long-distance seasonal movements recorded (Higgins & Davies, 1996).

4.4.2.4.2 Known threats

In Queensland, much of the (southern) squatter pigeon's original habitat has been replaced with improved pasture for cattle-grazing which, while decreasing the abundance of natural food plants, is not as destructive as grazing by sheep and may provide an important source of food (Higgins & Davies, 1996). Current threats include ongoing vegetation clearance and fragmentation, overgrazing of habitat by livestock and feral herbivores such as rabbits (*Oryctolagus cuniculus*), introduction of weeds, inappropriate fire regimes, thickening of understorey vegetation, predation by feral cats (*Felis catus*) and trampling of nests by domestic stock.

4.4.2.4.3 Baseline condition

Potential habitat for squatter pigeon occurs within all areas of eucalypt open woodland within the Oak Park Covenant. Potential foraging habitat for the species occurs within 3 km of ephemeral waterbodies, which covers all the conservation area. Potential breeding habitat occurs within 1 km of permanent water sources, of which there is only a single dam located to the south of the conservation area. The ground layer within the Oak Park Covenant contains a mix of open, grassy substrates that contain good quality squatter pigeon foraging habitat. Based on the ability for squatter pigeon to occur and forage in the relatively disturbed areas, the species has been assigned a habitat quality score of 6.

4.4.2.5 Yakka Skink

4.4.2.5.1 Known habitat

The yakka skink is found in open dry sclerophyll forest or woodland (Wilson and Knowles, 1988; Cogger, 2000). This species will often take refuge among dense ground vegetation, large hollow logs, cavities in soil-bound root systems of fallen trees and beneath rocks (Wilson and Knowles, 1988; Cogger, 2000). They may also excavate burrow systems among low vegetation or below logs (Ehmann, 1992).

4.4.2.5.2 Known threats

Habitat loss and fragmentation are considered the key known threats to the survival of the yakka skink, with other threats including the removal of woody debris and rock microhabitat features, ripping of rabbit warrens and predation by feral animals (Threatened species network, 2008).

4.4.2.5.3 Baseline condition

Areas of potential habitat for yakka skink within the Oak Park Covenant include field-verified REs 11.4.8, 11.5.1, 11.5.2, 11.5.3, 11.5.18, 11.7.2 and 11.10.3 which are areas of eucalypt and brigalow woodland. These areas are likely to be used by foraging individuals only, with some habitat provided in the form of log piles and coarse woody debris used for sheltering individuals. Cover of native grasses in the ground layer has been assessed as low, with reduced complexity in the shrub layer. Habitat quality has been scored at a 4 for baseline condition, when applying the EPBC Act offset assessment guide.

4.4.3 Connectivity

Connectivity to remnant vegetation is relatively high (Kleinfelder, 2021; 2024), due to the contiguous uncleared nature of the Oak Park Covenant. At the regional level, there are no state or regionally significant biodiversity corridors within or adjacent to the Oak Park Covenant that it provides connectivity with.

4.4.4 Invasive plant species

Two Category 3 restricted invasive plants, under the Queensland *Biosecurity Act 2014*, were mapped within the Oak Park Covenant, of which one is classified as a Weed of National Significance (WoNS) (Kleinfelder, 2024):

- Harrisia Cactus (Harrisia martinii) was recorded;
- Velvety Tree Pear, a WoNS (Opuntia tomentosa) was observed across the Oak Park Covenant.

4.4.5 Buffel grass

Buffel grass (*Cenchrus ciliaris*) was observed throughout the entire Oak Park Covenant. Buffel grass is not classified as Restricted Matter in Queensland; however, the invasion of Buffel grass is recognised to fall under the key threatening process under the EPBC Act.

5 Conservation area delivery

5.1 Conservation area management

Cattle grazing was largely excluded in 2003,and regeneration since then has been from natural sources (seed dispersed from nearby vegetation, soil seed bank, etc.). Natural regeneration will continue and further management measures will be implemented under this OAMP to enhance and protect the Brigalow TEC and listed threatened fauna species.

Priority management measures, and their associated conservation benefits, have been identified on the basis of the known threats to the Brigalow TEC and listed threatened fauna species, discussed in the previous section. A summary of priority management measures is provided in Table 5-1.

TABLE 5-1 PRIORITY MANAGEMENT MEASURES FOR OAK PARK COVENANT

Threat	Management measures
Clearing	No clearing of Brigalow within the Oak Park Covenant will be permitted. No unapproved and/ or intentional clearing of other native vegetation is permitted within the Oak Park Covenant except for clearing that is required for fencing, firebreaks, fuel load management and actions required for implementation of this OAMP. Ecological thinning may be carried out, but only on and in accordance with the advice of a Principal Ecologist with >15 years' experience in Central Queensland. A fauna survey of roadsides will be conducted before undertaking road widening within the Oak Park Covenant. Dead trees, fallen timber, microhabitat features (rocks, leaf litter, woody debris, etc.) will be retained. Where trees are cleared on the adjacent Oak Park mining lease, the Oak Park Covenant area is the first consideration for placement of the timber for fauna habitat.
Inappropriate fire regimes	Fire management guidelines for Regional Ecosystems (Queensland Herbarium, 2024) will be used to inform fire management practices across the Oak Park Covenant. The majority of the conservation area is comprised of RE 11.5.2 and RE 11.5.3, with areas of RE 11.3.4, RE 11.7.2, RE 11.4.8 and RE 11.3.2 (the last two forming part of the endangered Brigalow and Poplar Box Grassy Woodland TEC's respectively). There are three different burning strategies applicable to these REs; these are outlined below and discussed in detail in Section 5.1.4: For RE 11.5.2, RE 11.3.4 and RE 11.3.2 woodlands and grassy woodlands, low intensity burns (to protect habitat trees) in mosaic patches can be used to control fuel loads and invasive shrubs. Controlled burns must be conducted under conditions of good soil moisture and when plants are actively growing. For RE 11.7.2 and RE 11.4.8 (Brigalow TEC), protection from fire is necessary; can only maintain fire management of surrounding areas. Frequent fire at the edge of these REs will keep fuel loads low. For 11.5.3, shrubby woodlands require longer fire intervals than grassy woodlands because of the time required for post-fire regrowth (often >5 years) and therefore none of these areas should receive two consecutive controlled burns at intervals of <6 years. Where it occurs with grassy woodlands (as is the case in the Oak Park Covenant), attempt to burn the shrubby woodland every second fire rotation in the grassy woodland (by burning early breaks around the shrubby areas).
Weeds	Category 3 restricted weed occurrence and extent will be mapped and weed control will be undertaken throughout the Oak Park Covenant area and then periodically, as required, to treat weeds at the optimum time in their life cycles. The practices will control and minimise the spread of existing weeds so that weed cover will be reduced to less than 10% of ground cover over the life of the approval.

Threat	Management measures
Invasive animal species	Existing populations of invasive animal species (commonly feral cats, wild dogs and feral pigs) will be monitored and subsequently controlled within the Oak Park Covenant in accordance with the *Biosecurity Act 2014* (Qld). Monitoring of both direct and indirect evidence of invasive animal species in the Oak Park Covenant area will be undertaken. On being notified or becoming aware of the presence of large numbers, for example, observing three or more invasive animal species or multiple tracks in the Oak Park Covenant area at any one time, the approval holder is to implement invasive animal species control measures within one month.
Inappropriate grazing regime	Grazing exclusion to allow establishment of woody trees and shrubs (maintenance of stock proof fencing). Stock will be grazed only when required to reduce fuel loads in the dry season.

5.1.1 Habitat management

It is widely acknowledged that clearing, fragmentation and degradation of habitat comprise the single biggest threat to biodiversity, as identified across all the conservation advice, listing advice, and threat abatement plan documents issued under the EPBC Act and applicable State legislation for the Brigalow TEC and listed threatened species. The existing habitat management measures implemented under the Conservation Strategy, that benefit the listed threatened species, included:

- Retention of fallen timber and leaf litter for reptiles;
- Retention of standing dead trees or old trees with hollow limbs for nesting sites for bats, birds, mammals and reptiles;
- Retention and re-introduction of microhabitat features (e.g. rocks, logs and other woody debris) for reptiles; and
- No clearing of Brigalow.
- Additional measures to be implemented include:
- No further clearance, fragmentation or detrimental modification of native vegetation except for clearing that is required for fencing, firebreaks and fuel load management; ecological thinning may be carried out, but only on and in accordance with the advice of a Principal Ecologist with >15 years' experience in Central Queensland;
- A fauna survey of roadsides (with a focus on reptiles potentially using these linear remnants) will be conducted before undertaking any road widening within the Oak Park Covenant.
- Regeneration of regrowth areas and revegetation of degraded areas, by limiting disturbance in the area and the direct seeding/ tubestock planting of native species suitable to the TEC in the area. Where possible, sources of seed will be chosen closer to the margins of their range, to potentially increase their resilience to climate change. Active planting will only be required as an adaptive management strategy if monitoring does not indicate successful trajectory towards the interim performance criteria and environmental outcomes;
- Where possible, the establishment of adequate buffer zones around the Brigalow TEC to protect the remnant TEC (buffer zones are areas outside the edge of a patch but not considered part of the TEC; ideally at least 30m and consisting of native vegetation);
- Supplementing fauna habitat by placing artificial hollows (for bats, birds and arboreal mammals) and logs (for reptiles) in the Oak Park Covenant. This will only be required as an adaptive management strategy if monitoring does not indicate successful trajectory towards the interim performance criteria and environmental outcomes; and

- Discouraging species like noisy miners and introduced predators by maintaining large patches of woodland with complex structure (protecting the mid, or shrub, layer).

As the above management measures are applied within the Oak Park Covenant, over the life of the approval, the quality of existing ecosystems will return improve from baseline. In turn, this will reestablish habitat connectivity for flora and fauna at a larger scale, thereby reversing the effects of fragmentation and degradation. This conservation outcome will be supported by the other management measures described below, which will support and underpin a broader scale of environmental uplift across the Oak Park Covenant.

5.1.2 Weed management

Established weeds can alter the structure and function of native ecosystems and affect their suitability as habitat for native species. Disturbance to the tree canopy and/ or the soil generally assist weed establishment. The most easily controlled and widespread sources of disturbance are associated with anthropomorphic activities such clearing for roads or development, or overgrazing by stock (Butler, 2007). Therefore, limiting disturbance within the Oak Park Covenant and managing grazing activities are a priority to minimise the threat from weeds.

Targeted weed control will be conducted, with a particular focus on Category 3 Restricted Matters. High biomass exotic grasses within the Oak Park Covenant will also be managed. Removal of Category 3 Restricted matters and improved control of exotic grasses will result in long term positive ecosystem change by increasing native species richness, abundance and recruitment, and significantly reducing the risk of intense fires. Under these conditions there is high confidence that the quality of existing ecosystems will be improved

Care must be taken when managing weeds within and close to the Oak Park Covenant area. Targeted methods (for Category 3 weeds) will include the manual removal or spot application of herbicides during the plants' active growing phase, with the broadscale application of herbicides to be avoided to prevent chemical spray drift and off-target damage. Follow up application of herbicide after the initial treatment will be required in most cases. Fertilizer application within the Oak Park Covenant will be avoided, and soil disturbance and tree thinning will also be avoided. Where any seeding occurs within the Oak Park Covenant, the seed mix will be obtained from a reputable supplier and confirmed to not contain any weed species.

Weed management will be based on the early detection and control of weed species and will be implemented within the first year within the Oak Park Covenant and then periodically, as required, to treat weeds at the optimum time in their life cycles. Weed control will be conducted by a suitably qualified person and the GIS data recorded, provided to the approval holder for record in a database tracking weed infestations. Management of weed species where threatened listed species habitat or TECs are known to occur will be prioritised.

All weed control activities must be performed by a suitably qualified person and weed hygiene measures must be followed, including vehicle wash-down before and after treatment. Wherever possible, weed control programs are to be carried out within a cooperative catchment or on a regionally coordinated basis for optimum effect to prevent reinfestation from surrounding land.

5.1.3 Invasive animal species management

Invasive animal species (defined as restricted invasive animals under the Queensland *Biosecurity Act 2014*) degrade the quality and suitability of habitat for native fauna and flora (through overgrazing, destruction of native plants, spreading of weeds, and soil disturbance from burrowing and digging) and can cause impacts on listed threatened fauna species through predation and competition.

Common invasive animals regularly sighted in the area are the feral cat (*Felis catus)*, wild dog (*Canis familiaris)* and feral pig (*Sus scrofa*). Existing populations of invasive animals will be monitored and subsequently controlled within the Oak Park Covenant in accordance with the *Biosecurity Act 2014*, and preferably managed through coordinated landscape-scale programs, with the use of baiting and trapping programs.

There are a range of control methods available for feral cats, dogs and pigs, including trapping, aerial and ground shooting, baiting, and fencing. Invasive animal control within the Oak Park Covenant will be done in line with existing Oak Park Mine feral animal control processes and any regional feral animal control programs (unless those would otherwise contravene a part of this OAMP).

Historically, the approval holder has used baiting to control wild dog populations, within wider management programs. However, baiting presents a potential risk to non-target species (such as native fauna and livestock) (Sharp, 2012). Trapping is an effective control method in areas with low invasive animal populations. The trap should be constructed in a way so as not to cause injury from loose wire, sharp edges or malfunctioning gates (Sharp, 2012). Also, a smaller mesh size will be used to prevent injuries to the captured animals. Trapped feral animals will be destroyed by shooting as quickly and humanely as possible. Although the different feral cat, dog and pig traps are designed for the capture of said feral animals, there is still a risk of capturing other species. Use of species-specific traps with associated gate trip mechanisms minimises the risk of catching other species.

Invasive animal monitoring sites will be established and monitored within the first year, and then monitored at annualinspections, across the Oak Park Covenant by a suitably qualified person. Both indirect (e.g. scat, tracks, damage) and direct evidence (confirmed sighting) of invasive animals will be monitored, to understand their movements within the Oak Park Covenant and the GIS data will be provided to the approval holder for record in a database tracking invasive animal infestations.

Feral pig assessments of abundance will be determined in line with methods recommended in Hone (1988), Mitchell and Balogh (2007) and Engeman et al (2013). These will use, animal counts (if any), wallows, tracks and other disturbances to establish relative abundance indices in the first year and subsequent years. Wild dog estimates will be based on animal observations, tracks and evidence of prey kills across the Oak Park Covenant (Mitchell and Balogh, 2007).

All invasive animal control will be performed by a suitably qualified person.

5.1.4 Fire management

Fire regimes can threaten species directly by reducing their survival and/or reproduction, or indirectly though the alteration of habitats, disruption of dependencies among species, and/ or exacerbating the impacts of other threats. However, fire is also known to maintain or enhance biodiversity. For example, fire is acknowledged as a natural part of *Eucalyptus* woodland ecology and as a tool for grass and understorey fuel load management. On the basis of this knowledge, in Queensland, fire management guidelines have been developed for each Regional Ecosystem (RE) (Queensland Herbarium, 2024), assuming the areas they are applied are in a condition relatively similar to the benchmark for that RE.

Fire management practices within the Oak Park Covenant will be informed by these fire management guidelines, noting that the initial fire management in some areas may differ from these guidelines where vegetation is heavily infested with weeds. Fire, coupled with spot herbicide application, is an important tool for managing most weeds found within the Oak Park Covenant, and will allow native flora to establish.

The majority of the Oak Park Covenant area is comprised of RE 11.5.2 and RE 11.5.3, with areas of RE 11.3.4, RE 11.7.2, RE 11.4.8 and RE 11.3.2 (the last two forming part of the endangered Brigalow and Poplar Box Grassy Woodland TEC's respectively). The fire management guidelines (Queensland Herbarium, 2024) note the following:

- For RE 11.5.2, RE 11.3.2 (Poplar Box TEC) and RE 11.3.4: the management of this vegetation type (grassy woodlands) should be based on maintaining vegetation composition, structural diversity, fauna habitats (in particular, hollow-bearing trees and logs) and preventing extensive wildfire. Maintaining a fire mosaic, in which less than 30% is burnt in any year, will help ensure protection of habitat and mitigate against wildfires. Low intensity-controlled burns with good soil moisture can be used to control shrub invasives and are necessary to minimise the loss of hollow trees.
- For RE 11.5.3: Shrubby woodlands will require longer fire intervals than grassy woodlands, because of the presence of fire-killed shrubs and the time required for post-fire regrowth to return to a mature structure. The seedlings of many fire-killed shrubs require 5 years or more before they mature. The creation of a fine-scale patchy mosaic can be more difficult to achieve in shrubby compared to grassy woodlands due to the need to ensure several years of mature shrubby woodland structure before the subsequent fire. Where shrubby woodlands occur within a broader grassy woodland landscape, as is the case within the Oak Park Covenant, attempt to burn the shrubby woodland during every second fire rotation in the grassy woodland, by burning early breaks around the shrubby areas. Controlled burns can be conducted under mild conditions and primarily away from the edge into surrounding vegetation.
- For RE 11.4.8 (Brigalow TEC) and 11.7.2: Maintain fire management in the surrounding areas and do not let fire penetrate the Brigalow and Lancewood forests. Brigalow and Belah are fire sensitive, with germination not promoted by fire (unlike *Eucalyptus* based REs) and whilst fire does promote the germination of Lancewood seedlings, Lancewood trees are killed by most fires. Lancewood trees require approximately 20 years before seedlings mature and are damaged by repeated fires within this timeframe. Buffel grass invasion will increase the risk from fire within these REs and must be actively managed, through targeted herbicide use and controlled grazing.

In general, fire management, including the construction of fire breaks, controlled cool burns, removal of high fuel loads and management of high biomass weeds (e.g. buffel grass) will aim to reduce the risk of fire in the Oak Park Covenant. The removal of native vegetation as part of fire management (for the creation of firebreaks, etc) will be avoided, with slashing to maintain a low native understorey preferred over dirt firebreaks/ trails.

Low intensity-controlled burns will not be conducted during peak reproductive seasons for the relevant ecological community, e.g. flowering and fruiting seasons, or when dry conditions are predicted as native grass recovery will be slow and erosion may occur, or weed species may become established before native grasses. Where deemed necessary, for example, areas dominated by buffel grass, reseeding of burnt areas will be conducted with native species suitable to the TEC in the area (species lists can be found in the Conservation Advice from the Commonwealth SPRAT for the relevant TEC).

It will be important to coordinate and maintain fire management of the surrounding areas around the Oak Park Covenant, to ensure the extent of wildfires is limited.

5.1.5 Grazing management

Livestock will be excluded from the Oak Park Covenant through the use of stock proof fencing, except for the controlled grazing associated with fuel load reduction (i.e. when the exotic grass biomass exceeds 1200 kg/ ha in an area) in the local dry season.

5.1.6 Erosion and sediment control

The effects of erosion, whilst not identified as an issue currently within the Oak Park Covenant area (Kleinfelder, 2024), can directly impact on the quality of habitat by reducing vegetation structure and composition, encouraging weed establishment and increasing sedimentation in local waterways. Erosion assessments will be completed annually by a trained and competent person and visual erosion will be assessed as per the *Australian Soil and Land Survey – Field Handbook 3rd edition* (2009), to identify areas of active erosion and inform remedial actions. Any disturbance works near or within the Oak Park Covenant (associated with non-native plant species control or maintenance of fire breaks/ fencing, etc.) must be minimized.

5.1.7 General offset area management

The quality of habitat within the Oak Park Covenant can be at risk of degradation without proper signage, maintenance of infrastructure (e.g. fencing, signage, gates) and enforcement of this OAMP. Therefore, administrative management measures to be taken include:

- Erect and maintain signage at key access points to the Oak Park Covenant;
- Maintain fencing around the Oak Park Covenant;
- Maintain gates that restrict public access to the Oak Park Covenant; and
- Comply with the OAMP and regulatory requirements for managing the Oak Park Covenant.

Bi-annual and annual inspections will be conducted to assess evidence of fencing and gate condition, unauthorised clearing or timber harvesting, feral animal and weed incursions, fire risks and exotic grass biomass

5.2 Monitoring and reporting

5.2.1 Conservation outcomes, interim performance targets and completion criteria

As outlined in section 2.3, the overall objective of managing the Oak Park Covenant is to improve the habitat quality of the Brigalow TEC and listed threatened species such that a higher habitat quality score is achieved than has been measured for the existing baseline condition within a five-year period, and that this improved habitat quality is maintained or exceeded for the life of the approval. The following is the target list of threatened species:

- Corben's Long-eared Bat (*Nyctophilus corbeni*);
- Dunmall's Snake (*Furina dunmalli*);
- Squatter Pigeon (southern) (*Geophaps scripta scripta*); and
- Yakka Skink (*Eqernia rugosa*).

5.2.1.1 Conservation outcomes

The conservation outcomes for the Oak Park Covenant have been determined so as to achieve the overarching objective for the conservation area and with an understanding of the existing habitat condition, ecological values, conservation area management and wider landscape context. The conservation outcomes are as follows:

- Measurable improvement in habitat quality for the Brigalow TEC and listed threatened species (conservation values)
- Maintain the extent of conservation value habitat
- Reduce the extent and occurrence of weed species
- Reduce the extent and occurrence of invasive animal species

- Reduce unplanned/ uncontrolled fire damage
- Reduce degradation of habitat by overgrazing
- Remediate and manage active erosion
- No public access

5.2.1.2 Interim targets and Completion criteria

Interim targets and completion criteria have been developed to track the progress and ultimately achievement of the conservation outcomes. They have been designed to demonstrate that the conservation area has achieved the specified gains for the target species and communities within the timeframes specified. Monitoring results will be analysed against interim performance criteria to determine whether the conservation outcomes are on track to achieve the completion criteria, and to trigger corrective actions where interim performance targets are not being met.

The following interim targets and completion criteria have been derived from the baseline habitat quality for the Brigalow TEC and target threatened species (conservation values), and an understanding of their natural habitat and ecological values (as discussed in section 4.4). The timing for these interim targets corresponds with the targeted species surveys and habitat condition monitoring in Years 1, , 3 and 5, then every five years if required. Interim targets were derived for the conservation values by identifying the attributes expected to increase over the period of the approval. The values were determined by differentiating between specific attributes, of which the majority were longer term targets (e.g. species richness, tree canopy cover, number of large trees) and those where an initial benefit could be realised early (e.g. recruitment of woody species, reduction of non-native plant cover). All criteria have been developed with the SMART principles in mind: specific, measurable, achievable, relevant and time-bound.

The following attributes will be assessed to demonstrate improvement in conservation value habitat:

- Recruitment of woody perennial species
- Native plant species richness of trees, shrubs, grasses and forbs
- Tree canopy height and cover
- Shrub canopy cover
- Native perennial grass cover
- Weed cover
- Number of large trees
- Quality and availability of shelter (litter, woody debris, hollows, etc.)
- Quality and availability of food and foraging habitat
- Quality and availability of water sources (distance to water, etc.)
- Threats to the species

Improvement in these attributes will achieve a net conservation gain for the Brigalow TEC and listed threatened species.

Interim targets and completion criteria used to assess habitat improvements for the Brigalow TEC and listed threatened species are outlined in Table 5-2, which includes an assessment of the overall habitat quality score using the EPBC Act offset assessment guide. The baseline scores have been derived using the BioCondition data and modified taking into consideration site context and species stocking rate elements from the offset assessment guide.

TABLE 5-2 INTERIM TARGETS AND COMPLETION CRITERIA

Time		Brigalow TEC	Corben's long-eared bat	Dunmall's snake	Squatter pigeon	Yakka skink
Overall habitat quality scores	**Baseline**	6	3	4	6	4
	Year 3	6.3	3.3	4.3	6.3	4.3
	Year 5	6.5	3.5	5.5	6.5	4.5

Bio Condition attributes that will be used to assess the progress of management actions will include:

- For remnant vegetation, meeting 75% of the benchmark* value for:
  - Large eucalypt and non-eucalypt trees, as an indicator of potential roosting, nesting and foraging resources;
  - Tree canopy cover, as an indicator of mature open eucalypt and brigalow forest; and
  - Organic litter ground cover and coarse woody debris, as an indicator of potential shelter and foraging resources.
    - **Where benchmark refers to the quantitative value (average or median) derived from reference sites for each attribute assessed under Bio Condition monitoring (Eyre et al., 2015) and are specific to each RE.*
- For regrowth vegetation, meeting 50% of the benchmark value for:
  - Large eucalypt and non-eucalypt trees, as an indicator of potential roosting, nesting and foraging resources;
  - Tree canopy cover, as an indicator of mature open eucalypt and brigalow forest; and
  - Organic litter ground cover and coarse woody debris, as an indicator of potential shelter and foraging resources.
- Category 3 Restricted Weed species' cover will be ≤10% of vegetation cover and no new restricted weeds are identified within the Oak Park Covenant area.
- No increase in targeted invasive animal species' populations based on baseline survey results.
- No evidence of uncontrolled or unplanned fires.
- Any rill erosion is stabilized at ≤300mm depth and no gully or tunnel erosion present.
- No evidence of public access.

5.2.2 Monitoring methodologies

The monitoring methods provided in Table 5-3 are based on best practice in the literature and will enable comparative changes in vegetation and habitat condition against baseline data collected on the Oak Park Covenant, as well as demonstrate progress to achieving the conservation outcomes' completion criteria (refer to Section 5.2.1). Field data collected will immediately go through quality assurance and control (QA/QC) procedures and be collated in relevant databases (e.g. for habitat condition, weeds, etc.), to be able to plot timeseries data on maps and perform descriptive statistics to determine any notable changes from baseline. Furthermore, the monitoring will measure changes resulting from the management measures and variability due to climatic conditions. This will inform the nature and frequency of management measures required and if trigger levels are breached, the use of corrective actions to bring Oak Park Covenant back into compliance.

Note that the methodologies listed, and the RE benchmarks used in the establishment of the baseline data, will be used consistently throughout the reporting period to enable the comparison of data.

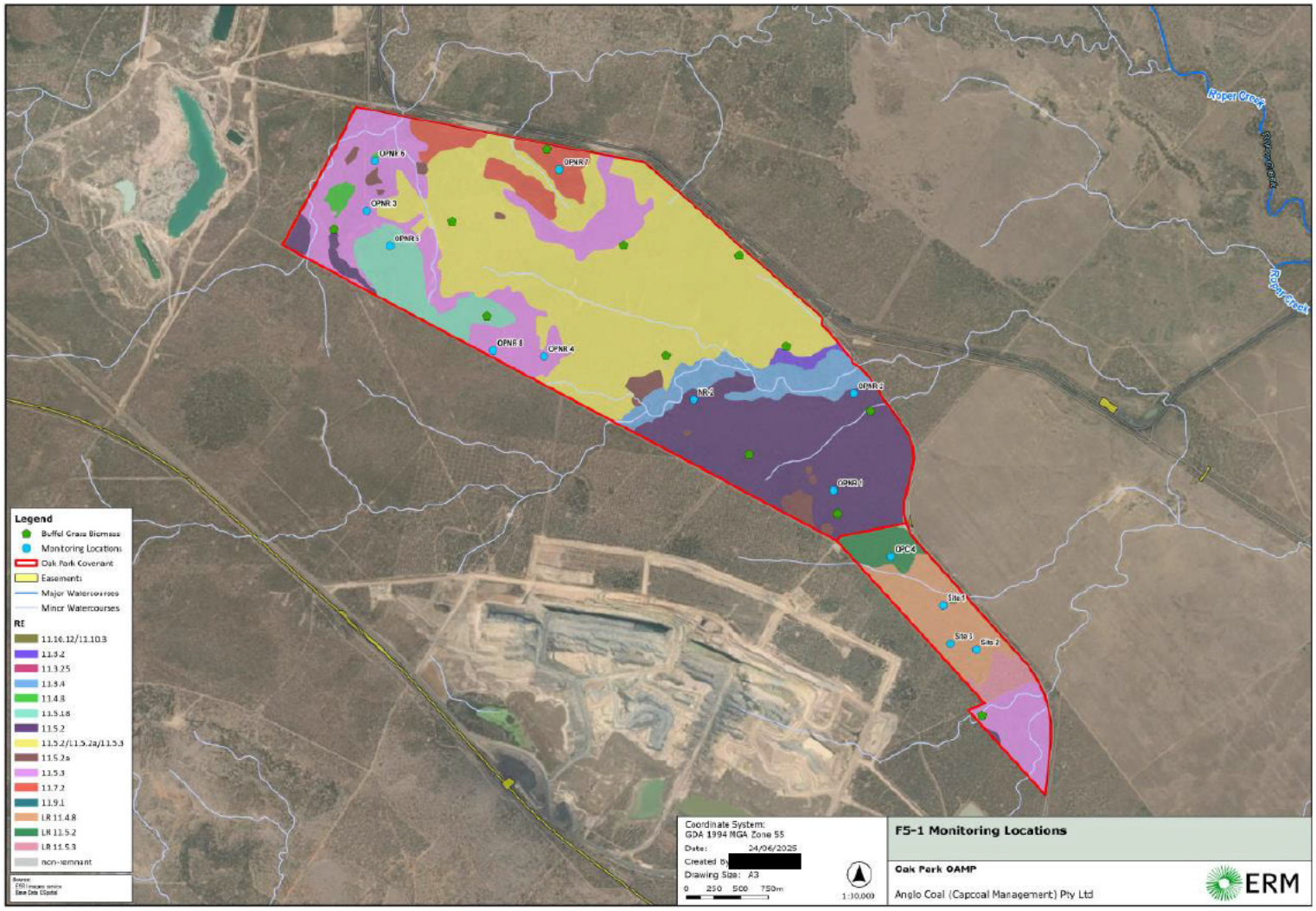
TABLE 5-3 MONITORING SCHEDULE

Monitoring	Attributes monitored	Timing	Method	Location/s
Habitat monitoring (ecological condition and relevant habitat features using BioCondition assessments)	Recruitment of woody perennial species 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 Quality and availability of food and foraging habitat Quality and availability of shelter Quality and availability of water sources	To be scoped and undertaken by a suitably qualified ecologist in **Years 1, 3 and 5** The best time for assessment is at the end of the summer rainfall growing season, when plant diversity is greatest. For the majority of Queensland, this is often from late March to late May (Eyre et al., 2015).	Field observations and vegetation assessment as per the *BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland Assessment Manual* (Eyre et al., 2015) Data for each of the ecological condition attributes monitored will be collected at each site and reported on and presented in a sequential manner (including previous data collected) to quantify change from the baseline condition. This will record the change in each attribute measured and hence the condition of the habitat, thus enabling a statistical comparison to previous years' data and tracking towards attainment of the interim and final completion criteria. Scoring is to be consistent with the *Guide to Determining Terrestrial Habitat Quality Version 1.3* (Department of Environment and Science, 2020). Regional ecosystem benchmarks version 3.5 (Queensland Herbarium, 2024) are to be used as the benchmark guidelines.	At monitoring locations as shown in Figure 5-1.

Monitoring	Attributes monitored	Timing	Method	Location/s
Fire	Fuel load	Grass cover assessments to be undertaken **annually**, at the end of the summer rainfall growing season (late March to late May). **Biannual** inspection of firebreaks and signs of fire/ fire damage. Opportunistic records of unplanned fire to be reported to the conservation area Provider. Reported **annually** as part of the compliance report. Remedial actions will be undertaken as required.	Grass cover assessment will be undertaken as per the BioCondition manual (Eyre et al., 2015) at the monitoring locations (BioCondition plots). Inspection of fire control measures and occurrences of unplanned fire will be conducted as per Capcoal requirements. Inspection records will be provided to the conservation area Provider.	At monitoring locations as shown in Figure 5-1 and meandering walkover across the conservation area
	Unplanned fire occurrence			
	Condition of control measures implemented (e.g. firebreaks)			
Weeds	Occurrence and cover	An initial weed survey will be completed in **Year 1** and thereafter conducted as required to treat the weeds identified. Reported **annually** as part of the compliance report. Monitoring frequency may be reduced once the OAMP completion criteria have been achieved. Remedial actions will be undertaken as required.	Weed surveys will be undertaken as per the BioCondition manual (Eyre et al., 2015) at the monitoring locations (BioCondition plots). Buffel grass biomass (kg/ ha) will additionally be conducted at the biomass monitoring locations. Surveys will also involve traversing the conservation area to record the presence of WoNS and restricted matters. If detected, these locations will be recorded using GPS, photographed and rechecked at the next inspection. Signage and fencing (as part of public access controls) will be monitored as part of the weed surveys.	At relevant monitoring locations as shown in Figure 5-1 and meandering walkover across the conservation area
	Condition of control measures implemented			
	Public access controls (fencing, gates, signage)			

Monitoring	Attributes monitored	Timing	Method	Location/s
Invasive animal species	Occurrence Condition of control measures implemented	An initial invasive animal species inspection will be completed in **Year 1**, to establish monitoring sites and confirm the baseline dataset, and thereafter be conducted **annually**. Reported **annually** as part of the compliance report. Monitoring frequency may be reduced once the OAMP completion criteria have been achieved. Remedial actions will be undertaken as required.	Invasive animal species inspections will be undertaken at the monitoring locations (BioCondition plots) and will also involve traversing the conservation area along streams, low lying areas and vehicle access tracks, to record the presence of wallow holes, tracks and any visual incidents. If detected, these locations will be recorded using GPS, photographed and rechecked at the next inspection.	At monitoring locations as shown in Figure 5-1 and meandering walkover across the conservation area
Erosion	Visual signs of active erosion as per the *Australian Soil and Land Survey – Field Handbook 3rd edition* (2009)	Monitored and reported **annually** as part of the compliance report. Monitoring frequency may be reduced once the OAMP completion criteria have been achieved. Remedial actions will be undertaken as required.	Visual signs of active erosion will be recorded as per the *Australian Soil and Land Survey – Field Handbook 3rd edition* (2009), including the depth of erosion and erosion type. Erosion assessment will be undertaken at the monitoring locations (BioCondition plots) and will also involve traversing the conservation area, with active erosion recorded using GPS, photographed and rechecked at the next inspection.	At monitoring locations as shown in Figure 5-1 and meandering walkover across the conservation area

FIGURE 5-1 MONITORING LOCATIONS



5.2.3 Reporting and review

The following reporting must be conducted under this OAMP, noting that the requirements and submission due dates are as per the EPBC Act approval conditions (2003/ 1005).

5.2.3.1 Adaptive Management

This OAMP has been prepared to be implemented at least until the expiry of EPBC Act approval (2003/ 1005) and will cover the achievement of conservation outcomes within the time specified in this OAMP, and once achieved, the maintenance or exceedance of conservation outcomes. Management measures will be reported in the annual compliance reports and the offset (conservation) report, and adapted, where required, if triggers are reached and corrective actions are implemented (refer to **Error! Reference source not found.**). If management measures need substantial adjustment, the approval holder will review this plan in consultation with the department (DCCEEW).

If the approval holder wishes to carry out any activity otherwise than in accordance with this OAMP, the approval holder will submit to the department a revised version of the OAMP, for the Minister's written approval. The varied activity will not commence until the Minister has approved the varied OAMP in writing. If the Minister approves the revised OAMP, that OAMP will be implemented in place of the OAMP originally approved.

TABLE 5-4 CONSERVATION AREA MANAGEMENT COMMITMENTS

Note that the relevant monitoring methodologies and timings are provided in Section 5.2.2 and Table 5-3. The management measures shown in this table are consistent with the risks identified in the conservation advice, and threat abatement plans relevant to each matter (as outlined previously in Table 3-2).

Conservation Outcome	Completion Criteria	Management Measures	Frequency and Timing	Trigger for Adaptive Management and Corrective Action(s)	Corrective Action and Timing
Measurable improvement in habitat quality for Brigalow TEC and listed threatened species* (i.e. the conservation values)	An improvement on benchmark RE criteria is seen by **Year 3** and then with each monitoring event. No unapproved and/ or intentional clearing of native vegetation except for that which is required for fencing, firebreaks etc.	Fencing around perimeter of Oak Park Covenant. Retain fallen timber and leaf litter. Retain standing dead trees and old trees with hollow limbs. Retain and re-introduce microhabitat features (e.g. artificial hollows, rocks, logs). If deemed necessary direct seeding and/ or tubestock planting of native species suitable to the TEC or listed threatened species' habitat in degraded areas. Management of invasive species (refer to the relevant management sections for more detail). Stock exclusion, except for controlled grazing for fuel load management.	As necessary, for at least the duration of the EPBC Act approval. Timing of seedings/ tubestock plantings will be based on species requirements. Stock exclusion, except for controlled grazing to reduce fuel loads, will be ongoing.	Habitat quality scores for interim performance targets are not achieved for one or more conservation values by: **Year 3** **Year 5** Habitat quality scores do not indicate improvements after annual habitat monitoring events (**Year 1, , Year 3**)	**Step 1:** Investigate cause of trigger: Within one month after detection of the trigger, complete an investigation into the reasons why the interim performance targets or the completion criteria were not achieved within the specified timeframes. Within two months after detection of the trigger, complete a re-evaluation of the suitability of the relevant management measures in the OAMP. The re-evaluation must identify appropriate corrective actions (e.g. suitably qualified third-party review of the OAMP to provide input on the effectiveness of the management measures, increasing the frequency and intensity of pest animal and weed control measures, and/ or revising the type of measures to be implemented). **Step 2:** Implementation of corrective action/s: The appropriate corrective actions identified under Step 1 will be implemented as soon as practicable, and in any case within three months after detection of the trigger. Where interim targets relating to habitat quality are not likely to be met in the required timeframe, the

Conservation Outcome	Completion Criteria	Management Measures	Frequency and Timing	Trigger for Adaptive Management and Corrective Action(s)	Corrective Action and Timing
					approval holder will notify DCCEEW within one month from the time of reporting this situation and implement additional management measures. For conservation values that have not achieved interim performance targets by Year 5, for those conservation values, the approval holder will obtain advice from senior ecologists and land managers with the aim of identifying appropriate additional management interventions, i.e. increased planting to enhance habitat. **Step 3:** Trigger for corrective action is resolved and reported within annual compliance monitoring.
Maintain the extent of conservation value habitat	No unapproved and/ or intentional clearing of native vegetation within the Oak Park Covenant, except for clearing that is required for fencing, firebreaks, etc. Ecological thinning may be carried out, but only on and in accordance with the advice of a Principal Ecologist with >15 years' experience in Central Queensland. No alternative land uses (e.g. forestry,	The Oak Park Covenant will be legally secured within **24 months** of the approval of this OAMP, as discussed in Section 3.3. Compliance with the restrictions on clearing established under this OAMP. Construction and maintenance of access tracks, fencing and firebreaks will be undertaken as required to manage the Oak Park Covenant, and where vegetation clearing is required for these works it must be completed as per best practice management methods and any applicable legislative	**Bi-annual** inspections, for at least the duration of the EPBC Act approval.	Any activities in contravention of the mechanism that will be used to legally secure the Oak Park Covenant. Detection of prohibited forestry operations, timber harvesting, illegal shooting or clearing outside of established access tracks, fire breaks and fence lines. Trigger for thinning is a minimum density of 750 immature trees/ha.	**Step 1:** Investigate cause of trigger (e.g. unauthorised access): As soon as practicable, and in any case within one month of detection of the trigger, identify appropriate corrective actions. **Step 2:** Implementation of corrective action/s: As soon as practicable, and in any case within two months of detection of the trigger, the appropriate corrective actions must be implemented. These may include (though are not limited to) additional fencing and/or signage and security for the Oak Park Covenant. **Step 3:** Trigger for corrective action is resolved and reported within

Conservation Outcome	Completion Criteria	Management Measures	Frequency and Timing	Trigger for Adaptive Management and Corrective Action(s)	Corrective Action and Timing
	cropping, etc.). No illegal shooting.	requirements. Where ecological thinning is deemed necessary, it is to be completed by chemical and/ or mechanical methods (brushcutter or chainsaw).			annual compliance monitoring.
Reduce the extent and occurrence of weeds	Category 3 restricted weed cover must not exceed 10% of the Oak Park Covenant area by **Year 5**. No new weeds listed under the *Biosecurity Act 2014* (Qld) are identified at any monitoring site (based on subsequent monitoring events), by **Year 5**.	Baseline weed mapping will be undertaken and treatment planned based on the identified weed species, location and extent of weed species coverage. Weed treatment on all category 3 restricted matters will be undertaken by suitably qualifed persons. Methods will include: • Manual removal • Cut and treat (larger woody weeds); and • Spot (targeted) application of herbicides, and Controlled grazing will be implemented (for exotic grasses) The approval holder will cooperate and participate in regional weed control programs, unless those would otherwise contravene any part of this OAMP. Vehicles accessing the Oak	An initial weed survey will be completed in **Year 1** and thereafter conducted as required to treat the weeds identified. Reported **annually** as part of the compliance report. Monitoring frequency may be reduced once the OAMP completion criteria have been achieved. Weed treatment will occur as required, for at least the duration of the EPBC Act approval. Vehicle washdowns will be an ongoing requirement, for at least the duration of the EPBC Act approval.	Invasive plant species dominate isolated area and or occur in an area greater than 10% of the Oak Park Covenant by **Year 5**. One new invasive plant species is identified at one or more monitoring sites, or opportunistically during any site walkover or other inspection. Habitat quality scores do not indicate improvements after annual habitat monitoring events (**Year 1, Year 2, Year 3**). When the general survival rate of seedlings in an area do not exceed 80% in	**Step 1:** Investigate cause of trigger: Immediately determine whether any factors (weather event, fire or biosecurity incident) has contributed to the incursion of a weed species. **Step 2:** Implementation of corrective action(s): Implement additional weed control within one month of detection. These measures may include, but are not limited to: • foliar spraying • basal bark spraying • stem injection • cut stump • cut and swab • stem scraper • wick applicators. Enforce strict hygiene controls. The conservation area Provider may approach neighbouring landowners to discuss the increased weed presence and an integrated control program may be developed. If an integrated control program is

Conservation Outcome	Completion Criteria	Management Measures	Frequency and Timing	Trigger for Adaptive Management and Corrective Action(s)	Corrective Action and Timing
		Park Covenant will be restricted, but where it is required (e.g. fire management) all vehicles and machinery will be washed down prior to entering the Oak Park Covenant; to remove vegetation and soil thereby limiting the risk of weeds being transferred to the conservation area.		the first year of planting.	considered appropriate, the conservation area Provider will make best endeavours to reach agreement with neighbouring landowners to implement such a program. **Step 3:** Trigger for corrective action is resolved and reported within annual compliance monitoring.
Reduce the extent and occurrence of invasive animals**	No targeted invasive animal population will exceed the baseline survey results by **Year 5** (observations of evidence and sightings). Overall population trends of all targeted invasive animals will show decreasing trends over the life of the approval. No reduction in habitat quality of conservation values directly linked to the targeted invasive animals, by **Year 5**.	Baseline invasive animal surveys will be undertaken to develop detailed mapping of pest animals within the Oak Park Covenant. Surveys will be conducted for an appropriate period to adequately determine the presence and densities of identified invasive animals, specifically: • wild dogs • feral cats • feral pigs All invasive animal control will be undertaken in a humane manner by suitably qualified persons, in accordance with species-specific guidance. Methods will include: • trapping • shooting Baiting can be used where invasive animal populations are large but is not preferred due to the risk to non-target species. The approval holder will cooperate and participate in	An initial invasive animal species inspection will be completed in **Year 1**, to establish monitoring sites and confirm the baseline dataset, and thereafter be conducted annually. Reported **annually** as part of the compliance report. Monitoring frequency may be reduced once the OAMP completion criteria have been achieved. Humane invasive animal control will be conducted as required, for at least the duration of the EPBC Act approval.	Three or more incidental observations or public reports within any **six-month period**, including instances of injury or mortality to conservation values attributed to invasive animals. Confirmed presence of any invasive animal during annual monitoring. Invasive animal population density becomes higher than the baseline density.	**Step 1:** Investigate cause of trigger: Within one month of a trigger, complete additional assessment (e.g. targeted survey) to confirm presence of invasive animal. If confirmed, consider immediate corrective action or incorporate findings into next annual invasive animal assessment. **Step 2:** Implementation of corrective action(s): Implement the identified corrective action in Step 1 (e.g. baiting, trapping) within one month of assessment completion. If density becomes higher than baseline density, undertake and complete all additional corrective actions necessary to reduce invasive animal density to baseline numbers or fewer. The conservation area Provider may approach neighbouring landowners to discuss the increased invasive animal presence and an integrated control program may be developed. If an integrated control program is considered appropriate, the conservation area Provider will make best endeavours to reach agreement

Conservation Outcome	Completion Criteria	Management Measures	Frequency and Timing	Trigger for Adaptive Management and Corrective Action(s)	Corrective Action and Timing
		regional invasive animal control programs, unless those would otherwise contravene any part of this OAMP.			with neighbouring landowners to implement such a program. If impacts from the invasive animal populations have not naturally remediated within six months of completion of implementation of the control measures, the conservation area Provider is to undertake and complete all works required to remediate those impacts. **Step 3:** Trigger for corrective action is resolved and reported within annual compliance monitoring.
Reduce unplanned/ uncontrolled fire damage	No evidence of uncontrolled or unplanned fires having occurred in the Oak Park Covenant by **Year 5**. No reduction in habitat quality of conservation values directly linked to unplanned fire. Recruitment of critical habitat trees has not been directly impacted by fire. All fire management activities undertaken throughout the duration of the EPBC Act approval align with the management prescriptions	A baseline survey of fuel loads (grass cover) will be undertaken within the Oak Park Covenant. Fire management will be conducted as per the *Fire Management Guidelines* (Queensland Herbarium, 2024) (discussed in Section 5.1.4) as it is dependent on the vegetation community present. Fire is not to be used as a management tool within the Brigalow TEC, which is fire sensitive. Generally, fuel reduction activities may include: • Manual removal of understory and exotic grasses • Mowing, slashing or brush cutting grasses • Controlled grazing	Fuel load assessments to be undertaken **annually**, at the end of the summer rainfall growing season (late March to late May). **Bi-annual** inspection of firebreaks and signs of fire/ fire damage. Where firebreak maintenance is identified, remedial action will be taken within **three months**. Reported **annually** as part of the compliance report Remedial actions will be undertaken as required, for at least the duration of the	After an annual monitoring event, fuel loads are reported to be at high levels (>1200 kg/ha). Reduction in habitat quality of conservation values directly linked to unplanned fire. If a fire significantly impacted >30% of the Oak Park Covenant. The occurrence of deliberately lit or unplanned fires.	Step 1: Investigate cause of trigger: Within one month of detection of the trigger, an investigation will be completed that determines the source of the fire, reviews adherence to the fire management measures and identifies appropriate corrective actions. Step 2: Implementation of corrective action/s: Upon being notified or becoming aware of a prohibited fire in the Oak Park Covenant, the conservation area Provider is to reassess and implement new access protocols for any lessees etc., signage and general access within one fortnight. Subsequent to any occurrence of fire in the Oak Park Covenant, the conservation area Provider or suitable qualified person appointed by the conservation area Provider will: inspect and repair, and widen if

Conservation Outcome	Completion Criteria	Management Measures	Frequency and Timing	Trigger for Adaptive Management and Corrective Action(s)	Corrective Action and Timing
	described in Section 5.1.4.	• Controlled low-intensity burning, conducted during conditions of good soil moisture and active plant growth. • Mosaic burning in which less than 30% of the Oak Park Covenant is burnt in any year • Burn intervals vegetation specific and informed by the fire management guidelines. Fire breaks will be maintained via vegetation management (e.g. slashing), which is preferred over grading where possible. If one or more bushfires are current in the region and considered potentially threatening to the Oak Park Covenant, coordinate with all relevant fire authorities to determine the appropriate method of protecting the site (if the relevant fire authorities advise against seeking to protect the site from a specific fire, the approval holder may comply with that advice without needing approval or agreement from DCCEEW).	EPBC Act approval. Opportunistic records of unplanned fire to be reported to the conservation area Provider. .		necessary, all firebreaks; and reassess fuel load reduction practices. Where there is significant damage to the Oak Park Covenant, within 12 months of the unplanned fire event, the approval holder must arrange for a habitat quality assessment that determines habitat quality loss and report the loss and how it will be addressed to DCCEEW. Step 3: Trigger for corrective action is resolved and reported within annual compliance monitoring.

Conservation Outcome	Completion Criteria	Management Measures	Frequency and Timing	Trigger for Adaptive Management and Corrective Action(s)	Corrective Action and Timing
Reduce degradation of habitat by overgrazing and trampling	No reduction in habitat quality of conservation values directly linked to overgrazing (richness and ground cover of native perennial grasses, recruitment of native woody species) by **Year 5**.	Livestock will be excluded from the Oak Park Covenant through the use of stock proof fencing, except for the controlled grazing associated with fuel load reduction in the local dry season.	Grazing will only occur when fuel loads are greater than 1200 kg/ha, and only within the local dry season. Grazing is not to occur in the local wet season.	Reduction in habitat quality of conservation values directly linked to overgrazing and trampling. Detection of stock grazing during the exclusion period.	**Step 1:** Investigate cause of trigger: Upon becoming aware of prohibited stock grazing or impacts in the Oak Park Covenant, the conservation area Provider is to remove the stock from the area (if present) and assess the adequacy of fencing within 10 days. The conservation area Provider is to undertake fence maintenance and repairs to resecure the Oak Park Covenant within 10 days. **Step 2:** Implementation of corrective action/s: If detected that grazing is prohibiting sapling survival or leading to a lack of improvement in habitat quality for Brigalow TEC and listed threatened species, additional measures will be implemented; these may include: • removal of stock during grazing period • additional fencing to protect Brigalow TEC and listed threatened species habitat • installation of individual tree guards to protect saplings • planting of key tree species to supplement sapling recruitment. **Step 3:** Trigger for corrective action is resolved and reported within annual compliance monitoring.

Conservation Outcome	Completion Criteria	Management Measures	Frequency and Timing	Trigger for Adaptive Management and Corrective Action(s)	Corrective Action and Timing
Remediate and manage active erosion	Any rill erosion is stabilized at ≤300mm depth and no gully or tunnel erosion present, by **Year 5**. No reduction in habitat quality of conservation values directly linked to erosion, by **Year 5**.	A baseline survey and mapping of existing areas of erosion and erosion risk areas will be undertaken within the Oak Park Covenant. Identified erosion hazards will be remediated as soon as possible, when weather permits (generally after the wet season). Remedial works must not exacerbate or create additional soil erosion risks.	The initial erosion surveys will be completed in **Year 1**, to confirm the baseline dataset, and thereafter be conducted **annually**. Reported **annually** as part of the compliance report Monitoring frequency may be reduced once the OAMP completion criteria have been achieved. Remedial actions will be conducted as required, for at least the duration of the EPBC Act approval.	Any erosion damage is identified during annual monitoring events. Reduction in habitat quality of conservation values directly linked to erosion.	**Step 1:** Investigate cause of trigger: Within one month, determine what factors might have contributed to the erosion hazard and subsequent impact on the conservation values. **Step 2:** Implementation of corrective action/s: Implement additional controls (e.g. rehabilitation of access roads/ tracks/ drainage lines). Erosion hazards will be remediated as soon as possible, when weather permits (generally after the wet season). **Step 3:** Trigger for corrective action is resolved and reported within annual compliance monitoring.
No public access	Access is restricted to those authorised persons required to undertake actions described in this OAMP. The Oak Park Covenant is not to be utilised for any purpose including recreational activities, or any other activities that deter from achieving the outcomes of this	Fences will be maintained around the perimeter of the Oak Park Covenant to prevent unauthorised access and to control stock presence. Signs will be erected at all entrances and potential access points to the site stating the rules and regulations for the Oak Park Covenant, including but not limited to: • Unauthorized access is forbidden	No public access at all times, for at least the duration of the EPBC Act approval. **Bi-annual** inspections of fencing, signage, and evidence of unauthorized access will be completed for at least the duration of the EPBC Act approval.	Evidence of unauthorised persons, vehicles, and/or stock is detected at any point (including the illegal dumping of rubbish). Evidence of unauthorized stock is detected at any point during exclusion times. Damage is detected to any fence or sign.	**Step 1:** Investigate cause of trigger: Upon being notified or becoming aware of prohibited access to the offset area, the conservation area Provider is to reassess access protocols for any lessees etc., signage and general access within one fortnight. The conservation area Provider must determine whether any factors (broken gates, damaged signs, alternative access points) have contributed to the unauthorised access. **Step 2:** Implementation of corrective

Conservation Outcome	Completion Criteria	Management Measures	Frequency and Timing	Trigger for Adaptive Management and Corrective Action(s)	Corrective Action and Timing
	OAMP. No evidence of unauthorised persons, vehicles, and/or stock is detected on site at any point. Fences and signage are erected at all necessary points and kept in good repair throughout the life of the EPBC Act approval.	• Unauthorized fires are prohibited • Domestic animals are prohibited • Dumping of waste is prohibited Weed hygiene practices must be followed if entering the OAMP. Information detailing penalties for non-compliance must be on signage at entrances to the OAMP. All signs will be erected within **3 months** of this OAMP approval. Any new planned fences will be erected within **12 months** of this OAMP approval. **Bi-annual** inspections of fencing, signage, and evidence of unauthorized access will be completed for at least the duration of the EPBC Act approval.			action(s): Implement correction or additional controls, such as: Repair damaged infrastructure Install additional signage or surveillance measures Add any negatively impacted sites to the next annual monitoring (as part of the weed monitoring) **Step 3**: Trigger for corrective action is resolved and reported within annual compliance monitoring.

**where listed threatened species are defined in the EPBC Act approval (2003/ 1005)*
*** where invasive species are defined in the EPBC Act approval (2003/1005)*

5.2.3.2 Annual Compliance Report

The annual compliance report, compiled by the approval holder and submitted to DCCEEW, will summarise the following that occur in the reporting period:

- The methodology and results of ecological surveys (habitat monitoring and fauna surveys);
- Any monitoring and management measures undertaken, where relevant to demonstrate compliance with this OAMP, regarding:
- Fire management (including condition of firebreaks, current fuel loads, controlled burns conducted, etc.);
- Weed and pest animal management; and
- Erosion and sediment control.

Under the EPBC Act approval, the approval holder must:

a. prepare a compliance report for **each 12-month period** following **15 November 2024**;
b. publish each compliance report on the website within **20 business days** following the end of the 12-month period for which that compliance report is required;
c. exclude or redact sensitive ecological data from the compliance reports published on the website or otherwise provided to a member of the public;
d. provide the following to the department within **5 business days** of the date of publishing each compliance report on the website:
    i. electronic notification that a compliance report has been published;
    ii. the weblink to the published compliance report; and
    iii. notification of the specific exclusions or redactions made to the published compliance report;
e. keep all compliance reports required by this approval, published on the website until the expiry of this approval.

Under the EPBC Act approval, compliance report means, "*a written report that includes:*

a. accurate and complete details of compliance with each condition attached to the approval and commitments made in plans;
b. details any non-compliance with conditions attached to the approval and commitments made in plans;
c. details of any incidents; and
d. accurate and complete records of how each plan is being implemented."

The approval holder must maintain accurate and complete compliance records. Compliance records means, "*all documentation or other material in whatever form required to demonstrate compliance with the conditions of approval (including compliance with commitments made in plans) in the approval holder's possession, or that are within the approval holder's power to obtain lawfully."*

5.2.3.2.1 Independent Audit of Compliance

The approval holder must also ensure that an **independent audit** of compliance with the conditions is conducted **for every audit period,** where an audit period means each subsequent **5-year period** following **15 November 2024**, until the expiry date of the EPBC Act approval (2003/ 1005) unless otherwise specified in writing by the Minister. The approval holder must submit details of the proposed **independent auditor** and their qualifications to the **department within 10 business days** following the end of each **audit period.** The approval holder must ensure the scope of each **independent audit** is sufficient to determine the compliance status for each condition of approval, and that the criteria for each **independent audit** and the undertaking of each **independent audit** are consistent with the EPBC Act - *Independent Audit and Audit Report Guidelines*.

The approval holder must submit an **audit report** to the **department** for written agreement from the **department within 3 months following the end of each audit period**, or as otherwise directed by the **Minister** in writing. The approval holder must publish each audit report on the website, in a format that is easily accessible and downloadable, **within 10 business days** of the date of the department agrees to the audit report in writing. The approval holder must notify the department **within 5 business days** of the date the audit report is published on the website. In this notification, the approval holder must provide the department with the web address for where the audit report is published on the website. The approval holder must keep each audit report published on the website from the first date which that audit report must be published and until the expiry date of this approval.

5.2.3.3 Offset (Conservation) Report

Prior to **1 April 2030**, the approval holder must:

a. have the Oak Park Covenant area assessed by a **suitably qualified ecologist** to determine if the offset outcomes specified in the OAMP approved by the Minister have been achieved;

b. submit to the **department** a report prepared by a **suitably qualified ecologist** detailing the presence of the following protected matters and the **habitat quality** of their habitat within the Oak Park Covenant **over the 12-month period immediately preceding the submission of the report**:

   i. Brigalow;

   ii. Corben's Long-eared Bat (*Nyctophilus corbeni*);

   iii. Dunmall's Snake (*Furina dunmalli*);

   iv. Squatter Pigeon (southern) (*Geophaps scripta scripta*); and

   v. Yakka Skink (*Eqernia rugosa*);

c. notify the **department** in writing of any offset outcome specified in the OAMP approved by the Minister that has not been achieved at Oak Park Covenant area and the likely reasons that this/these offset outcomes have not been met.

5.2.3.4 Incident or Non-Compliance Management

Under the EPBC Act approval, incident means, "*an event or circumstance in which any measurable direct or indirect disturbance or deleterious change to Brigalow and/or listed threatened species and/or habitat for listed threatened species, is caused by an activity associated with the approved action*."

The approval holder must notify the department electronically, **within 2 business days** of becoming aware of any incident and/or potential or actual non-compliance with the conditions of this approval or commitments made in this OAMP. When notifying the department of any incident and/or potential or actual non-compliance in accordance with condition 13 of this approval, the approval holder must:

a. specify the condition(s) of this approval and/or commitment(s) made in plans which have been or may be breached;
b. provide a short description of the incident and or and/or potential non-compliance; and
c. specify the location (including co-ordinates), date and time of the incident and/or potential or actual non-compliance.

If the exact information cannot be provided, the approval holder must provide the best information available.

The approval holder must then provide to the department in writing, **within 10 business days** of becoming aware of any incident and/or potential or actual non-compliance, a report that details:

a. any corrective action(s) or investigation(s) which the approval holder has already taken;
b. the potential impacts of the incident and/or potential or actual non-compliance; and
c. the method and timing of any corrective action(s) that will be undertaken by the approval holder.

5.3 Risk Analysis

A qualitative risk analysis has been conducted to identify any risks that may prejudice attainment of the conservation outcomes within the Oak Park Covenant. The risk analysis has been undertaken in accordance with the EPBC Act *Environmental Management Plan Guidelines* (2024). The framework utilised for the risk analysis, including descriptions for the likelihood and consequence criteria and risk rating matrix, are provided below (Table 5-5 - Table 5-7).

TABLE 5-5 RISK CONSEQUENCE

1 – Minor	2 – Moderate	3- High	4 – Major	5 - Critical
Minor incident of environmental damage that can be reversed	Isolated but substantial instances of environmental damage that could be reversed with intensive efforts	Substantial instances of environmental damage that could be reversed with intensive efforts	Major loss of environmental amenity and real danger of continuing	Severe widespread loss of environmental amenity and irrecoverable environmental damage

TABLE 5-6 RISK RATING MATRIX

Consequence /Likelihood		1 – Minor	2 – Moderate	3- High	4 – Major	5 - Critical
5 - Highly likely	Is expected to occur in most circumstances	11 - Medium	16 - High	20 - High	23 - Severe	25 - Severe
4 - Likely	Will probably occur during the life of the project	7 - Low	12 - Medium	17 - High	21 - High	24 - Severe
3 – Possible	Might occur during the life of the project	4 - Low	8 - Medium	13 - Medium	18 - High	22 - Severe
2 – Unlikely	Could occur but considered unlikely or doubtful	2 - Low	5 - Low	9 - Medium	14 – High	19 - High
1 – Rare	May occur in exceptional circumstances	1 - Low	3 - Low	6 - Low	10 - Medium	15 - High

TABLE 5-7 RISK ASSESSMENT FOR THE OAMP

Risk Event	Likelihood	Consequence	Risk level	Mitigation measures	Residual likelihood	Residual consequence	Residual risk level
Force majeure (drought)	Likely	Moderate	Medium	Limited mitigation measures can be implemented against drought conditions. Should the conservation area be deemed by the approval holder or DCCEEW to be delayed due to drought, both parties will work together to determine an appropriate response.	Likely	Moderate	Medium
Habitat quality for Brigalow TEC and listed threatened species does not improve or is reduced compared to baseline conditions by Year 5	Likely	High	High	Implementation of the habitat management measures and corrective actions as outlined in this OAMP (Table 5-4**Error! Reference source not found.**).	Possible	Minor	Low
Habitat quality for Brigalow TEC and listed threatened species does not meet interim performance targets	Likely	High	High	Implementation of the habitat management measures and corrective actions as outlined in this OAMP (Table 5-4**Error! Reference source not found.**).	Possible	Minor	Low
New infestation of weed species and/ or expansion of existing weed species infestations within the Oak Park Covenant	Likely	High	High	Implementation of the weed management measures and corrective actions as outlined in this OAMP (**Error! Reference source not found.**).	Possible	Minor	Low
Unplanned fire within the Oak Park Covenant and/ or increased fire risk due to high fuel loads.	Possible	High	Medium	Implementation of the fire management measures and corrective actions as outlined in this OAMP (Table 5-4).	Unlikely	Moderate	Low
Invasive animal species populations increase within the Oak Park Covenant.	Possible	Moderate	Medium	Implementation of the invasive animal species management measures and corrective actions as outlined in this OAMP (Table 5-4).	Unlikely	Minor	Low
Administrative risk (OAMP not followed)	Possible	High	Medium	Implementation of this OAMP and non-compliance will be enforced. Compliance reporting will be conducted annually.	Unlikely	Minor	Low
Active erosion within the Oak Park Covenant	Possible	Moderate	Medium	Exclusion of stock from erosion prone areas (as per baseline monitoring conducted under this OAMP). Maintenance of native ground cover as per habitat management measures and corrective actions outlined in this OAMP (Table 5-4).	Unlikely	Minor	Low

Risk Event	Likelihood	Consequence	Risk level	Mitigation measures	Residual likelihood	Residual consequence	Residual risk level
Illegal/ unplanned human activities (including clearing and mining activities) within the Oak Park Covenant.	Possible	Major	High	The Oak Park Covenant will be legally secured within 24 months of this OAMP approval. Signage will be installed at all access points identifying the area as a conservation area and relevant rules and regulations, within 3 months of this OAMP approval. Fences will be maintained around the perimeter of the Oak Park Covenant to prevent unauthorised access and to control stock presence. The installation of any new planned fences will be done within 12 months of this OAMP approval. Observations (as to the presence of unauthorised persons, unauthorised clearing, damage to fencing, etc) will be made during monitoring events conducted under this OAMP.	Unlikely	Major	High
Unplanned and/ or inappropriate grazing within the Oak Park Covenant	Possible	High	Medium	Implementation of the grazing management measures and corrective actions as outlined in this OAMP (Table 5-4).	Unlikely	Minor	Low

6 References

Anglo American. 2012. *Strategy to Manage the Impacts of Mining upon Threatened Species & Communities: ML 70311 "Oak Park".* Version 3. 14.12.12.

Anglo American. 2023. *Strategy to Manage the Impacts of Mining upon Threatened Species & Communities: ML 70311 "Oak Park".* Version 4.4. Prepared by Kleinfelder Australia Pty Ltd for Anglo American Steelmaking Coal. 4 April 2023.

Burgess John. 2002. *Land Resource Assessment of the Windeyers Hill Area, Isaac-Connors and Mackenzie River Catchments, Central Queensland.* Volume 1, Department of Natural Resources and Mines, Brisbane.

Butler DW. 2007. *Recovery plan for the "Brigalow (Acacia harpophylla dominant and co-dominant" endangered ecological community*. Report to the Department of the Environment and Water Resources, Canberra. Qld National Parks and Wildlife Service, Brisbane.

Chesterfield CJ and Parsons RF. 1985. Regeneration of three tree species in arid south-eastern Australia. *Australian Journal of Botany* **33**, 715–732.

Choquenot D, McIlroy J and Korn T. 1996. *Managing vertebrate pests: feral pigs*. Bureau of Resource Sciences, Australian Government Printing Services. Canberra.

Cogger HG, Cameron EE, Sadlier RA and Eggler P. 1993. *The Action Plan for Australian Reptiles*. Australian Nature Conservation Agency. Canberra, ACT.

Cogger HG. 2000. *Reptiles and Amphibians of Australia*. 6th edition. Sydney: Reed New Holland.

Cooper RM, McAllan IAW and Curtis BR. 2014. *The Atlas of the Birds of NSW and the ACT*. Mini-Publishing, Gordon, New South Wales.

Covacevich JA, Coupler PJ and McDonald KR. 1998. Reptile diversity at risk in the Brigalow Belt, Queensland. *Memoirs of the Queensland Museum* **42**, 475-486.

DEWHA. 2010a. *Survey guidelines for Australia's threatened bats*. Guidelines for detecting bats listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999*. Department of the Environment, Water, Heritage and the Arts. Commonwealth of Australia.

DEWHA. 2010b. *Survey guidelines for Australia's threatened birds*. Guidelines for detecting birds listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999*. Department of the Environment, Water, Heritage and the Arts. Commonwealth of Australia.

DSEWPC. 2011a. *Survey guidelines for Australia's threatened mammals*. Guidelines for detecting mammals listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999*. Department of Sustainability, Environment, Water, Population and Communities. Commonwealth of Australia.

DSEWPC. 2011b. *Survey guidelines for Australia's threatened reptiles*. Guidelines for detecting reptiles listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999*. Department of Sustainability, Environment, Water, Population and Communities. Commonwealth of Australia.

Duncan A, Baker GB, Montgomery N. 1999. *The action plan for Australian bats*. Environment Australia. Canberra, Australia.

EcoSmart Ecology. 2024. *Oak Park Mine Offset Variation*. Prepared for Anglo Coal (Capcoal Management) Pty Limited. August 2024.

Ehmann H. 1992. *Reptiles*. In: Strahan, R., ed. Encyclopedia of Australian Animals. Sydney: Angus and Robertson.

Engeman RM, Massei G, Sage M and Gentle MN. 2013. Monitoring wild pig populations: a review of methods. *Environmental Science and Pollution Research* ISSN 0944-1344

Eyre T.J., Wang, J., Venz, M.F., Chilcott, C. and Whish, G. 2009. Buffel grass in Queensland's semi-arid woodlands: response to local and landscape scale variables, and relationship with grass, forb and reptile species. *The Rangeland Journal* **31**, 293-305.

Eyre T.J., Kelly, A.L, Neldner, V.J., Wilson, B.A., Ferguson, D.J., Laidlaw, M.J. and Franks, A.J. 2015. *BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland.* Assessment Manual. Version 2.2. Queensland Herbarium, Department of Science, Information Technology, Innovation and Arts, Brisbane.

Goldingay R.L. 2011. Characteristics of tree hollows used by Australian arboreal and scansorial mammals. *Australian Journal of Zoology* **59**, 277-294.

Higgins P.J. and Davies S.J.J.F. 1996. *Handbook of Australian, New Zealand, and Antarctic Birds*. Vol. 3. Snipe to Pigeons. Oxford University Press, Melbourne.

Hoffman M., Gracanin A. and Mikac K.M. 2023. Greater glider (Petauroides volans) den tree and hollow characteristics. *Australian Mammalogy* **45**, 127-137.

Hone, J. 1988. Feral pig rooting in a mountain forest and woodland Distribution, abundance and relationships with environmental variables, *Australian Journal of Ecology* **13**, 393–400.

Ison Environmental Planners. 2002. *MDL 331: Oak Park Fauna Habitat Investigation.* Brisbane, Queensland.

Kleinfelder. 2021. *Oak Park Covenant Vegetation Monitoring Assessment 2021*. Version 1.0. Prepared for Anglo American Steelmaking Coal. 13 August 2021.

Kleinfelder. 2024. *Oak Park Covenant Vegetation Monitoring Assessment 2023*. Version 1.0. Prepared for Anglo American Steelmaking Coal. 23 February 2024.

Lumsden L, Nelson J, Lindeman M. 2008. *Ecological research on the Eastern Long-eared Bat Nyctophilus timoriensis (south-eastern form)*. A report to the Mallee Catchment Management Authority. Arthur Rylah Institute for Environmental Research, Department of Sustainability and Environment. Melbourne, Australia.

Mitchell B. and Balogh S. 2007. *Monitoring techniques for vertebrate pests – feral pigs*, Orange, NSW.

Queensland Government. 2019. *Climate Change in the Whitsunday, Hinterland and Mackay region*. Version 1. Accessed 7 October 2024. Retrieved from: https://www.qld.gov.au/__data/assets/pdf_file/0026/68561/mackay-whitsunday-climate-change-impact-summary.pdf

Queensland Government. 2020. *Guide to determining terrestrial habitat quality: Methods for assessing habitat quality under the Queensland Environmental Offsets Policy*. Version 1.3. February 2020. Brisbane.

Queensland Herbarium. 2023. *Biodiversity status of 2021 remnant regional ecosystems Queensland* Version 13.0. Department of Environment, Science and Innovation, Queensland, Brisbane, Australia.

Queensland Herbarium. 2024. *Regional Ecosystem Fire Guidelines* Version 13.1. Queensland Department of Environment, Science and Innovation, Brisbane. Accessed 7 October 2024. Retrieved from: https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/fire-management

Reardon T. 2012. *South-eastern long-eared bat Nyctophilus corbeni*. In 'Queensland's threatened animals.' Eds LK Curtis, AJ Dennis, KR. Brisbane, Australia.

Schulz M and Lumsden L. 2010. *Draft national recovery plan for the south-eastern long-eared bat Nyctophilus corbeni*. Victorian Government Department of Sustainability and Environment. Melbourne, Australia.

Sharp T. 2012. *National code of practice for the humane control of feral pigs*. Accessed 8 October 2024. Retrieved from: https://pestsmart.org.au/toolkit-resource/code-of-practice-feral-pigs

Threatened Species Scientific Committee. 2001. *Brigalow (Acacia harpophylla dominant and co-dominant) recommendation to the Minister for the Environment and Water Resources*. From the Threatened Species Scientific Committee (TSSC) on a public nomination for an ecological community listing on the Environment Protection and Biodiversity Conservation Act 1999

Threatened Species Network. 2008. *Yakka Skink: Egernia rugosa: National Threatened Species Day Information Sheet*. Department of Climate Change, Energy, the Environment and Water. Australian Government, Canberra.

Turbill C and Ellis M. 2006. Distribution and abundance of the south eastern form of the Greater Long-eared Bat *Nyctophilus timoriensis*. *Australian Mammalogy* **28**, 1-7.

Walker J and Hopkins M. 1990. Vegetation, in R McDonald (ed), *Australian soil and land survey handbooks*. Version 1. Inkata Press, Melbourne.

Wilson D, Mulham WE and Leigh JH. 1976. A note on the effects of browsing by feral goats on a belah (Casuarina cristata) - rosewood (Heterodendrum oleifolium) woodland. *Australian Rangeland Journal* **1**, 7–12.

Wilson SK and Knowles DG. 1988. *Australia's Reptiles: A Photographic Reference to the Terrestrial Reptiles of Australia*. Collins Publishers.

Woinarski JCZ, Burbidge AA, Harrison PL. 2014. *The action plan for Australian mammals 2012*. CSIRO Publishing. Melbourne, Australia.